

# SCOTTISH HOSPITALS INQUIRY

## **Bundle 13 – Miscellaneous**

### **Volume 5**

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**Scottish Hospitals Inquiry**  
**Witness Statement of**  
**GRAEME GREER**

**PROFESSIONAL BACKGROUND**

1. I am Graeme Greer. My address for the purposes of this inquiry is c/o Clyde & Co (Scotland) LLP, Albany House, 58 Albany Street, Edinburgh, EH1 3QR. I graduated in 2002 with BEng (Hons) degree in Civil Engineering. On leaving university I began employment with Babbie Group (which later became Jacobs UK), where I worked for about 10 years, initially as a graduate civil engineer in the reservoir and dams teams before moving to hydropower schemes and sewer design that involved interfacing with PFI projects, increasingly moving away from design and into project management. In 2011 I left Jacobs UK and took up employment with Mott MacDonald Limited (MML). I joined MML as a Consultant, and then in summer 2016 I was promoted to Associate.
2. On commencing employment at MML, I worked on various healthcare projects as project manager and technical advisor, working within MML's Strategic Consultancy Services team. The initial projects I worked on were on hub projects, such as Aberdeen Health and Care Village; Kittybrewster Custodial Centre; Stirling Care Village, and Tain, Woodside, and Forres, a bundle of three healthcare centres. I also worked on a number of NPD projects including the North Ayrshire Community Hospital, Dumfries and Galloway Royal Infirmary, and the Scottish National Blood Transfusion Centre. I worked on the technical advisory and project management side of Design Build Finance Maintain (DBFM) contracts. I am a Chartered Civil Engineer, and a member of the Institution of Civil Engineers.

3. In May 2013 I began working on the Royal Hospital for Children and Young People and Department of Clinical Neurosciences (RHCYP/DCN) project. I joined the team at around the stage of Competitive Dialogue meeting three. I took over as the MML internal Project Manager and Technical Advisor on RHCYP/DCN (although my job title was Consultant and then Associate). In addition, during the course of the RHCYP/DCN project, I was also: (1) MML health care lead in Scotland and Ireland; and 2) leader of the advisory team in Glasgow. From around September 2019, I handed over my Advisory team role and healthcare roles to focus on the remedial works at RHCYP/DCN. I continued to carry out this role until May 2022 when I then left MML and joined NHS Lothian, where I currently work as Programme Director, working on the National Treatment Centre at St. John's Hospital, Livingston.

## **OVERVIEW**

4. In this statement I will address the undernoted themes:
- i. An overview of my role within the project;
  - ii. Procurement Process – The competitive dialogue;
  - iii. Evaluation Manual - Draft Final Tender;
  - iv. Evaluation Scoring Criteria;
  - v. The Evaluation Manual – Final Tender;
  - vi. Appointment of Preferred Bidder;
  - vii. Preferred Bidder to Financial Close;
  - viii. Project Management;
  - ix. M&E Meetings;
  - x. Project Co's Proposals;
  - xi. Room Data Sheets;
  - xii. The Environmental Matrix;
  - xiii. Development of IHSL's Environmental Matrix;
  - xiv. Risk Registers;
  - xv. Project Agreement;
  - xvi. Financial Close.

## **ROLE WITHIN THE PROJECT**

5. I joined the RHCYP/DCN project as internal project manager and technical advisor for MML around the time of competitive dialogue three. At that time, the Invitation to Participate in Dialogue (ITPD) had already been issued. I therefore had no substantive involvement in the preparation of that document.
6. My first significant involvement during this early phase was taking the formal notes in the design and construction section of the Competitive Dialogue meetings. When I took over as internal project manager and technical advisor, Richard Cantlay of MML was leading on the project. I became more involved as time passed and Richard started to hand over the client facing role to me in the run up to financial close (FC), with Richard Peace (MML Project Director) and Richard Cantlay (Lead Technical Advisor) providing approvals and oversight to the team. In my role on the RHCYP/DCN project, I would lead the MML project management team and the technical advisor teams on the ground, and would regularly liaise with Brian Currie, the Project Director for the NHS Lothian Team as we were co-located, sharing the same office space.
7. My role in the RHCYP/DCN project included managing the MML project team, though I did not have any line management responsibility. Within the NHS Lothian Team were: Iain Graham, Director of Capital Planning; Janice Mackenzie, Clinical Director; Jackie Sansbury, commissioning lead; Fiona Halcrow, DCN lead and Neil McLennan, the equipment lead. I would work with all of those on the NHS Lothian team and attend meetings with bidders during the competitive dialogue and then, ultimately, the preferred bidder Integrated Health Solutions Lothian ("IHSL").
8. By the time I became involved in the project, MML's role was to provide project management and technical adviser services to NHS Lothian. During the Competitive Dialogue, MML attended the dialogue meetings and provided comments and advice to NHS Lothian on proposals and submissions produced by bidders. Later MML provided advice on the technical elements of the ISFT, as well as technical sections of the preferred bidder letter issued at the end of

the final tender process. MML continued to advise NHS Lothian during the preferred bidder to FC phase of the project and worked with NHS Lothian to provide comments to assist the preferred bidder in the development of their proposals. When it became apparent that the preferred bidder would not be in a position to produce fully developed Project Co proposals by financial close, including a full suite of room data sheets (“RDS”), we supported NHS Lothian in mitigation measures, and assisted in maintaining a design risk and technical risk register to Financial Close. It is important to note that while MML undertook sample reviews of aspects of the design of the project on behalf of NHS Lothian, IHSL were responsible for the design of the project and for ensuring that amongst other things, the design complied with the Board’s Construction Requirements (BCRs), which was essentially the Board’s specification for the hospital.

### **PROCUREMENT PROCESS – THE COMPETITIVE DIALOGUE**

9. As I say I was not involved in drafting the ITPD, which was the document which set out the rules for the procurement process. By the time I began work on the project the ITPD had already been issued. I did attend one meeting on the drafting of the ITPD right at the start of my time with MML in 2011, but I was then quickly deployed on to other projects. By the time I joined the project in earnest, the competitive dialogue was underway. By that stage, the competitive dialogue process was well established and included monthly dialogue meetings in accordance with the programme in the ITPD. Each of the dialogue meetings were structured with a set agenda. For each monthly set of meetings, submissions based on the dialogue agenda would be issued from each bidder in advance. Each set of dialogue meetings would take place over the course of a week, with meetings scheduled for each day, Bidder A on Tuesday, Bidder B on Wednesday and Bidder C on Thursday, with pre and post meetings with NHS Lothian on Monday and Friday.
  
10. My own role during the competitive dialogue process had two functions. The first was a project management role, managing the MML team that facilitated



the flow of information between the bidders and NHS Lothian. This was managed through a system called Conject, which facilitated the flow of communication either from the bidders to NHS Lothian, and following NHS Lothian approval, answering queries on behalf of the NHS Lothian project team.

11. The other aspect of my role was managing the technical advisor team. Depending on what was being discussed at dialogue, MML would provide technical support to the NHS Lothian project team. This ranged from architectural support to mechanical and electrical engineering support, work on civil and structural matters, acoustics, energy modelling, and even aviation, due to the presence of the helipad. We also provided advisory support on matters such as facilities management which are a crucial aspect of any NPD or PFI project. I coordinated all of these separate disciplines with the support of the project management team as well as working collaboratively with the NHS Lothian team and their legal and financial advisors. NPD projects are extremely complex and incorporate a very wide range of disciplines relevant to the design and build, and then the twenty-five-year concession period following completion. MML's input therefore encompassed project management and a broad range of technical advisory services to support the NHS Lothian team in each of the relevant disciplines.
  
12. A typical dialogue week would include a pre-meet with the Core Evaluation Team. This would involve NHS Lothian, Ernst & Young ("EY") who were the NHS Lothians financial advisers, MacRoberts, who were NHS Lothians legal advisers and MML, for whom the attendees would be Richard Cantlay and me. The Core Evaluation Team is identified at section 3.1.2 of the RHSC DCN Dialogue Plan and Evaluation (**A36308885 - Dialogue Plan and Evaluation,1**) (the "Evaluation Manual"). Section 3.2 of the Evaluation Manual sets out the key individuals involved in the evaluation process. I am listed under design and construction, along with Richard Cantlay and David Stillie of Mott MacDonald but in reality, I worked across the procurement and core evaluation workstreams too.

<sup>1</sup> Bundle 8 - Scoring & Correspondence Regarding Issues, item 26, p.101

13. The procedure to be followed in the Competitive Dialogue Process was set out at section 4 of the ITPD. Section 4.1.2 (**A34696936 – Draft ITPD Evaluation Criteria – 5 April 2012<sup>2</sup>**) defined the dialogue process as a “series of meetings leading to submission of the Final Tender”, making it clear that the “Board intends to continue the Dialogue until it is satisfied that Solutions from one or more Bidders are capable of meeting the Board’s requirements”. Section 4.1.3 set out the process to be followed during the dialogue, including discussion of aspects of the NPD Project Agreement, and the proposed risk allocation.
14. By the beginning of each dialogue week, we would already have received submissions from the bidders, which would come in around a week before the dialogue session, to allow the submissions to be reviewed. These submissions would be based on a set agenda. We would then have the dialogue meeting with the bidders on Tuesday, Wednesday and Thursday of each dialogue week, and then a debrief Core Evaluation team meeting on the Friday.
15. My recollection of the Bid teams was as follows: Bidder A included Balfour Beatty and BAM. Bidder B was Integrated Health Services Lothian (IHSL), and included Macquarie Capital, Brookfield Multiplex and Bouygues FM as FM contractor. Bidder C was Mosaic, which included Laing O’Rourke and Serco as the FM contractor. Each of the Bidders employed a contractor and their own design teams.
16. Prior to and during a dialogue week, NHS Lothian and MML would review the documents submitted by the bidders. NHS Lothian and MML would then provide comments to the MML Project Management Team. While I was not responsible for reviewing any particular submissions, I would familiarise myself as best I could with them in the time available, particularly if there were any discussion points raised by the NHS Lothian / MML reviewers. The various NHS Lothian, MML, MacRoberts and EY workstreams would meet and discuss

<sup>2</sup> Bundle 2 Reference Design and Invitation to Participate in Dialogue (ITPD) Documents, item 9, p.578

the comments, and the outcome would then be fed into the Core Evaluation team. Any significant issues would be discussed at that stage. The aim of the dialogue meetings was to support the three bidders in developing their tenders.

17. Communications to any of the bidders or other stakeholders would generally be issued by the MML project management team on behalf of NHS Lothian via Conject. I recall that all communication required to be approved by NHS Lothian before issue, generally by either the Project Director or Clinical Director.
18. My recollection is that one of the main areas of focus in the competitive dialogue phase was the development of architectural layouts, and I recall additional dialogue sessions were implemented with each of the bidders to allow further development. I understand there was a particular focus on this point to ensure that the clinical teams were comfortable with the layouts. This was also important to NHS Lothian more generally. In relation to the design risk allocation in the Project Agreement, the architectural layouts and clinical adjacencies fell within the definition of Operational Functionality, which was the only element of the design where NHS Lothian accepted the design risk. All other elements of the design were for the Preferred Bidder / Project Co to develop and ensure were compliant with the BCRs. This approach to risk allocation is adopted as standard in NPD projects in my experience.
19. If matters needed to be escalated to NHS Lothian during the competitive dialogue process, then this was done through the Core Evaluation Team. This would include any technical issues. The dialogue phase was very structured in line with the meeting schedule set out in the ITPD. I understand this meeting schedule was adhered to up until dialogue four, when extra architectural sessions were put in place. That said this was also done in a very structured way.
20. After the appointment of the preferred bidder, there were a number of individual workstreams, such as a civil and structural workstream, a helipad

workstream, and a number of others. There was also a mechanical and electrical workstream. In the preferred bidder phase, I believe the structure changed so that the Core Evaluation Team became the Project Management Executive. Any issues arising would have been discussed in that forum, for example the contents of the risk registers would have been presented and discussed there. Throughout the project there was always a means of escalating any issues which arose.

21. I came into the project at stage three of the competitive dialogue process, following the submission of mechanical and electrical proposals by bidders. These had been considered at dialogue two so I was not involved in discussions on those aspects of the project. There was no formal scoring of the dialogue sessions. The dialogue process was set out at section 4.4 of the Evaluation Manual (**A36308885 - Dialogue Plan and Evaluation**<sup>3</sup>), and paragraph 4 of ITPD volume 1. (**A34697102 – Invitation to Participate in Dialogue Vol 1, Revision B**<sup>4</sup>) The bidders were invited to produce informal submissions in advance of each dialogue week. The informal submissions were produced to give NHS Lothian and the advisers a feel for how the tenders were progressing and allow them to give feedback to support the developers with the development of the tenders.
22. After dialogue five, the bidders submitted draft final tenders. According to the timetable in the ITPD, these were to be produced on 21 October 2013. Section 5.1 of the Evaluation Manual (**A36308885 - Dialogue Plan and Evaluation** <sup>5</sup>) confirmed that the draft final tenders were not to be scored by NHS Lothian. Instead, they were to be used “as a tool for NHS Lothian to ensure that bidders have solutions capable of meeting its requirements, thus enabling NHS Lothian to proceed to conclude the Dialogue Period”. The process for technical reviews was set out at section 5.2 of the Evaluation Manual. These all required to take place between 22 October and 7 November

<sup>3</sup> Bundle 8 - Scoring & Correspondence Regarding Issues, item 26, p.101

<sup>4</sup> Bundle 2 - Reference Design and Invitation to Participate in Dialogue (ITPD) Documents, item 23, p.942

<sup>5</sup> Bundle 8 - Scoring & Correspondence Regarding Issues, item 26, p.101

2013. This would not have involved a detailed line by line check of each bid for compliance with all of the guidance in the BCRs. NHS Lothian was always mindful of the risk allocation inherent in an NPD project, and it was up to the potential NPD providers to produce a compliant design and undertake their own design assurance. From a technical perspective we would be undertaking a sample review and providing comments and feedback. There was not a lot of time available to review the tenders. Only two weeks had been allowed, and that might only allow for one or two days of a reviewer's time to be spent on reviewing all three bids, bearing in mind it was not a full-time design role for the reviewers, as MML had an advisory only role.

### **EVALUATION MANUAL – DRAFT FINAL TENDER**

23. The aim of the draft final tender stage was to provide an opportunity for bidders to receive feedback on draft submissions to maximise bidders' opportunity to create a compliant bid. By "compliant" I mean compliance with the evaluation criteria set out in section five of the ITPD. At the draft final tender and final tender stage, bidders were expected to provide submissions in line with the level of detail set out in the ITPD, that complied with guidance such as the SHTMs.
24. At draft final tender stage, the guidance to the team reviewing each proposal from a technical perspective would be to highlight any areas which would result in a non-compliant bid. The process was well defined in the evaluation manual. The first step was a completeness check, in order to assess whether the bidders had responded to all the questions they were supposed to respond to. The draft final tender review examined whether there were any obvious areas which would have made bid non-compliant. A report was provided to each bidder, and then there was then a further dialogue session to discuss any issues arising from the draft final tenders. This had been provided for in the programme from the outset. The legal and financial advisers were also providing feedback at this point.
25. As was made clear at section 5.1.1 **(A36308885 - Dialogue Plan and**

**Evaluation<sup>6)</sup>** the draft final tenders were not scored by NHS Lothian or advisors. Instead, they were to be “used as tools during the Dialogue Period for Bidders to set out their Solutions to NHS Lothian and for subsequent feedback on whether aspects of the Informal Submissions and Draft Final Tenders meet the Board’s requirements set out in the ITPD”. The Evaluation Manual set out the procedure to be followed at draft final tender stage. As set out at paragraph 5.3 of the Evaluation Manual (**A36308885 - Dialogue Plan and Evaluation<sup>7)</sup>**), there was to be a technical review, involving “individual review and comment by the relevant member of the technical team”. Paragraph 5 of the Evaluation Manual (**A36308885 - Dialogue Plan and Evaluation<sup>8)</sup>**) indicated that “consistent with the Board’s requirement to ensure fairness between bidders, there will be no detailed feedback going beyond setting out where that bidder does not meet minimum requirements”. A final dialogue meeting (dialogue six), took place after the draft final tender stage to allow for clarification of any points arising at that point.

## **EVALUATION SCORING CRITERIA**

26. Final tenders were produced in January 2014, in accordance with the programme set out at section 4.2 of the Evaluation Manual (**A36308885 - Dialogue Plan and Evaluation<sup>9)</sup>**). The Inquiry has asked me if I have any knowledge of the assessment criteria used for bidders on the Project and the 60/40 price/quality split. From my perspective I believe that this had been set following guidance provided to NHS Lothian by Scottish Futures Trust (SFT), but I was not involved in advising on an appropriate allocation.
27. The ITPD sets the evaluation process. In terms of the evaluation scoring criteria. 60% of the score was cost related and 40% was quality related. Of the 40% allocated to Quality, this was split into Strategic and Management (5%), Design and Construction (23%) and Facilities Management (12%).

<sup>6</sup> Bundle 8 - Scoring & Correspondence Regarding Issues, item 26, p.101

<sup>7</sup> Bundle 8 - Scoring & Correspondence Regarding Issues, item 26, p.101

<sup>8</sup> Bundle 8 - Scoring & Correspondence Regarding Issues, item 26, p.101

<sup>9</sup> Bundle 8 - Scoring & Correspondence Regarding Issues, item 26, p.101

28. A substantial proportion of the Design and Construction scoring questions and evaluation criteria weighting was allocated to the architectural related design elements. The weighting for C8, being clarity, robustness and quality of M&E engineering design proposals was 1.06% of the overall score.
29. In terms of the percentage ascribed to the mechanical and electrical elements, while I was not involved in determining the scoring breakdown, I understood there was an underlying requirement for the consortium ultimately appointed as preferred bidder to ensure that the mechanical and electrical design is compliant with the Board's Construction Requirements ("BCRs"), and that the final design required to comply with all of the applicable guidance.

### **EVALUATION MANUAL – FINAL TENDER**

30. The Evaluation Manual sets out the process for evaluation of the final tenders. My understanding of the scope of MML's role in the evaluation process was very much determined by this document, which had been drafted by MML with input from MacRoberts and EY and had all been approved by NHS Lothian.
31. The process to be followed for evaluation of the final tender is set out in section 6 of the Evaluation Manual (**A36308885 - Dialogue Plan and Evaluation**<sup>10</sup>) as well as section five of ITPD volume 1 (**A34697102 – Invitation to Participate in Dialogue Vol 1, Revision B**<sup>11</sup>). The evaluation process involved the following steps:
- Completeness and compliance check,
  - Check for compliance with the Stand Alone Requirements,
  - Evaluation of all of the Quality Evaluation Criteria on a pass/fail basis,
  - Evaluation of those Quality Evaluation Criteria that are evaluated on a scored basis,

<sup>10</sup> Bundle 8 - Scoring & Correspondence Regarding Issues, item 26, p.101

<sup>11</sup> Bundle 2 - Reference Design and Invitation to Participate in Dialogue (ITPD) Documents, item 23, p.942

- Price Evaluation (including commercial aspects),
  - Evaluation of funding proposals,
  - Legal review,
  - Combination of price evaluation mark and quality evaluation mark.
32. The first step was the completeness and compliance check. According to the detailed programme set out at section 6.2 of the Evaluation Manual **(A36308885 - Dialogue Plan and Evaluation<sup>12</sup>)**, this was due to take place over two days from 7 to 8 January 2014. This was not a technical compliance check. It was a review undertaken by the Procurement Management Team, to check that the bids were complete – i.e., that they had provided answers to all of the questions being asked of bidders – and that they otherwise complied with the submission requirements from a procurement perspective.
33. The next stage was a review of the technical submissions provided by each bidder. This required to be done between Thursday 9 January 2014 and Friday 31 January 2014. The process to be followed was set out at section 6.5 of the Evaluation Manual **(A36308885 - Dialogue Plan and Evaluation<sup>13</sup>)**, and broadly required review by individuals, recording any scores and comments, then a meeting to agree a consensus score, then collation of the final tender evaluation. The process all required to be completed by 12 February 2014, according to the timetable in section 6.2 of the Evaluation Manual **(A36308885 - Dialogue Plan and Evaluation<sup>14</sup>)**.
34. Guidance on the quality scoring was set out at section 6.6 of the Evaluation Manual **(A36308885 - Dialogue Plan and Evaluation<sup>15</sup>)**. This provided that “using the Final Tender Evaluation Proforma in Appendix E, the Evaluation Group members will each undertake individual evaluation of the relevant evaluation criteria within each Bidders’ Final Tender Submissions against the prescribed scoring criteria before meeting with their Group in a workshop, chaired by the Core Evaluation Team member leading that Group, to agree

<sup>12</sup> Bundle 8 - Scoring & Correspondence Regarding Issues, item 26, p.101

<sup>13</sup> Bundle 8 - Scoring & Correspondence Regarding Issues, item 26, p.101

<sup>14</sup> Bundle 8 - Scoring & Correspondence Regarding Issues, item 26, p.101

<sup>15</sup> Bundle 8 - Scoring & Correspondence Regarding Issues, item 26, p.101



the final consensus scores for each of the evaluation criteria for which that Group is responsible.

35. From an M&E MML perspective, Colin McCrae, Willie Stevenson and Paul Kelly were involved in reviewing the submissions. From NHS Lothian, Ernie Bain (estates manager) and Brian Currie (design and construction workstream chair) were involved in the mechanical and electrical evaluation. Each of the evaluators would produce individual comments and an individual score. Once again these were sample reviews, the bidders were required to undertake their own design assurance. Mechanical and electrical reviews were only a relatively small part of the work MML were undertaking at that stage. MML were undertaking technical reviews in a whole range of areas including acoustics, civil and structural, and facilities management aspects of each bid. The evaluators would then go to a meeting with the workstream lead, and then at the meeting the evaluation team would agree consensus comments and a consensus score. I would not have been involved in reviewing the M&E aspects of each bid as this is not my area of specialism. Once again, the reviewers would not have been undertaking a detailed audit of each bidder's proposals to check in detail for compliance against the guidance in the BCRs. The Evaluation Manual also included pro-formas for the evaluators to complete for each question and bidder.
36. I was involved in the consensus design and construction meetings, in which I or one of my colleagues would collate comments and scores agreed and discuss these with the MacRoberts procurement team. This involved collating the comments and challenging the comments if they did not seem consistent. I don't recall this happening specifically on the project, however an extreme example of the input I may have provided is as follows, if the evaluators were saying a proposal was excellent and only giving a score of 6, I would advise them that the scoring criteria says that if it is excellent then it should generate a score of 10. So, either the wording was wrong or the scoring wrong. This is the type of input I would have as opposed to a technical review. I was trying to assist with ensuring consistency in the scoring of the evaluations. I was not involved in the scoring itself just supporting the collating of the comments at the end.

37. Following the consensus meeting my role was to draft the Design and Construction Draft Final Tender report, and Final Tender reports based on the consensus comments and scores produced by the evaluators.
38. With regard to the scoring of the bidders I was aware that IHSL scored higher than other bidders in some areas. I believe that this was primarily in relation to architecture. I understand they took the best parts of the reference design and enhanced it, which the clinical teams saw as a massive benefit. I understand the other bidders tried to alter significantly the architectural elements of the reference design, but it did not fit the clinical layouts that NHS Lothian were looking for.
39. At the end of the tender evaluation process, a preferred bidder letter and unsuccessful bidder letters were prepared. I worked with NHS Lothian, the MML project management team, MacRoberts and EY to populate the letters based on the scores and comments in the completed tender evaluation proformas. Following the release of the letters, I then participated in de-brief sessions with the unsuccessful bidders.
40. The Inquiry has asked me to express a view on why the anomaly in the environmental matrix between guidance note 15 and the air change rates in critical care, was not identified when the tenders were evaluated. I was not involved in reviewing the detail of the mechanical and electrical submissions, but I am now aware that Bidder C produced a version of the environmental matrix which they had marked up, whereas Bidder B did not produce an environmental matrix with their final tender at all, instead adopting the environmental matrix produced with the ITPD stage for that purpose. I can't comment in detail on the differences in each bidder's approach, as I am not a mechanical and electrical engineer. However more generally, I do not think that the fact that the bidders were proposing two different solutions would of itself necessarily have rung any alarm bells. The bidders would be expected to produce different solutions generally. With specific reference to the EM, the preferred bidder would always have to develop the environmental matrix in

accordance with their own design. Even at final tender stage, the development work on the design is still to be done. The fact that the solutions proposed by each bidder were different, would not necessarily mean that one of them had complied with guidance and the other had not. The anomaly in the environmental matrix *could* have been picked up in the final tender review or in one of the subsequent reviews, but it does not necessarily follow that it *should* have been picked up, particularly if there was no environmental matrix with bidder B's bid. The sample reviews being done at that time did not involve a detailed audit of the design.

41. I have been asked how a bidder could show at final tender stage that they had complied with CEL19 (2010). By this I understand that I am being asked how the bidders could demonstrate that ADB had been used as a design and briefing tool. Bidders did require to produce sample RDS in the final tender, which I would have expected to have been generated from the ADB, and were also required to produce a full set of RDS by financial close, though in the event this did not actually happen as I will go on to explain.

42. The Inquiry has asked me to comment on how NHS Lothian and MML assessed compliance with CEL 19 (2010), given that this required health boards to use ADB as a design and briefing tool. CEL 19 (2010) was one of a number, indeed hundreds, of documents which were referred to in the Board's Construction Requirements ("BCRs"), as being guidance with which bidders were expected to comply. In my role at Mott MacDonald Limited I would not have been checking compliance with the requirements of this document.

43. The Inquiry has also asked specifically how CEL 19 was used to assess tenders for compliance. The tenders were evaluated against the criteria set out in the evaluation manual rather than being assessed in detail against each one of the very many guidance documents contained in the BCRs. It was not part of MML's role to undertake such a review, in addition there would not have been time to assess each tender against every individual document. Similarly, the reviews undertaken at final tender stage did not involve a line-by-line audit for compliance with all the applicable guidance. Ultimately

however, it would be for the successful bidder to ensure that they developed their own design in a manner which complied with the BCRs, reflective of the risk allocation in the project agreement.

44. I don't recall compliance with CEL 19 being discussed specifically, but obviously the procurement process took place a long time ago and I was not involved in the project from the beginning. In relation to whether ADB was used as a briefing tool, I am not aware of whether ADB was used by the reference design team when preparing their design. It might have been, and certainly the existence of an environmental matrix, and the use of ADB, are not mutually exclusive. The originators of the environmental matrix may well have used ADB in populating the services requirements for each room. It is worth highlighting that every NPD project which I have worked on has had an environmental matrix. In my experience, an environmental matrix has been used as standard in healthcare projects. From reading the ITPD, RDS had not been produced by the start of the procurement process, however it was clear key and generic rooms were to be produced by the bidders for final tender, and a full set of RDS were to be produced by the preferred bidder before financial close. The originators of the RDS may well have used ADB in preparing them.

#### **APPOINTMENT OF PREFERRED BIDDER**

45. IHSL were the Preferred Bidder (PB). I understand that they employed an SPV Management company which was HCP Social Infrastructure. Multiplex were the D&C Contractor, and then Bouygues were the Facilities Management provider. Multiplex then had a supply chain of designers, this included HLM, employed as architect, Wallace Whittle (who later became TUV SUD) as mechanical and electrical consultants. Robert Bird was appointed as the Structural engineer. Acoustic design was undertaken by Acoustic Logic. Fire Engineering was undertaken by Exova and then that changed to WSP early in the PB stage. Ironside Farrer was involved in planning. Multiplex also worked with the following sub-contractors: Mercury Engineering; Dunnes; Balfour Beatty Ground Engineering; and Crummock.

## **PREFERRED BIDDER TO FINANCIAL CLOSE**

### **PROJECT MANAGEMENT**

46. During the Preferred Bidder ("PB") phase, MML were on the Project Management Executive ("PME") which involved a pre-meet in preparation for meetings of the Project Delivery Group ("PDG"). The PDG managed escalated legal, technical and financial issues.
47. During the PB phase, there was also a Design Steering Group ("DSG"), and Project Management Group ("PMG"). The DSG managed escalated design issues. The PMG met weekly and managed process elements of the technical workstreams. I attended all of the above meetings. There was also an oversight meeting involving the executives of NHS Lothian, IHSL and possibly SFT, however MML were not involved in that meeting.

### **M&E MEETINGS**

48. Throughout the PB phase of the project, workshops were scheduled for each workstream. Mechanical and electrical workshop number one took place on 7 April 2014. This was the start of series of nine planned workshops scheduled to take place between the appointment of the preferred bidder and financial close.
49. Early in the PB phase there was an M&E meeting (it might even have been M&E workshop 1) where we discussed the preferred bidder (PB) letter as IHSL had seen their M&E score and acknowledged that they were the lowest (5/10) out of all the bidders. In the preferred bidder stage, IHSL asked for some more detail on where they could improve from an M&E perspective. MML and NHS Lothian provided comments around 23 May 2014.

## **PROJECT CO'S PROPOSALS**

50. On 2 April 2014, early into the Preferred Bidder stage, concerns were raised by MML about the initial development of the Project Co's Proposals (PCPs). This included concerns about the proposed structure of the PCPs, and concerns about regular reference to "Glasgow South" noting the following: *"Something else to be wary of is there is a common theme that the IHSL Designers are starting to rely on what they have done on Glasgow South, which is possibly a good starting point, but we need to see the detail of the proposals, and not assume that because Glasgow accepted it, NHS Lothian will too. First issue is we need the details, second issue is we need to review it"*.
51. MML also noted a lack of appropriate lead/attendees at meetings and additional derogations being requested by the preferred bidder to those in the final tender. By "Glasgow South", IHSL were referring to the Queen Elizabeth University Hospital ("QEUH"). IHSL frequently sought to justify design choices made in RHCYP/DCN with reference to what Multiplex were doing at QEUH. This seemed to be a benefit to the RHCYP at that point, as at that stage the QEUH, a very significant project, seemed to be going well.
52. On 4 September 2014, following lengthy discussions about the operational functionality document stamp, NHSL responded to an email trail between NHSL, MML and MacRoberts. I recall the background to the matter related to two main issues;
- (1) an additional Operational Functionality caveat that NHSL required due to a lack of developed C Sheets from the PB; and (2) the Clause 12 Project Agreement risk allocation, where I recall the final agreed RDD stamp reflected the Clause 12 Project Agreement risk allocation.
53. The lengthy conversation about the document stamp related to design risk allocation. I worked with MacRoberts on this as it was critical to the operational

functionality risk allocation in the contract, to ensure that any signing of the submitted design was limited to the operational functionality aspects of the project. This reflected the risk allocation in the project agreement. NHS Lothian was only accepting design risk for aspects of the project relevant to operational functionality. By stamping drawings as approved, there was a risk NHS Lothian could be deemed to be taking responsibility for the design, and it was only appropriate for them to be doing that for matters relevant to operational functionality. This matter was discussed by all parties, and I believe understood by all of them at the time.

54. On 14 October 2014, MML issued an email to NHS Lothian and MacRoberts stating the M&E drawings were largely level C and D, and not at the level we would expect for financial close. As there was pressure to reach financial close, the email also starts to explore possible mitigation measures including the following;

- a. *“An initial fall-back position for the Board could be to request that the Board has the “absolute right of comment” on the drawings post Financial Close...*
- b. *The absolute right of comment approach may not be acceptable to the Funder’s Technical Adviser, and therefore as discussed, a further fall back position would be to provide a schedule of comments that are included in the Project Agreement, with an opening statement of “The following comments shall be incorporated into the drawing by Project Co at no additional cost to the Board, and the drawings shall be submitted by Project to the Board through Schedule Part 8 (Review Procedure)...*

55. On 10 of November 2014, following discussions with MacRoberts and NHSL, MML issued to NHSL and IHSL an updated RDD Schedule that had been expanded to include the following 4 Parts;

*“Part 1: Endorsed RDD Item - Level A or Level B but subject to re-submission to the Board through Schedule Part 8 (Review Procedure)*

*Part 2: Non-Approved RDD Items - Level C or Level D:*

*Part 3: Reviewable Design Data:*

*Part 4: Non-Approved Project Co's Proposals Design Data comments:"*

This started to include MML / NHSL collated workstream comments on Project Co's design data.

56. As a mitigation measure, MML explored with NHS Lothian the comments and qualifications on the PCPs, and one of those was the environmental matrix. The MML technical team in collaboration with NHS Lothian and IHSL developed those comments and qualifications, which went into the RDD schedule.
57. There then followed a number of emails back and forth between IHSL and MML/NHS Lothian with regard to mitigation measures and in particular items to be included as Reviewable Design Data.
58. On 9 December 2014, following discussions between NHS Lothian, MML and MacRoberts, an updated RDD schedule was sent to IHSL rejecting the proposed amendments. On 11 December 2014, a meeting took place between NHS Lothian, IHSL and MML to discuss the RDD schedule. On 16 December 2014, I sent an email to NHS Lothian reflecting the points conceded by NHS Lothian in the meeting relative to revised RDD drafting, then on 18 December 2014, following approval from NHS Lothian, I issued an updated version of the RDD schedule to IHSL.

**ROOM DATA SHEETS**

59. My role in the development of IHSL's RDS included co-ordinating the responses from the MML / NHSL technical teams. I did not undertake any reviews and was not necessarily involved in all of the correspondence, but I have undertaken a review of the relevant parts of MML's file, and the key points were as set out below.
60. Paragraph 2.5.3 of the ITPD (**A34696936 – Draft ITPD Evaluation Criteria –**



**5 April 2012<sup>16</sup>**) sets out the plan for the development of Room Data Sheets (RDS). I think it is important to make the distinction between the template Activity Database Sheets (ADB) versus the project specific RDS. The ADB is a central database which is now in private sector ownership, managed by a company called Talon. This contains standard form sheets setting out the design criteria for individual room types in a hospital, which need to be tailored into project specific RDS, to suit

each particular healthcare facility. I am aware that the ADB cannot always be relied upon for accuracy. My understanding on this point arises from a number of sources. Firstly, the ADB is based on the English guidance, or HTMs, rather than the guidance which applies to Scotland, which is contained in the SHTMs. Secondly, having worked on a number of healthcare projects, from my own experience, including recent project experience, the ADB is used with caution by statutory bodies, boards and private sector designers. This is in recognition of the fact that use of the ADB does not guarantee compliance with relevant standards. It can be out of date. I have seen examples of ADB containing two apparently contradictory sheets for the same area. An example of this would be two sheets which were present on the ADB at the same time relevant to multi-bedded rooms in critical care. Sheet number B1609 relates to a multi-bedroom, critical care, 4 beds including scrub up bay. Mechanical ventilation is given as 6 air changes per hour "to suit design and clinical requirements". Sheet number B1610 on the other hand, which also relates to multi-bedded rooms in critical care, requires 10 air changes per hour. These are two apparently contradictory sheets in the ADB. My understanding therefore is that there is quite a lot of work involved, in developing RDS from the underlying ADB. The designer of the RDS would require to check that the sheets complied with the applicable guidance, rather than simply relying on what was in the ADB sheets. Aside from any issues with the ADB itself, it is well known that some of the underlying guidance can be contradictory, which is why my understanding is that there is a standard clause in NPD project agreements to the effect that the most onerous standard should always apply. In line with this approach this clause was added to the BCRs for the RHCYP/DCN project.

<sup>16</sup> Bundle 2 - Reference Design and Invitation to Participate in Dialogue (ITPD) Documents, p.578

61. I understand that different companies have different ways of developing room data sheets. It is possible that all companies do not necessarily go to Talon to get that information. There was a point where the Department of Health published a spreadsheet version of the ADBs and I believe some companies started to use that as opposed to those from Talon, who took over the licence to issue them.
62. Volume 1 of the ITPD states at section 2.5.3 (**A34696936 – Draft ITPD Evaluation Criteria – 5 April 2012**<sup>17</sup>) that standard form RDS had not been prepared at that early stage. Guidance Note 1 to the draft environmental matrix, issued with the ITPD describes it as an easier reference tool to replace ADB RDS M&E sheets.

During the competitive dialogue phase, RDS were to be prepared by bidders for certain rooms. However, all remaining rooms required to have room datasheets completed before financial close. The preferred bidder was to have responsibility for ensuring that this was done.

63. During the Competitive Dialogue phase, the bidders were each to develop RDS for the key and generic rooms for final tender, and then the Preferred Bidder ("PB") was to develop RDS for all rooms at FC.
64. On 1 April 2014, early in the PB to FC phase, RDS were identified as a priority item for the preferred bidder to develop. This was identified on a technical schedule tracker that MML developed and issued with a view to trying to ensure that progress was being made with key aspects of the project. Throughout the summer of 2014, MML on behalf of NHS Lothian wrote to IHSL on a number of occasions, asking IHSL to expedite the RDS, and even just to produce templates for the RDS that they were planning to produce. On behalf of NHS Lothian, MML set up meetings with IHSL to try to move things along. At least one of these had to be cancelled because IHSL had not produced the documents in time.

<sup>17</sup> Bundle 2 - Reference Design and Invitation to Participate in Dialogue (ITPD) Documents, p.578

65. By autumn 2014 it was becoming clear that RDS would not be available by financial close. On 19 September 2014, NHS Lothian circulated an email to MML noting that NHS Lothian needed to agree a position, on whether to push for completion of all (or indeed any) RDS by FC. The email from NHS Lothian noted that “ the IHSL response is that they cannot do it.” By November 2014, discussions were underway to update the Completion Criteria and BCRs to reflect the lack of completed IHSL RDS for financial close. These were produced on 9 December 2014. Ultimately, by financial close, NHS Lothian did not have a complete set of RDS from IHSL. This meant that NHS Lothian were unable to approve the RDS by that stage. The solution was that the RDS required to be included as Reviewable Design Data (RDD). On 27 Jan 2015, MML wrote to IHSL on behalf of NHS Lothian noting that;

*As the RDS are incomplete, the Board has not stamped the drawings. In accordance with the requirements in Section 5 (Reviewable Design Data) of Schedule Part 6 (Construction Requirements) (A32435789 - Schedule Part 6: Construction matters, section 5 (Reviewable Design Data<sup>18</sup>) Appendix B (Completion Criteria) of Schedule Part 10 (Outline Commissioning Programme) (A33405351 - Schedule Part 10: Outline Commissioning Programme Excerpt pages 299 to 313<sup>19</sup>)*

*Project Co has to submit to the Board through the Review Procedure completed Room Data Sheets for all Rooms whilst taking into account Section 3 of Schedule Part 6 of the Boards Construction Requirements” (A41179262 - Schedule Part 6: Construction matters, section 3 (Board's Construction Requirements), Subsection D Excerpt pages 360 to 780<sup>20</sup>).*

66. Following completion of the project, I reviewed the RDS which IHSL had produced prior to financial close. I noted that the Clinical Activities in the Draft Final Tender, Final Tender and FC RDS for the Critical Care bedrooms rooms have been altered from the ADB sheet Clinical Activities. The FC RDS Critical Care bedroom Clinical Activities appear more those to be expected in a

<sup>18</sup> Bundle 5 – Contract Documents, item 7, p.767

<sup>19</sup> Bundle 5 – Contract Documents, item 13, p.1504

<sup>20</sup> Bundle 5 – Contract Documents, item 4, p.341

normal bedroom, than a critical care bedroom. I say this because the activities specified for the rooms include taking refreshments in a sitting space, dressing and undressing, and arriving on foot. None of these activities would be expected to take place in a critical care area. This can be contrasted with the Clinical Activities in the Critical Care bedroom ADB sheets, that are clearly Critical Care Clinical Activities. This might have led any reviewers considering those RDS, to form the view that those RDS did not relate to critical care rooms, and so that specific aspects of guidance relative to critical care bedrooms in for example SHTM 03-01 was not applicable to those rooms. There may well have been a good explanation for this alteration, however I do not however recall being involved in any such discussions.

67. IHSL were unable to provide a full set of RDS prior to financial close. Due to those that were produced being submitted relatively late towards FC I do not believe they were capable of being reviewed by NHS Lothian or MML prior to financial close. I recall there being some correspondence to the effect that we had not stamped (signed off) the room datasheets.
68. The other thing we did, because the RDS had not been reviewed pre-financial close, was enhance the completion criteria relative to the RDS. There were extra clauses added, requiring IHSL to develop fully populated compliant RDS, which was agreed by all parties and added into the completion criteria. I think there might have been some changes to the BCRs as well, which related to that.
69. Having been unavailable prior to FC, the RDS would instead be reviewed when the project got to the construction phase. They would be presented in user group meetings and reviewed in the development of the design. I believe that Project Co's mechanical and electrical teams sat in on the early sessions to listen to the environmental information from the initial user group meetings, however I am not sure if that continued.
70. In terms of reviewing the mechanical and electrical data contained within the room datasheets, given that IHSL produced only a limited number of RDS

prior to financial close, and later than programmed, I do not recall MML undertaking a review of this data. When the review was undertaken in the construction phase, it would have been sample reviews and spot checks only as MML were not carrying out any design function on the project. Once again MML were not providing design assurance or undertaking an audit of IHSL's work. MML were undertaking an advisory role. The advisory team generally did sample reviews of the documents as opposed to carrying out any detailed analysis of them. MML's role was not to provide design assurance on the project.

71. I do not know how IHSL prepared their RDS, in terms of whether they used ADB or the environmental parameters for the room data sheets, I believe this information would have been taken from IHSL's own environmental matrix and then fed into the room data sheets, which may well have been produced from ADB templates. I do not think there was any changes from the environmental matrix through to the RDS. The building was almost complete I think by the time the final versions of the RDS actually became available so the majority of the environmental discussions were based on the environmental matrix as opposed to the RDS.

## **THE ENVIRONMENTAL MATRIX**

72. I recall the environmental matrix was divided into three sections, a set of guidance notes, a room function reference sheet, and a table of environmental parameters for particular rooms organised by department. The guidance notes were instructions for the bidders to take into account in the preparation of their own design. I was however not involved in considering the detail of the environmental matrix. I understand Hulley and Kirkwood produced the draft Environmental Matrix issued with the reference design and would be better placed to advise on the content. The room function sheet, I believe was part of the excel spreadsheet format, and I think in the original version you were able to select from a drop down list, hence if you selected a bedroom, you would copy and paste the bedroom

criteria into the table below.

73. I understand that the population of the draft environmental matrix issued to bidders with the ITPD with the data relative to the environmental parameters would have been the responsibility of Hulley and Kirkwood. I think all the mechanical and electrical information was shared in the data room to the bidders, for their use, to use how they wanted. The preferred bidder then had ownership of the environmental matrix and became responsible for developing it themselves.
74. The Inquiry has also asked me whether in my opinion the ITPD was requesting something impossible of bidders, being compliance with SHTMs and compliance with an environmental matrix which was itself not compliant with the SHTMs. I do not think that bidders were being asked to do the impossible. This is because the preferred bidder always had responsibility to design its own environmental matrix. The ITPD issue environmental matrix was a draft, for bidders to develop. The preferred bidder required to produce its own environmental matrix, and ultimately would have to construct the facility in alignment with that. It was IHSL's own, developed environmental matrix, which the BCRs required the preferred bidder to comply with. IHSL was aware of this responsibility and were they reminded of this frequently, as I will go on to explain below. In addition, IHSL did adopt the Hulley & Kirkwood matrix, applied their own branding to it, and amended it to suit their own design. All in all, IHSL produced at least eleven different iterations of the environmental matrix after they were appointed as preferred bidder. At no point do I recall IHSL saying that they were being asked to do something which was impossible.
75. The Inquiry has asked me if in my opinion, the information provided to prospective bidders in the ITPD lacked clarity in relation to the purpose of the environmental matrix, and whether bidders needed to formulate their tender to comply with the requirements set out in the environmental matrix. I do not recall the ITPD issue environmental matrix being discussed after Dialogue 3. I played no part in the drafting of the ITPD. That said, as I will go on to explain,

IHSL did adopt the environmental matrix, and developed it, making some significant changes to it. I am also confident that they were reminded at a number of points that they had responsibility for the design, including the environmental matrix, and for ensuring compliance with the BCRs. It was specifically pointed out to IHSL that the reference design had no contractual status as far as the environmental matrix was concerned. IHSL also confirmed that their design for the environmental matrix was compliant with SHTM 03-01.

76. My understanding as to the status of the environmental matrix is that it was provided to bidders in draft form to assist them with formulating their own design. It was always the responsibility of IHSL to develop their own design, including the mechanical and electrical elements contained in the environmental matrix.
77. There were mandatory elements and indicative elements in the ITPD. The environmental matrix was not one of the mandatory elements, which meant that the preferred bidder would have design responsibility for it. I understand that all information issued to bidders was issued as Disclosed Data for the purposes of Clause 7.1 of the Project Agreement. In relation to the environmental matrix, this meant that no warranties were given in relation to it, and bidders were required to prepare their own design and then verify that it complied with all of the guidance and, where there were any contradictions, with the most onerous of standards. IHSL's own environmental matrix was ultimately added into the contract as reviewable data design (RDD), because IHSL had not developed it sufficiently by the time of FC.

### **DEVELOPMENT OF IHSL'S ENVIRONMENTAL MATRIX**

78. My role in the development of IHSL's environmental matrix was limited to coordinating comments from the MML / NHS Lothian technical teams. I did not undertake any reviews and was not necessarily involved in all of the correspondence, but I have undertaken review of the relevant parts of MML's

file, and the key points were as set out below.

79. The development of the environmental matrix in the PB to FC phase started with a discussion on transferring the ownership of the environmental matrix to IHSL. I recall being involved in a conversation to the effect that it was now IHSL's EM and was for IHSL to develop, following which on 3 July 2014, IHSL asked for an excel version of the environmental matrix in order that they could develop it in accordance with their own design. NHS Lothian requested the excel version of the EM from Hulley and Kirkwood, which when received was then issued to IHSL via email on the 11 July 2014. IHSL did then adopt the environmental matrix and amended it. They removed the Hulley and Kirkwood logo, updated the environmental matrix with their own document reference (WW-XX-XX-DC-001), and produced several different iterations of it. In later versions, the preferred bidder included their own logo on the environmental matrix. All in all, IHSL produced at least eleven different consecutive versions of the environmental matrix as they continued to develop their own design for the facility.
80. On 11 June 2014, IHSL issued RFI 005 relating to Guidance Note 15 of the environmental matrix and the provision of humidification in Critical Care and HDU. Guidance note 15 to the environmental matrix stipulated that "Critical Care areas - Design Criteria – SHTM 03-01 – esp Appendix 1 for air change rates – 10ac/hr Supply". IHSL did not query any discrepancy between the air change rates required for critical care in guidance note 15, and the data in the body of the spreadsheet. The RFI was passed onto the MML technical team and NHS Lothian clinical team who responded on 6 August 2014, among other things, reminding IHSL that "IHSL should also update their environmental matrix to reflect the BCR requirement". This reflected the fact that as the preferred bidder, IHSL now had design responsibility for the environmental matrix. I understand that as a result of the RFI response was IHSL altered Guidance Note 15 to reflect the humidification requirements.
81. Along with NHS Lothian, we continued to remind IHSL that they had responsibility for designing the environmental matrix so that it was compliant with the BCRs. On 24 September 2014, NHS Lothian issued an instruction to



IHSL that requested additional agenda items for the Design Steering Group including as item 1 “1 *Environmental Matrix – compliance with BCRs*”

82. On 29 Sept 2014 IHSL issued the first IHSL excel version of the EM. When reviewing this document in connection with my preparatory work for the Inquiry, it was noted that IHSL have removed HDU from this version of the environmental matrix, and also altered the humidification reference in relation to critical care in guidance note 15 to reflect the RFI.
83. In the construction phase, Project Co later altered guidance note 15 in their second version of the matrix so that it required 10 air changes per hour in critical care isolation rooms only. Contrary to an agreement between IHSL and NHS Lothian, Project Co did not highlight the changes that they had made. This meant that the changes would not have been obvious to the reviewers.
84. On 6 October 2014, the MML mechanical and electrical team undertook a sample review of IHSL’s environmental matrix and then discussed the review with the NHS Lothian project team. There was an internal discussion about whether any non-compliances identified by MML might have previously been agreed by NHS Lothian directly in the reference design or competitive dialogue phase. It was decided the best course of action was to raise any concerns with NHS Lothian, and then if they agreed, flag the concerns to IHSL. This is what we then proceeded to do. The reviewers including NHS Lothian reviewers would feed comments to the project management team, and MML would issue the collated comments to NHS Lothian for approval.
85. On 6 October 2014, the environmental matrix was noted on the MML / NHS Lothian design issues register as a risk, as it did not appear to have been sufficiently developed by IHSL by that stage.
86. On 14 October 2014, MML issued comments on the environmental matrix on behalf of NHS Lothian to IHSL. NHS Lothian Estates had not yet given us any comments on the matrix at that point, which MML also raised to NHS Lothian as a project risk. One of the MML comments was that despite having changed

the matrix by that point, IHSL had kept the Hulley & Kirkwood branding on it, which was inappropriate as by that stage IHSL had become the designer.

87. Throughout autumn 2014 and after the turn of the year, there was further correspondence back and forth between NHS Lothian/ MML and IHSL with regard to IHSL's environmental matrix. There were various concerns with regard to IHSL's approach. One of these concerns arose from a HAI-SCRIBE review which took place in November 2014 relative to positive/ negative pressure in single bedrooms.
88. Following discussion with NHSL and IHSL, the following comments relative to the EM were included in Part 4 of the RDD schedule.

*“Project Co shall update the Environmental Matrix to reflect the following Board comments*

- *The Environmental Matrix shall be updated by Project Co to reflect all the rooms and room types in the proposed Facility, this should be based on an updated Schedule of Accommodation that has been commented on separately by the Board. This also needs to reflect the names and room numbers in the GSU table.*
- *Include the requirements contained in the Clinical Output Specification including but not limited to the requirement that theatre temperatures are to be able to be raised to 31°C for certain operations*
- *Measures shall be assessed, modelled and implemented to demonstrate that the internal air temperature of the following room types to reduce the temperature control from 28°C to 25°C;*
  - *Treatment Rooms;*
  - *Consulting Rooms;*
  - *Laboratory;*
  - *Physiotherapy Studio;*
  - *Recovery.*

*These rooms shall not exceed the maximum acceptable level of 25°C for more than 50 hours per annum*

- *Detailed proposal awaited on bedroom ventilation to achieve balanced/negative pressure relative to corridor.*

- *Colour rendering all stated as 80 where certain areas should be 90.*
- *There also need to have a consistent approach e.g. guidance notes and ED body view room stated as 28 -8, bereavement suite body view room stated as 25 -8.*
- *Further discussion is required on the minimum temperate requirement for the Body View Room”.*

89. The Inquiry have asked me to what extent did these identified elements of the RDD bear upon the issues of ventilation issues which later arose. Whilst not a mechanical engineer, I believe the compliance elements of the ventilation issues were generally covered by the RDD comments, and in addition, there was an overarching project agreement requirement for IHSL to ensure their design complied with all the relevant guidance.
90. On 30 January 2015, ventilation was recorded on the MML Design Risk to NHS Lothian to FC register as a high-risk item.
91. On 13 February 2015, the Project Agreement was signed. This included NHS Lothian comments on the environmental matrix for Project Co to incorporate. Project Co continued to develop the environmental matrix post financial close. The Inquiry has asked me whether this meant that the ventilation specification had not been fully agreed by financial close. I think it would be more accurate to say that the ventilation specification was to be found in the BCRs and so was agreed by financial close, but that IHSL design for the environmental matrix was not complete by that stage. IHSL produced a number of further iterations of their environmental matrix following that point. Clearly this was not ideal, and not what would have been anticipated in the project timetable, which is why mitigation measures such as the extended RDD schedule were necessary. IHSL continued to be regularly reminded that they had responsibility for ensuring that the design and content of the environmental matrix was compliant with the relevant guidance.
92. On 15 April 2015 for example, shortly after financial close, MML wrote to Project Co in relation to the environmental matrix, saying that “IHSL are also

reminded that the reference design has no relevance to the current contract, and IHSL are to comply with the Project Agreement and in particular the BCR's and PCP's. Any non-compliance with the BCRs or PCPs should be highlighted to the Board."

93. As late as 7 November 2016, MML wrote to NHS Lothian saying: "the Board still does not believe the environmental matrix and resultant design complies with the Project Agreement. Project Co's failure to comply with the BCRs / PCPs (as per MM-GC- 002084), the Board believes would result in a non-compliant Facility. The Board would suggest that Project resolve the non-compliant issues as a matter of urgency, and requests that Project Co issues a strategy for resolution of these issues". There were a number of other examples during the life of the project of IHSL being reminded that it was their responsibility to ensure that their environmental matrix complied with the BCRs, and that any non-compliances with the applicable guidance required to be highlighted by them.
94. The Inquiry has asked me if I believe the decision to use the concept of an environmental matrix was a cause or part of the cause of the discrepancies within the ventilation parameters for the critical care rooms, and whether the same errors would have resulted from using room data sheets. I believe that the same issues could have happened either way and do not think the use of the environmental matrix was a critical factor. With room data sheets, it is much harder to cross check against similar room types and you would need to look at all rooms on an individual basis. The production of RDS for a project of this scale will run to hundreds of documents as an additional datasheet is required for each room, whereas the environmental matrix condenses that information into a spreadsheet. Environmental matrices are still used frequently on healthcare projects.
95. I have been asked for my opinion on whether there are any benefits to the use of an environmental matrix. In my opinion it does have some benefits in comparison to room data sheets, as you can compare similar room types and make sure that consistent criteria have been applied across similar room

types. However, as it is a spreadsheet you do not have the direct correlation to the clinical activity that you would have within the RDS. I don't know whether Hulley & Kirkwood used the ADB when preparing their draft environmental matrix. I therefore cannot comment on whether ADB was used in the preparation of the matrix. It would make sense if the environmental matrix had been prepared using ADB however as the designers would be able to review clinical activities of a room in order to get the right room function and therefore the correct environmental characteristics.

### **ENVIRONMENTAL MATRIX DEROGATIONS IN THE PROJECT AGREEMENT**

96. As I describe below, the project agreement included a derogation register and Project Co's proposals, which included entries relating to the environmental matrix and mechanical ventilation air conditioning. The derogation request relating to the environmental matrix stated: *"Anomalies within the environmental matrix have been reviewed and proposals incorporated within the room datasheets. This shall be further developed in conjunction with the Board on the basis of the schedule of comments contained in section 5 of RDD."* This was raised to clarify the status of the environmental matrix i.e., for Project Co (IHSL) to update the matrix in accordance with the part 4 of the RDD comments. The Inquiry has asked me if this would have impacted upon the ventilation issues which later arose. I think indirectly yes, because there was a general requirement to update the matrix to make it compliant.
97. On 8 September 2014, the PB issued the first draft of the Schedule of Derogations, this included IHSL-MEP-015 titled "01 DRAFT Environmental Matrix".
98. On 7 October 2014, an M&E meeting took place to discuss the proposed PB M&E derogations. Whilst I did not attend the meeting, I understand the action for MEP-015 included the following - "MEP 015 – Board Action. IHSL await Environmental Matrix feedback prior to reviewing need or not for derogation".

99. On 14 October 2014, the PB issued a second draft (rev 0B) of the Schedule of Derogations, followed by the third draft (Rev 0C) on 16 October 2014, and the fourth draft (rev 0D) on 30 October 2014.
100. On 6 November 2014, a collated set of updated individual derogations was issued by the PB to MML.
101. On 7 November 2014, collated comments were issued by MML to the NHSL project team including collated comments on Rev 0D of the Schedule of Derogations (issued 30th October). For MEP-015 NHSL comments included the following;  
“30/09/14 Project Co's Environmental Matrix shows maximum room temperatures of 28°C where BCR maximum states 25°C & 30/10/14 Further to meeting 29/10/14 Environmental Data Matrix has been revised to reflect agreement. Derogation now withdrawn”.
102. On 5 November 2014, the PB commented MEP-15 could not be withdrawn, and it was agreed that NHSL / MML would provide comments in the RDD Schedule Part 4 for IHSL to incorporate and update the EM and RDS.

## **RISK REGISTERS**

103. Starting in June 2014 through to FC, MML produced technical and design risk registers to financial close. The purpose of these risk registers was to inform NHSL of technical and design risks, and where possible mitigate these risks before financial close. These registers were shared with NHS Lothian and IHSL as a collaborative approach to ensure that everyone was aware of the risks as the project approached financial close.
104. On 25 August 2014, the following item was considered high risk on the technical risk register for financial close, “*Project Co proposals were insufficiently developed to the required level for financial close.*” These proposals were the bidder’s response to the BCRs. A workshop was held setting out the board’s expectations and as a result a decision was made to

increase the length of the Reviewable Design Data (RDD) post FC with a greater focus on the specific design risks which IHSL still had to address.

105. Within the design risk to FC register one of the categories highlighted as high risk was ventilation issue within the single room ensuite, which NHS Lothian felt was not compliant with SHTM 03-01. The action taken by NHS Lothian and IHSL was to agree comments in terms of what still needed to be done and they would be added to part 4 of the RDD schedule for follow up after financial close.

### **PROJECT AGREEMENT**

106. Paragraph 8 of the BCRs provides that Project Co (IHSL) shall take cognisance of all the building services implications of the requirements described in section D, and specific clinical requirements, subsection E. I have been asked by the Inquiry if any of the provisions of the clinical requirements in section D bear upon the ventilation issues which later arose. The clinical requirements were generally broken up by department, hence there was a B1 Critical Care clinical output specification that contained information within that document to determine the clinical activities in the departments.

### **FINANCIAL CLOSE**

107. The Inquiry has asked me if I know why FC was not achieved until February 2015, despite the full business case being submitted to CIG in August 2014. I am aware that the Competitive Dialogue sessions took longer than anticipated as more sessions were implemented to develop the architectural design. As we approached FC there were issues with the development and submissions of the technical documents and legal issues in respect of the project agreement. There were issues over IHSL's ventilation strategy however my colleagues Colin McRae and William Stephenson had highlighted that as a high-risk item on the design risk register and better placed to advise on

comments raised.

108. The Inquiry has asked me if I was aware of tensions between NHS Lothian and IHSL in the last quarter of 2014, due to project not progressing smoothly. Due to the delays to financial close, I was aware of a general increase in pressure / tension, however that is not uncommon in the build up to financial close. I recall discussions post a board meeting that IHSL had suggested that NHS Lothian / MML were requesting more detail than they'd had to provide on other projects, however as MML were not involved in the board meeting I do not know the detail of the discussion.

I believe that the facts stated in this witness statement are true. I understand that this statement may form part of the evidence before the Inquiry and be published on the Inquiry's website.





Signed:

23 February 2023

## SECTION 5

## REVIEWABLE DESIGN DATA

**Part 1: Endorsed RDD Item - Level A or Level B but subject to re-submission to the Board through Schedule Part 8 (Review Procedure)**

As set out below in this Part 1, certain Design Data has been endorsed by the Board as a Level A or Level B at Financial Close ("**Endorsed RDD Item**").

Project Co has provided and the Board has reviewed the information noted below as Endorsed RDD Items (subject to the following Board comments that shall be incorporated into each relevant drawing by Project Co and the drawings shall be re-submitted by Project Co to the Board through Schedule Part 8 (*Review Procedure*)).

If Project Co considers that the Board comments below on any Endorsed RDD Item amount to a Change, Project Co shall, before complying with the comments and resubmitting the Endorsed RDD, notify the Board of the same and, if it is agreed by the parties or determined pursuant to Schedule Part 20 (*Dispute Resolution Procedure*) that a Change would arise if the comments were complied with, the Board may, if it wishes, implement the Change and it shall be dealt with in accordance with Schedule Part 16 (*Change Protocol*).

In the event that such Endorsed RDD Items are developed further by Project Co under any design development, such Endorsed RDD Items shall be re-submitted by Project Co to the Board for approval under Schedule Part 8 (*Review Procedure*).

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-00-PL-220-001	06	GENERAL ARRANGEMENT GROUND FLOOR LAYOUT	Room No G-Q1-099/092/086 Re-name as "Shelled Space" Lift configuration FM-002/003 to be updated. ED ambulance canopy to be extended. Add Section lines and references	B
HLM-SZ-01-PL-220-001	06	GENERAL ARRANGEMENT FIRST FLOOR LAYOUT	Room No 1-P1-097 Re-name as "Image Intensifier Bay" Room No 1-P1-064 – show access panel in external wall. Lift configuration FM-002/003 to be updated. Add Section lines and references	B
HLM-SZ-02-PL-220-001	06	GENERAL ARRANGEMENT SECOND FLOOR LAYOUT	Lift configuration FM-002/003 to be updated. Add Section lines and references	B
HLM-SZ-03-PL-220-001	06	GENERAL ARRANGEMENT THIRD FLOOR LAYOUT	Lift configuration FM-002/003 to be updated. Add Section lines and references	B

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-04-PL-220-001	06	GENERAL ARRANGEMENT FOURTH FLOOR LAYOUT	Lift configuration FM-002/003 to be updated. Add Section lines and references.	B
HLM-SZ-06-PL-240-001	05	GENERAL ARRANGEMENT ROOF LAYOUT	No comment	A
HLM-SZ-B1-PL-220-001	07	GENERAL ARRANGEMENT BASEMENT LAYOUT	Lift configuration FM-002/003 to be updated. Add Section lines and references.	B
HLM-SZ-00-PL-400-400	03	GROUND FLOOR DEPARTMENT KEY PLAN	No comment	A
HLM-SZ-01-PL-400-400	02	FIRST FLOOR DEPARTMENT KEY PLAN	No comment	A
HLM-SZ-02-PL-400-400	02	SECOND FLOOR DEPARTMENT KEY PLAN	No comment	A
HLM-SZ-03-PL-400-400	02	THIRD FLOOR DEPARTMENT KEY PLAN	No comment	A
HLM-SZ-04-PL-400-400	02	FOURTH FLOOR DEPARTMENT KEY PLAN	No comment	A
HLM-SZ-B1-PL-400-400	02	BASEMENT DEPARTMENT KEY PLAN	No comment	A
HLM-SZ-SL-EL-251-001	07	GENERAL ARRANGEMENT NORTH ELEVATION	No comment	A
HLM-SZ-SL-EL-251-002	07	GENERAL ARRANGEMENT SOUTH ELEVATION	Remove "A+E" lettering from canopy.	B
HLM-SZ-SL-EL-251-003	09	GENERAL ARRANGEMENT EAST ELEVATION	No comment	A
HLM-SZ-SL-EL-251-004	09	GENERAL ARRANGEMENT WEST ELEVATION	No comment	A
HLM-SZ-SL-EL-251-005	04	GENERAL ARRANGEMENT ATRIUM ELEVATION	No comment	A
HLM-SZ-SL-EL-251-010	03	COURTYARDS A & B ELEVATIONS GENERAL ARRANGEMENT	No comment	A

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-SL-EL-251-011	05	COURTYARDS C & D ELEVATIONS GENERAL ARRANGEMENT	No comment	A
HLM-SZ-SL-EL-251-012	04	COURTYARDS E & F ELEVATIONS GENERAL ARRANGEMENT	No comment	A
HLM-SZ-SL-EL-251-013	02	COURTYARD G ELEVATIONS GENERAL ARRANGEMENT	No comment	A
HLM-SZ-SL-EL-251-102	05	GENERAL ARRANGEMENT SOUTH ELEVATION & ENERGY CENTRE	Remove "A+E lettering" from canopy. RIE ambulant canopy to be developed as part of RDD.	B
HLM-SZ-SL-SE-250-001	05	GENERAL ARRANGEMENT SECTION A-A	No comment	A
HLM-SZ-SL-SE-250-002	03	GENERAL ARRANGEMENT SECTION B-B	No Comment	A
HLM-SZ-SL-SE-250-003	07	GENERAL ARRANGEMENT SECTION C-C	No comment	A
HLM-SZ-SL-SE-250-004	07	GENERAL ARRANGEMENT SECTION D-D	No comment	A
HLM-SZ-SL-SE-250-005	03	GENERAL ARRANGEMENT SECTION E-E	No comment	A
HLM-Z5-SL-EL-251-001	06	ENERGY CENTRE ELEVATIONS & SECTIONS	No comment	A
HLM-SZ-00-PL-230-001	01	GROUND FLOOR INTERNAL BALUSTRADE SCOPE	No comment	A
HLM-SZ-01-PL-230-001	01	FIRST FLOOR INTERNAL BALUSTRADE SCOPE	Board to confirm balustrade heights	B
HLM-SZ-02-PL-230-001	01	SECOND FLOOR INTERNAL BALUSTRADE SCOPE	Board to confirm balustrade heights.	B
HLM-SZ-03-PL-230-001	01	THIRD FLOOR INTERNAL BALUSTRADE SCOPE	Room 3-COR-008-balustrade type missing. Board to confirm balustrade heights.	B
HLM-SZ-04-PL-230-001	01	FOURTH FLOOR INTERNAL BALUSTRADE SCOPE	Complete details of all balustrade types. Board to confirm balustrade heights. IHSI to advise parapet type at Classrooms, Restaurant etc	B



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z1-SL-SE-230-001	02	TYPICAL ATRIUM BRIDGE SECTIONS	Board to confirm balustrade heights	B
HLM-Z1-SL-SE-230-002	01	TYPICAL ATRIUM BRIDGE SECTIONS	Board to confirm balustrade heights	B
HLM-SZ-00-PL-240-001	04	GROUND FLOOR ROOF LAYOUT	No comment	A
HLM-SZ-01-PL-240-001	05	FIRST FLOOR ROOF LAYOUT	No comment	A
HLM-SZ-02-PL-240-001	05	SECOND FLOOR ROOF LAYOUT	Courtyards and Terrace noted incorrectly as accessible. 1no Courtyard will be accessible following discussion with the Board post FC. Board to confirm balustrade heights	B
HLM-SZ-03-PL-240-001	06	THIRD FLOOR ROOF LAYOUT	Board to confirm balustrade heights	B
HLM-SZ-04-PL-240-001	06	FOURTH FLOOR ROOF LAYOUT	No comment	A
HLM-Z4-00-AS-240-002	02	DCN AND MAIN ENTRANCE CANOPY LAYOUT	No comment	A
All acoustic drawings	All	All Acoustic Drawings – General Comment	Generally there is an inconsistent approach to office partitions – many though not all are not provided with a minimum acoustic performance. Although not clinical spaces, minimum performance criteria for office partitions are provided in SHTM-08-01.  Latest drawings show improvements but still concern over a number of offices.	B
All acoustic drawings with multi-bed rooms	All	All acoustic drawings with multi-bed rooms	Partitions separating multi-bed rooms have been specified with Dntw 37dB in line with general hospital multi-bed rooms. Note that SHTM-08-01 has a higher performance requirement of 42dB DnTw for partitions separating "Children and older people (multi bed)" rooms.  Clarity for maternity wards required.	B

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z2-00-PL-252-001	02	GROUND FLOOR INTERNAL WALL TYPES AND SETTING OUT SHEET 1	<p>While a 52dB DnTw wall is shown between the Workshop and Plaster Suite, the other partitions around the workshop are shown with no minimum performance which leaves the potential for noise break-out. It is assumed that if no minimum performance is shown, there would not be attention paid to acoustic sealing of junctions, penetrations etc leaving the potential for flanking noise.</p> <p>Partition Specific comments:</p> <p>G-K1-017 Drop-in multi-purpose room and G-K1-016 Drop-in Lounge/Beverage Bay - 42 Dnt,w (47 Rw)</p> <p>G-K1-017 Drop-in multi-purpose room and G-K1-028 Corridor - Increase the acoustic performance rating of G-K1-017 to 42 Dnt,w (47 Rw).</p> <p>G-K1-017 Drop-in multi-purpose room and G-K1-030 Corridor - 37 Dnt,w (42 Rw).</p> <p>G-D1-021 Child Protection Room and G-COR-010 Atrium - 47 Dnt,w (52 Rw)</p>	B
HLM-SZ-01-PL-252-003	02	FIRST FLOOR INTERNAL WALL TYPES AND SETTING OUT SHEET 3	<p>Generally there is an inconsistent approach to office partitions – many though not all are not provided with a minimum acoustic performance. Although not clinical spaces, minimum performance criteria for office partitions are provided in SHTM-08-01.</p> <p>Latest revision shows improvements but still concern over a number of rooms.</p>	B

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z2-02-PL-252-001	02	SECOND FLOOR INTERNAL WALL TYPES AND SETTING OUT SHEET 1	Generally there is an inconsistent approach to office partitions – many though not all are not provided with a minimum acoustic performance. Although not clinical spaces, minimum performance criteria for office partitions are provided in SHTM-08-01  Latest revision shows improvements but still concern over a number of rooms.	B
HLM-SZ-02-PL-252-003	02	SECOND FLOOR INTERNAL WALL TYPES AND SETTING OUT SHEET 3	No comment	A
HLM-SZ-03-PL-252-002	02	THIRD FLOOR INTERNAL WALL TYPES AND SETTING OUT SHEET 2	Partitions separating multi-bed rooms have been specified with DnTw 37dB in line with general hospital multi-bed rooms. Note that SHTM-08-01 has a higher performance requirement of 42dB DnTw for partitions separating “Children and older people (multi bed)” rooms  Partition Specific comments:  3-C1.1-011 4 Bed room and 3-C1.2-013 4 Bed Rooms - 42 Dnt,w (47 Rw)  3-C1.8-016/027 4 Bed Rooms and 3-C1.3-018 4 Bed Rooms - 42 Dnt,w (47 Rw)	B
HLM-SZ-04-PL-252-003	02	FOURTH FLOOR INTERNAL WALL TYPES AND SETTING OUT SHEET 3	No comments	A
HLM-SZ-B1-PL-252-002	02	BASEMENT INTERNAL WALL TYPES AND SETTING OUT SHEET 2	There is inconsistency in mark-up of the ancillary spaces – see above and specific comments below  Latest revision shows improvements but still concern over a number of rooms.	B

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z5-SL-PL-252-001		ENERGY CENTRE INTERNAL WALL TYPES AND SETTING OUT	No comment	A
HLM-SZ-XX-DT-251-001	02	TYPICAL INTERFACE DETAILS - INSULATED RENDER	No comment	A
HLM-SZ-XX-DT-251-002	02	TYPICAL INTERFACE DETAILS - ZINC CLADDING	No comment	A
HLM-SZ-XX-DT-251-003	02	TYPICAL INTERFACE DETAILS - FACING BRICK	No comment	A
HLM-SZ-XX-DT-251-005	02	TYPICAL INTERFACE DETAILS - ACM RAINSCREEN CLADDING	No comment	A
HLM-SZ-XX-DT-251-006	03	TYPICAL INTERFACE DETAILS - REGUIT GLASS	No comment	A
HLM-SZ-XX-DT-251-007	03	TYPICAL INTERFACE DETAILS - CURTAIN WALLING	No comment	A
HLM-SZ-XX-DT-251-008	02	TYPICAL INTERFACE DETAILS - KINGSPAN CLADDING	No comment	A
HLM-SZ-XX-DT-251-010	02	TYPICAL INTERFACE DETAILS - PARAPET WALLS	Confirm insulated render finish sufficiently robust for inside face of accessible roof areas, i.e. at Classrooms, Restaurant etc.	B
HLM-SZ-XX-DT-251-011	02	TYPICAL INTERFACE DETAILS - LOUVRES	No comment	A
HLM-Z4-SL-EL-251-003	02	TYPICAL CLADDING - SOUTH WEST GABLE	No comment	A
HLM-Z4-SL-DT-251-001	02	TYPICAL INTERFACE DETAIL TO RIE LINK BUILDING	No comment in principle but subject to further development with Consort and submission as part of ROD.	B
HLM-Z1-SL-EL-251-001	02	MAIN ENTRANCE SCREEN AND LOBBY - WEST ELEVATION	No comment	A
HLM-Z1-SL-EL-251-002	02	DCN ENTRANCE SCREEN AND LOBBY - EAST ELEVATION	No comment	A
HLM-SZ-SL-SK-251-101	01	SOFT SPACE STRATEGY	No comment	A
HLM-SZ-SL-SK-251-102	02	PHYSICAL ADAPTABILITY	No comment	A
HLM-SZ-SL-DT-321-001	02	TYPICAL INTERNAL SCREEN TYPES	No comment	A



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-02-PL-322-001	02	SECOND FLOOR INTERNAL DOORS AND SCREENS	Room 02-M3-001 to be type 1d	B
HLM-SZ-04-PL-322-001	02	FOURTH FLOOR INTERNAL DOORS AND SCREENS	Room No 04-C5-004 to be Type 2b 04-S9-005 to be Type 1a	B
HLM-SZ-B1-PL-322-001	02	BASEMENT INTERNAL DOORS AND SCREENS	Door in corridor B-COR-004 to 006 to have vision panels	B
HLM-SZ-00-PL-330-002	02	GROUND FLOOR EMOTIONAL MAPPING KEY	No comment	A
HLM-SZ-01-PL-330-002	02	FIRST FLOOR EMOTIONAL MAPPING KEY	No comment	A
HLM-SZ-02-PL-330-002	02	SECOND FLOOR EMOTIONAL MAPPING KEY	No comment	A
HLM-SZ-03-PL-330-002	02	THIRD FLOOR EMOTIONAL MAPPING KEY	No comment	A
HLM-SZ-04-PL-330-002	02	FOURTH FLOOR EMOTIONAL MAPPING KEY	No comment	A
HLM-SZ-SL-SK-330-001	02	EMOTIONAL MAPPING KEY - VIBRANT	No comment	A
HLM-SZ-SL-SK-330-002	02	EMOTIONAL MAPPING KEY - HOMEY	No comment	A
HLM-SZ-SL-SK-330-003	02	EMOTIONAL MAPPING KEY - RELAXING	No comment	A
HLM-SZ-SL-SK-330-004	02	EMOTIONAL MAPPING KEY - STANDARD	No comment	A
HLM-SZ-XX-IM-330-101 (100)	02	INTERNAL PERSPECTIVES SHEET 1	No comment	A
HLM-SZ-XX-IM-330-102 (101)	02	INTERNAL PERSPECTIVES SHEET 2	No comment	A
HLM-SZ-XX-IM-330-103 (102)	02	INTERNAL PERSPECTIVES SHEET 3	No comment	A
HLM-SZ-XX-IM-330-104 (103)	02	INTERNAL PERSPECTIVES SHEET 4	No comment	A
<b>Ceilings</b>		<b>All Isolation Rooms &amp; Lobbies to be Type D1</b>		

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z2-02-PL-332-001	02	SECOND FLOOR CEILING LAYOUT SHEET 1	No comment	A
HLM-SZ-04-PL-332-003	02	FOURTH FLOOR CEILING LAYOUT SHEET 3	No comment	A
HLM-SZ-B1-PL-332-001	02	BASEMENT CEILING LAYOUT SHEET 1	Room No B1-S3-004 – Type D2	B
HLM-SZ-B1-PL-332-002	02	BASEMENT CEILING LAYOUT SHEET 2	No comment	A
HLM-SZ-SL-DT-332-001	01	TYPICAL CEILING DETAILS SHEET 1	No comment	A
HLM-SZ-00-PL-450-001	04	GROUND FLOOR FM MOVEMENT STRATEGY	With the exception of ongoing lift discussion – no comment	B
HLM-SZ-01-PL-450-001	04	FIRST FLOOR FM MOVEMENT STRATEGY	With the exception of ongoing lift discussion – no comment	B
HLM-SZ-02-PL-450-001	04	SECOND FLOOR FM MOVEMENT STRATEGY	With the exception of ongoing lift discussion – no comment	B
HLM-SZ-03-PL-450-001	04	THIRD FLOOR FM MOVEMENT STRATEGY	With the exception of ongoing lift discussion – no comment	B
HLM-SZ-04-PL-450-001	03	FOURTH FLOOR FM MOVEMENT STRATEGY	With exception of ongoing lift discussion – only issue is unnamed room at end of green flow at restaurant. Also unlikely food will come up in DCN core loft- more likely to be RHSC core	B
HLM-SZ-B1-PL-450-001	03	BASEMENT FM MOVEMENT STRATEGY	With the exception of ongoing lift discussion – no comment	B
HLM-SZ-01-PL-450-002	05	FIRST FLOOR ACCESS & MAINTENANCE STRATEGY	Confirm large and small cherry picker can fit into FM Lift 005 and rooms identified as access routes to balconies.	B
HLM-SZ-02-PL-450-002	03	SECOND FLOOR ACCESS & MAINTENANCE STRATEGY	Confirm large and small cherry picker can fit into FM Lift 005 and rooms identified as access routes to balconies.	B
HLM-SZ-03-PL-450-002	03	THIRD FLOOR ACCESS & MAINTENANCE STRATEGY	Confirm large and small cherry picker can fit into FM Lift 005 and rooms identified as access routes to balconies.	B
HLM-SZ-04-PL-450-002	03	FOURTH FLOOR ACCESS & MAINTENANCE STRATEGY	Confirm large and small cherry picker can fit into FM Lift 005 and rooms identified as access routes to balconies.	B

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-B1-PL-450-002	02	BASEMENT ACCESS & MAINTENANCE STRATEGY	Confirm large and small cherry picker can fit into FM Lift 005 and rooms identified as access routes to balconies. Amend key to exclude CT/MRI Scanners.	B
HLM-SZ-00-PL-410-002	02	GROUND FLOOR SIGNAGE LAYOUT	No comment	A
HLM-SZ-01-PL-410-002	02	FIRST FLOOR SIGNAGE LAYOUT	No comment	A
HLM-SZ-02-PL-410-002	02	SECOND FLOOR SIGNAGE LAYOUT	No comment	A
HLM-SZ-03-PL-410-002	02	THIRD FLOOR SIGNAGE LAYOUT	No comment	A
HLM-SZ-04-PL-410-002	02	FOURTH FLOOR SIGNAGE LAYOUT	No comment	A
HLM-SZ-B1-PL-410-002	02	BASEMENT SIGNAGE LAYOUT	No comment	A
HLM-SZ-SL-EL-410-100	02	RHSC SIGNAGE TYPES	No comment	A
HLM-SZ-SL-EL-410-101	02	DCN SIGNAGE TYPES	No comment	A
HLM-SZ-SL-SK-401-004	01	TYPICAL STAFF BASE DESK DETAILS	Acrylic stone to be specified for staff base desks.	B
HLM-SZ-00-PL-450-003	02	GROUND FLOOR CLINICAL REQUIREMENTS AND INFECTION CONTROL	Highlight hand hygiene sinks in Isolation Room, Dental Suite	B
HLM-SZ-01-PL-450-003	02	FIRST FLOOR CLINICAL REQUIREMENTS INFECTION CONTROL	Colour coding of basin corridor 1-P1-019 outside Pantry 1-P1-016 Infection Control to advice on basin in OPD (Audio/Optic)	B
HLM-SZ-02-PL-450-003	02	SECOND FLOOR CLINICAL REQUIREMENTS INFECTION CONTROL	No comment	A
HLM-SZ-03-PL-450-003	02	THIRD FLOOR CLINICAL REQUIREMENTS INFECTION CONTROL	Highlight clinical basin at entrance by Reception Room No 3-C1.2-036. Highlight hand hygiene sinks in Isolation Room 03-C1.3-008.	B
HLM-SZ-04-PL-450-003	02	FOURTH FLOOR CLINICAL REQUIREMENTS INFECTION CONTROL	No comment	A
HLM-SZ-B1-PL-450-003	02	BASEMENT CLINICAL REQUIREMENTS INFECTION CONTROL	No comment	A



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-00-PL-572-002	03	GROUND FLOOR FIRE STRATEGY GENERAL ARRANGEMENT	<p>Fire strategy drawings should be updated to included design changes as a result of changes to derogations requested prior to financial close these include:</p> <ul style="list-style-type: none"> <li>• Designation of refuge areas in escape stairs</li> <li>• Confirmation of provision of fire compartmentation as outlined in the fire strategy.</li> <li>• Confirmation of smoke control in the atrium</li> </ul>	B
HLM-SZ-01-PL-572-003	03	FIRST FLOOR FIRE STRATEGY GENERAL ARRANGEMENT	<p>Fire strategy drawings should be updated to included design changes as a result of changes to derogations requested prior to financial close these include:</p> <ul style="list-style-type: none"> <li>• Designation of refuge areas in escape stairs</li> <li>• Confirmation of provision of fire compartmentation as outlined in the fire strategy.</li> <li>• Confirmation of smoke control in the atrium</li> </ul>	B
HLM-SZ-02-PL-572-004	03	SECOND FLOOR FIRE STRATEGY GENERAL ARRANGEMENT	<p>Fire strategy drawings should be updated to included design changes as a result of changes to derogations requested prior to financial close these include:</p> <ul style="list-style-type: none"> <li>• Designation of refuge areas in escape stairs</li> <li>• Confirmation of provision of fire compartmentation as outlined in the fire strategy.</li> <li>• Confirmation of smoke control in the atrium</li> </ul>	B

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-03-PL-572-006	03	THIRD FLOOR FIRE STRATEGY GENERAL ARRANGEMENT	<p>Fire strategy drawings should be updated to included design changes as a result of changes to derogations requested prior to financial close these include:</p> <ul style="list-style-type: none"> <li>• Designation of refuge areas in escape stairs</li> <li>• Confirmation of provision of fire compartmentation as outlined in the fire strategy.</li> <li>• Confirmation of smoke control in the atrium</li> </ul>	B
HLM-SZ-04-PL-572-007	03	FOURTH FLOOR FIRE STRATEGY GENERAL ARRANGEMENT	<p>Fire strategy drawings should be updated to included design changes as a result of changes to derogations requested prior to financial close these include:</p> <ul style="list-style-type: none"> <li>• Designation of refuge areas in escape stairs</li> <li>• Confirmation of provision of fire compartmentation as outlined in the fire strategy.</li> </ul> <p>Confirmation of smoke control in the atrium</p>	B
HLM-SZ-B1-PL-572-001	03	BASEMENT FIRE STRATEGY GENERAL ARRANGEMENT	<p>Fire strategy drawings should be updated to included design changes as a result of changes to derogations requested prior to financial close these include:</p> <ul style="list-style-type: none"> <li>• Designation of refuge areas in escape stairs</li> <li>• Confirmation of provision of fire compartmentation as outlined in the fire strategy.</li> </ul> <p>Confirmation of smoke control in the atrium</p>	B

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z0-00-PL-572-001	03	PROPOSED SITE PLAN - FIRE ACCESS PLAN	Fire strategy drawings should be updated to included design changes as a result of changes to derogations requested prior to financial close these include: <ul style="list-style-type: none"> <li>• Designation of refuge areas in escape stairs</li> <li>• Confirmation of provision of fire compartmentation as outlined in the fire strategy.</li> </ul> Confirmation of smoke control in the atrium	B
HLM-Z2-00-PL-400-401	02	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-401	See comments on drawings	B
HLM-Z2-00-PL-400-403	04	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-403	See comments on drawings	B
HLM-Z2-00-PL-400-404	03	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-404	No comment	A
HLM-Z2-00-PL-400-405	03	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-405	See comments on drawings	B
HLM-Z2-00-PL-400-406	02	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-406	No comment	A
HLM-Z2-00-PL-400-421	03	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-421	No comment	A
HLM-Z2-01-PL-400-401	03	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-401	No comment	A
HLM-Z2-01-PL-400-402	02	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-402	No comment	A
HLM-Z2-01-PL-400-403	03	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-403	No comment	A
HLM-Z2-01-PL-400-405	03	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-405	See comments on drawings	B
HLM-Z2-01-PL-400-406	03	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-406	See comments on drawings	B

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z2-01-PL-400-407	03	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-407	See comments on drawings	B
HLM-Z2-01-PL-400-408	02	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-408	See comments on drawings	B
HLM-Z2-02-PL-400-401	03	SECOND FLOOR EQUIPMENT LAYOUT SHEET 02-401	No comment	A
HLM-Z2-02-PL-400-402	03	SECOND FLOOR EQUIPMENT LAYOUT SHEET 02-402	No comment	A
HLM-Z2-02-PL-400-403	03	SECOND FLOOR EQUIPMENT LAYOUT SHEET 02-403	No comment	A
HLM-Z2-03-PL-400-401	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-401	No comment	A
HLM-Z2-03-PL-400-402	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-402	See comments on drawings	B
HLM-Z2-03-PL-400-403	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-403	No comment	A
HLM-Z2-03-PL-400-404	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-404	See comments on drawings	B
HLM-Z3-03-PL-400-405	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-405	No comment	A
HLM-Z3-00-AS-400-001		IT NODE ROOM G-T1- 003	No comment	A
HLM-Z3-00-PL-400-407	04	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-407	See comments on drawings	B
HLM-Z3-00-PL-400-408	04	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-408	See comments on drawings	B
HLM-Z3-00-PL-400-409	03	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-409	See comments on drawings	B
HLM-Z3-00-PL-400-419	03	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-419	No comment	A
HLM-Z3-01-PL-400-409	04	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-409	See comments on drawings	B



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z3-01-PL-400-410	04	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-410	See comments on drawings	B
HLM-Z3-01-PL-400-411	04	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-411	See comments on drawings	B
HLM-Z3-01-PL-400-412	04	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-412	See comments on drawings	B
HLM-Z3-01-PL-400-413	04	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-413	See comments on drawings	B
HLM-Z3-02-PL-400-404	03	SECOND FLOOR EQUIPMENT LAYOUT SHEET 02-404	No comment	A
HLM-Z3-02-PL-400-405	03	SECOND FLOOR EQUIPMENT LAYOUT SHEET 02-405	No comment	A
HLM-Z3-03-PL-400-407	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-407	See comments on drawings	B
HLM-Z3-03-PL-400-408	04	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-408	No comment	A
HLM-Z3-03-PL-400-409	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-409	See comments on drawings	B
HLM-Z3-03-PL-400-410	04	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-410	No comment	A
HLM-Z3-04-PL-400-401	02	FOURTH FLOOR EQUIPMENT LAYOUT SHEET 04-401	No comment	A
HLM-Z3-04-PL-400-402	06	FOURTH FLOOR EQUIPMENT LAYOUT SHEET 04-402	See comments on drawings	B
HLM-Z3-B1-PL-400-405	02	BASEMENT FLOOR EQUIPMENT LAYOUT SHEET B1-405	See comments on drawings	B
HLM-Z4-00-PL-400-410	03	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-410	No comment	A
HLM-Z4-00-PL-400-411	06	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-411	No comment	A
HLM-Z4-00-PL-400-412	04	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-412	See comments on drawings	B



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z4-00-PL-400-414	03	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-414	See comments on drawings	B
HLM-Z4-00-PL-400-415	02	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-415	No comment	A
HLM-Z4-00-PL-400-416	03	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-416	No comment	A
HLM-Z4-00-PL-400-417	03	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-417	See comments on drawings	B
HLM-Z4-00-PL-400-418	03	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-418	No comment	A
HLM-Z4-01-PL-400-414	03	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-414	No comment	A
HLM-Z4-01-PL-400-415	03	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-415	See comments on drawings	B
HLM-Z4-01-PL-400-416	03	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-416	No comment	A
HLM-Z4-01-PL-400-417	03	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-417	See comments on drawings	B
HLM-Z4-01-PL-400-418	03	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-418	See comments on drawings	B
HLM-Z4-01-PL-400-419	03	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-419	See comments on drawings	B
HLM-Z4-01-PL-400-420	02	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-420	No comment	A
HLM-Z4-02-PL-400-406	03	SECOND FLOOR EQUIPMENT LAYOUT SHEET 02-406	No comment	A
HLM-Z4-02-PL-400-407	03	SECOND FLOOR EQUIPMENT LAYOUT SHEET 02-407	See comments on drawings	B
HLM-Z4-02-PL-400-408	03	SECOND FLOOR EQUIPMENT LAYOUT SHEET 02-408	See comments on drawings	B
HLM-Z4-02-PL-400-409	03	SECOND FLOOR EQUIPMENT LAYOUT SHEET 02-409	No comment	A

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z4-02-PL-400-410	03	SECOND FLOOR EQUIPMENT LAYOUT SHEET 02-410	No comment	A
HLM-Z4-02-PL-400-412	01	SECOND FLOOR EQUIPMENT LAYOUT SHEET 02-412	No comment	A
HLM-Z4-02-PL-400-413	03	SECOND FLOOR EQUIPMENT LAYOUT SHEET 02-413	See comments on drawings	B
HLM-Z4-03-PL-400-411	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-411	See comments on drawings	B
HLM-Z4-03-PL-400-412	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-412	See comments on drawings	B
HLM-Z4-03-PL-400-413	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-413	See comments on drawings	B
HLM-Z4-03-PL-400-414	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-414	See comments on drawings	B
HLM-Z4-03-PL-400-415	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-415	See comments on drawings	B
HLM-Z4-03-PL-400-416	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-416	No comment	A
HLM-Z4-03-PL-400-417	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-417	See comments on drawings	B
HLM-Z4-03-PL-400-418	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-418	See comments on drawings	B
HLM-Z4-04-PL-400-403	05	FOURTH FLOOR EQUIPMENT LAYOUT SHEET 04-403	No comment	A
HLM-Z4-04-PL-400-404	03	FOURTH FLOOR EQUIPMENT LAYOUT SHEET 04-404	No comment	A
HLM-Z4-04-PL-400-405	02	FOURTH FLOOR EQUIPMENT LAYOUT SHEET 04-405	No comment	A
HLM-Z4-04-PL-400-406	04	FOURTH FLOOR EQUIPMENT LAYOUT SHEET 04-406	See comments on drawings	B
HLM-Z4-B1-PL-400-401	03	BASEMENT FLOOR EQUIPMENT LAYOUT SHEET B1-401	See comments on drawings	B

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z4-B1-PL-400-403	03	BASEMENT FLOOR EQUIPMENT LAYOUT SHEET B1-403	See comments on drawings	A
HLM-Z4-B1-PL-400-404	03	BASEMENT FLOOR EQUIPMENT LAYOUT SHEET B1-404	See comments on drawings	B
HLM-Z4-B1-PL-400-406	03	BASEMENT FLOOR EQUIPMENT LAYOUT SHEET B1-406	No comment	A
HLM-XX-XX-EL-400-001	01	TYPICAL EQUIPMENT MOUNTING HEIGHTS	The Board wishes the basin heights in Accessible toilets to be set in accordance with HBN 00-02	B
HLM-SZ-00-PL-700-003	03	Existing Siteplan	No comment	A
HLM-Z0-00-PL-700-010	03	Rendered Siteplan	No comment	A
HLM-Z0-00-PL-700-011	03	Rendered Plan - Hospital Square	No comment	A
HLM-Z0-00-PL-700-012	03	Rendered Plan - Entrance Plaza	No comment	A
HLM-Z0-00-PL-700-013	03	Rendered Plan - Emergency Dept & Service Yard	No comment beyond current review of canopy provision at ambulance and RIE ED Ambulant Entrance	B
HLM-Z0-00-PL-700-020	11	Landscape Siteplan	No comment	A
HLM-Z0-00-PL-700-021	03	Landscape GA - Hospital Square	No comment	A
HLM-Z0-00-PL-700-022	03	Landscape GA - Entrance Plaza	No comment	A
HLM-Z0-00-PL-700-023	07	Landscape GA - Emergency Dept & Service Yard	No comment	A
HLM-Z0-00-PL-711-001	03	Proposed Hard Landscape - Hospital Square	No comment	A
HLM-Z0-00-PL-711-002	03	Proposed Hard Landscape - Entrance Plaza	No comment	A
HLM-Z0-00-PL-711-003	04	Proposed Hard Landscape - Emergency Dept & Service Yard	No comment	A
HLM-Z0-00-PL-712-001	03	Proposed Soft Landscape - Hospital Square	No comment	A
HLM-Z0-00-PL-712-002	02	Proposed Soft Landscape - Entrance Plaza	No comment	A
HLM-Z0-00-PL-712-003	03	Proposed Soft Landscape - Emergency Dept & Service Yard	No comment	A
HLM-Z0-XX-SE-700-001	01	Landscape Sections - Hospital Square	No comment	A



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z0-XX-SE-700-002	01	Landscape Sections - Entrance Plaza	No comment	A
HLM-Z0-XX-SE-700-003	01	Landscape Sections - Emergency Dept & Service Yard	No comment	A
HLM-Z0-XX-SE-700-010		Detail Landscape Sections - Entrance Plaza Sheet 1 Of 7	No comment	A
HLM-Z0-XX-SE-700-011		Detail Landscape Sections - Entrance Plaza Sheet 2 Of 7	No comment	A
HLM-Z0-XX-SE-700-012		Detail Landscape Sections - Entrance Plaza Sheet 3 Of 7	No comment	A
HLM-Z0-XX-SE-700-013		Detail Landscape Sections - Entrance Plaza Sheet 4 Of 7	No comment	A
HLM-Z0-XX-SE-700-014		Detail Landscape Sections - Entrance Plaza Sheet 5 Of 7	No comment	A
HLM-Z0-XX-SE-700-015		Detail Landscape Sections - Entrance Plaza Sheet 6 Of 7	No comment	A
HLM-Z0-XX-SE-700-016		Detail Landscape Sections - Entrance Plaza Sheet 7 Of 7	No comment	A
HLM-Z0-XX-SE-700-020		Detail Landscape Sections - Set Down - Pick Up Zone Sheet 1 Of 2	No comment	A
HLM-Z0-XX-SE-700-021		Detail Landscape Sections - Set Down - Pick Up Zone Sheet 2 Of 2	No comment	A
HLM-Z0-XX-SE-700-030	02	Detail Landscape Sections - Hospital Square Sheet 1 Of 6	No comment	A
HLM-Z0-XX-SE-700-031	02	Detail Landscape Sections - Hospital Square Sheet 2 Of 6	No comment	A
HLM-Z0-XX-SE-700-032	02	Detail Landscape Sections - Hospital Square Sheet 3 Of 6	No comment	A
HLM-Z0-XX-SE-700-033	02	Detail Landscape Sections - Hospital Square Sheet 4 Of 6	No comment	A

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z0-XX-SE-700-034	02	Detail Landscape Sections - Hospital Square Sheet 5 Of 6	No comment	A
HLM-Z0-XX-SE-700-035	02	Detail Landscape Sections - Hospital Square Sheet 6 Of 6	No comment	A
HLM-Z0-XX-SE-700-040	02	Detail Landscape Sections - Emergency Department Sheet 1 Of 3	No comment	A
HLM-Z0-XX-SE-700-041	02	Detail Landscape Sections - Emergency Department Sheet 2 Of 3	No comment	A
HLM-Z0-XX-SE-700-042	02	Detail Landscape Sections - Emergency Department Sheet 3 Of 3	Section A-A - Is 12, the hedge	A
HLM-Z0-XX-SE-700-050	02	Detail Landscape Sections - Cycle Path Sheet 1 of 6	Sections 01 & 02 - Is 12, the hedge and post and wire fence?	A
HLM-Z0-XX-SE-700-051	02	Detail Landscape Sections - Cycle Path Sheet 2 of 6	Sections 03 & 04 - Is 12, the hedge and post and wire fence?	A
HLM-Z0-XX-SE-700-052	02	Detail Landscape Sections - Cycle Path Sheet 3 of 6	Sections 05 & 06 - Is 12, the hedge and post and wire fence?	A
HLM-Z0-XX-SE-700-053	02	Detail Landscape Sections - Cycle Path Sheet 4 of 6	Sections 07 & 08 - Is 12, the hedge and post and wire fence?	A
HLM-Z0-XX-SE-700-054	02	Detail Landscape Sections - Cycle Path Sheet 5 of 6	Section 09 - Is 12, the hedge and post and wire fence?	A
HLM-Z0-XX-SE-700-055	02	Detail Landscape Sections - Cycle Path Sheet 6 of 6	No comment	A
HLM-Z0-XX-SE-700-060	02	Detail Landscape Sections - Service Yard Sheet 1 of 6	No comment	A
HLM-Z0-XX-SE-700-061	02	Detail Landscape Sections - Service Yard Sheet 2 of 6	No comment	A
HLM-Z0-XX-SE-700-062	02	Detail Landscape Sections - Service Yard Sheet 3 of 6	No comment	A
HLM-Z0-XX-SE-700-063	02	Detail Landscape Sections - Service Yard Sheet 4 of 6	No comment	A
HLM-Z0-XX-SE-700-064	02	Detail Landscape Sections - Service Yard Sheet 5 of 6	No comment	A

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z0-XX-SE-700-065	02	Detail Landscape Sections - Service Yard Sheet 6 of 6	No comment	A
HLM-SZ-SL-DT-332-001	01	Typical Ceiling Details Sheet 1	No comment	A
CDS-Z1-B1-PL-430-105	05	Basement Kitchen Area GA	As it stands there is no door space between rooms B-S1-017 and B-S1-031 - this would need to be a double door - a sliding door but double would be acceptable.  The door space between B-S1-013 and B-S1-017 is a single size door - this is not sufficient space to get the trolley from the returned trolley space into the clean trolley space.	B
CDS-Z1-B1-PL-430-106	06	Basement Kitchen Area Services Layout	As it stands there is no door space between rooms B-S1-017 and B-S1-031 - this would need to be a double door - a sliding door but double would be acceptable.  The door space between B-S1-013 and B-S1-017 is a single size door - this is not sufficient space to get the trolley from the returned trolley space into the clean trolley space.	B
CDS-Z1-B1-PL-430-119	00	Basement Kitchen Area Kitchen Elevations	No comment	A
CDS-Z3-03-PL-430-016	07	Ward Kitchen 3-C1.3-034	No comment	A
CDS-Z3-03-PL-430-117	07	Ward Kitchen 3-C1.4-064	No comment	A
CDS-Z4-00-PL-430-109	07	Ward Kitchen G-A2-041	No comment	A
CDS-Z4-00-PL-430-110	08	Ward Kitchen G-F1-039	No comment	A
CDS-Z4-01-PL-430-111	07	Ward Kitchen 1-L1-054	No comment	A
CDS-Z4-02-PL-430-112	07	Ward Kitchen 2-L2-062	No comment	A
CDS-Z4-02-PL-430-113	06	Ward Kitchen 2-L2-078	No comment	A
CDS-Z4-03-PL-430-114	07	Ward Kitchen 3-C1.1-023	No comment	A
CDS-Z4-03-PL-430-115	07	Ward Kitchen 3-C1.2-034	No comment	A
CDS-Z4-03-PL-430-118	07	Ward Kitchen 3-C1.8-010	No comment	A
CDS-Z4-04-PL-430-101	03	Restaurant to 4th Floor	No comment	A



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
CDS-Z4-04-PL-430-102	05	Restaurant to 4th Floor Services Layout	No comment	A
HLM-AA-00-PL-0005-091	FT	Drop in Centre Garden & OPD Play	No comment	A
HLM-BN-02-PL-0005-291	FT	Street Courtyard 1	No comment	A
HLM-BN-02-PL-0005-292	FT	Street Courtyard 2	No comment	A
HLM-BN-03-PL-0005-391	FT	Haematology/Oncology Terrace	No comment	A
HLM-BN-03-PL-0005-392	FT	Neuroscience Inpatient Terrace	No comment	A
HLM-BS-00-PL-0005-091	FT	Spiritual Courtyard	No comment	A
HLM-BS-00-PL-0005-092	FT	Staff Courtyard	No comment	A
HLM-BS-00-PL-0005-093	FT	PARU Courtyard	No comment	A
HLM-BS-00-PL-0005-094	FT	CAMHS Garden & Courtyards	No comment	A
HLM-BS-00-PL-0005-095	FT	Emergency Dept Covered Play	No comment	A
HLM-BS-00-PL-0005-096	FT	Emergency Department External Screened Garden	No comment	A
HLM-BS-01-PL-0005-191	FT	Courtyard Terrace	No comment	A
HLM-BS-01-PL-0005-192	FT	Emergency Dept Green Roof	No comment	A
HLM-BS-02-PL-0005-291	FT	Staff Terrace	No comment	A
HLM-BS-02-PL-0005-292	FT	DCN Balcony	No comment	A
HLM-BS-02-PL-0005-293	FT	Critical Care Green Roof	No comment	A
HLM-BS-03-PL-0005-391	03	MDCU Terrace	No comment	A
HLM-BS-03-PL-0005-392	03	Long Stay Surgical Terrace	No comment	A
HLM-BS-00-PL-0005-491	FT	Restaurant Terrace	No comment	A
HLM-BS-04-PL-0005-492	FT	Classroom Terrace	No comment	A
HLM-BS-04-PL-0005-493	FT	Seminar Terrace	No comment	A
HLM-BS-04-PL-0005-494	FT	Clinical Management Suite	No comment	A

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
WW-XX-XX-SC-523-001	2	CHILLED WATER PRIMARY SYSTEM SCHEMATIC	Schedule of plant and sizes to be developed in line with the design progression	B
WW-Z3-B1-PL-521-001	1	Zone Z3- Level B1 - Heating Plantrooms	<p>Drawing shows a suitable level of information with relevant labelling and information, including sections and elevation drawings</p> <p>Schedule of plant and sizes to be developed in line with the design progression</p> <p>Pipework appears to block access to the cylinders and expansion vessels, however final arrangement and maintenance risk is Project Co's</p>	B
WW-Z4-B1-PL-521-001	1	Zone Z4- Level B1 - Heating Plantrooms	<p>Drawing shows a suitable level of information with relevant labelling and information, including sections and elevation drawings</p> <p>Schedule of plant and sizes to be developed in line with the design progression</p> <p>Pipework arrangement appears to block access to the front of cylinders and expansion vessels, however final arrangement and maintenance risk is Project Co's</p>	B
WW-SZ-B1-PL-633-001	1	Level B1 - Cable Routing	To be developed in line with the design development. Cable schedules awaited	B
WW-SZ-00-PL-633-001	1	Level 00 - Cable Routing	To be developed in line with the design development. Cable schedules awaited	B
WW-SZ-01-PL-633-001	1	Level 01 - Cable Routing	To be developed in line with the design development. Cable schedules awaited	B
WW-SZ-02-PL-633-001	1	Level 02 - Cable Routing	To be developed in line with the design development. Cable schedules awaited	B
WW-SZ-03-PL-633-001	1	Level 03 - Cable Routing	To be developed in line with the	B



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			design development. Cable schedules awaited	
WW-SZ-04-PL-633-001	1	Level 04 - Cable Routing	To be developed in line with the design development. Cable schedules awaited	B
WW-SZ-05-PL-633-001	1	Roof Level - PV Layout	To be developed in line with the design development. Cable schedules awaited	B
ME-SZ-B1-PL-556-001	5	Basement Floor Plan - Location of IT Node Rooms	No comments	A
ME-SZ-00-PL-556-001	5	Ground Floor Plan - Location of IT Node Rooms	No comments	A
ME-SZ-01-PL-556-001	5	First Floor Plan - Location of IT Node Rooms	No comments	A
ME-SZ-02-PL-556-001	5	Second Floor Plan - Location of IT Node Rooms	No comments	A
ME-SZ-03-PL-556-001	5	Third Floor Plan - Location of IT Node Rooms	No comments	A
ME-SZ-04-PL-556-001	5	Fourth Floor Plan - Location of IT Node Rooms	No comments	A
ME-XX-XX-SC-556-001	2	ICT Structured Cabling System Schematic	No comments	A
ME-SZ-B1-PL-556-100	2	Basement Floor Plan. IT Hub Room Detail Layouts	No comments	A
ME-SZ-00-PL-556-100	2	Ground Floor Plan. IT Hub Room Detail Layouts	No comments	A
ME-SZ-01-PL-556-100	2	First Floor Plan. IT Hub Room Detail Layouts	No comments	A
ME-SZ-02-PL-556-100	2	Second Floor Plan. IT Hub Room Detail Layouts	No comments	A
ME-SZ-03-PL-556-100	2	Third Floor Plan. IT Hub Room Detail Layouts	No comments	A
ME-SZ-04-PL-556-100	2	Fourth Floor Plan. IT Hub Room Detail Layouts	No comments	A
WW-EW-XX-PL-750-001	1	Proposed site plan Gas, MWS & Fire Main services layout	No comments	A
WW-EW-XX-PL-755-001	2	Proposed New Scottish Power Sub-Station & High Voltage Cable Route	No comments	A
RBG-SZ-SL-PL-770-101	05	Surface Water Underground Attenuation Systems	Point 1 - What hardstanding area is discharging to this attenuation tank?	B
RBG-SZ-SL-PL-770-102	01	Underground Surface Water SUDS Treatment Systems	No comment, apart from those mentioned elsewhere relating to	A

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			surface water drainage / details.	
RBG-SZ-B1-DT-770-001	03	Basement Drainage Details Sheet 1	No Comment	A
RBG-SZ-00-DT-770-001	03	Drainage Details Sheet 1	<p>Point 1 - Discrepancy between note 10 and benching requirements on details. Please clarify</p> <p>Point 2 - Discrepancy between benching width dimensions from manhole/steps. Please clarify. Sewers For Scotland states 500mm.</p> <p>Point 3 - Should be Figure 16.</p> <p>Point 4 - Discrepancy between benching width dimensions from manhole/ladder. Please clarify</p> <p>Point 5 - Sewers For Scotland states max depth of Manhole Type C = 1.5m</p>	B
RBG-SZ-00-DT-770-002	03	Drainage Details Sheet 2	<p>Point 1 - Most of the Slot and Channel Drains are bedded directly on the Cellular Storage Crates Detail required to show how this would work.</p> <p>Point 2 - Overall depth of connection shown is approximately 650mm. This is too deep for some of the pipes this is shown connecting into on drawing RBG-SZ-00-779-100-REV06 (see notes on this drawing).</p> <p>Point 3 - Tank is attenuation only and not an attenuation/infiltration tank.</p> <p>Point 4 - Yard Gully and Inlet Gully have same reference.</p>	B
RBG-SZ-00-DT-770-003	03	Drainage Details Sheet 3	<p>Point 1 - No levels for Service Yard Petrol Interceptor on GA drawing</p> <p>Point 2 - Oil interceptor incoming pipe level is 500mm below ground level. Therefore this standard detail would not apply.</p> <p>Point 3 - Discrepancy between pipe diameters on this drawing (200mm dia) and foul water layout plan (225mm dia)</p> <p>Point 4 - Depth to invert of the Rainwater Down Pipe Connection appears to be lower than the connection into the cellular storage</p>	B

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			shown on Drg RBGSZ-00-DT-770-002-REV3 - Drainage Details Sheet 2	
RBG-SZ-00-DT-770-004	03	Drainage Details Sheet 4	<p>Point 2 - No Geotextile wrapping or other bedding and surround detail shown.</p> <p>This is a standard detail drawing and does not show the change in ground level or the correct depth for the attenuation tank.</p> <p>Point 3 - This should read 'and 0.9m in non vehicle areas' after 'less than 1.2. in vehicle areas' and before 'and for all road gully connections'</p> <p>Point 4 - This should be '900mm cover in non vehicle areas' and not '300mm in soft areas'</p>	B
RBG-SZ-00-DT-770-010	01	Scottish Water Sewer Diversion - Drainage Details	Discrepancy between benching width dimensions from manhole/steps. Please clarify. Sewers For Scotland states 500mm.	B
RBG-SZ-00-PL-770-210	01	Scottish Water Sewer Diversion - Drainage Plan	Manhole invert levels differ from invert levels shown on drawings RBG-SZ-00-PL-770-200/201/202	B



**Part 2: Non-Approved RDD Items - Level C or Level D:**

Project Co shall submit and the Board shall review the following Reviewable Design Data not approved at Financial Close given that such Reviewable Design Data only received a Level C or Level D at Financial Close, with such Project Co submission addressing the following Board comments in relation to such Reviewable Design Data. These comments shall be incorporated into each relevant drawing by Project Co, and the drawings shall be submitted by Project Co to the Board through Schedule Part 8 (Review Procedure).

If Project Co considers that the Board comments below on any of the items listed in this Part 2 amount to a Change, Project Co shall, before complying with the comments and resubmitting the Endorsed RDD, notify the Board of the same and, if it is agreed by the parties or determined pursuant to Schedule Part 20 (*Dispute Resolution Procedure*) that a Change would arise if the comments were complied with, the Board may, if it wishes, implement the Change and it shall be dealt with in accordance with Schedule Part 16 (*Change Protocol*).

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z5-SL-PL-220-001	06	ENERGY CENTRE GENERAL ARRANGEMENT - ALL LEVELS	In relation to the Service Yard, Project Co has not provided to the Board a comparable level of Design Data to that submitted for other areas of the Facilities.  Consequently the Board's comments at this stage are not comprehensive and therefore the Board reserves the right to comment further when the detailed drawings are submitted by Project Co through the Review Procedure	C
HLM-Z4-SL-DT-230-001	01	STAIR 1 PLANS AND SECTIONS	Gap between bottom rail of balustrade and stair tread needs to be reduced such that a 100mm sphere will not pass through Second lower handrail required.	C
HLM-Z1-SL-DT-230-002	01	STAIR 2 PLANS AND SECTIONS	Gap between bottom rail of balustrade and stair tread needs to be reduced such that a 100mm sphere will not pass through. Second lower handrail required. Lift configuration FM-002/003 to be updated.	C
HLM-Z1-SL-DT-230-003	01	STAIR 3 PLANS AND SECTIONS	Gap between bottom rail of balustrade and stair tread needs to be reduced such that a 100mm sphere will not pass through. Second lower handrail required. Clouded areas under development to be completed	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z4-SL-DT-230-004	01	STAIR 4 PLANS AND SECTIONS	Escape only. Gap between bottom rail of balustrade and stair tread needs to be reduced such that a 100mm sphere will not pass through. Second lower handrail required.	C
HLM-Z2-SL-DT-230-005	01	STAIR 5 PLANS AND SECTIONS	Escape only. Gap between bottom rail of balustrade and stair tread needs to be reduced such that a 100mm sphere will not pass through. Second lower handrail required.	C
HLM-Z2-SL-DT-230-006	01	STAIR 6 PLANS AND SECTIONS	Escape only. Gap between bottom rail of balustrade and stair tread needs to be reduced such that a 100mm sphere will not pass through. Second lower handrail required.	C
HLM-Z2-SL-DT-230-007	01	STAIR 7 PLANS AND SECTIONS	Gap between bottom rail of balustrade and stair tread needs to be reduced such that a 100mm sphere will not pass through. Second lower handrail required.	C
HLM-Z1-SL-DT-230-008	01	STAIR 8 PLANS AND SECTIONS	Confirm sound reduction measures to avoid "ringing" of steel stair structure. Second lower handrail required.	C
HLM-SZ-SL-DT-230-001	01	TYPICAL BALUSTRADE DETAILS	Detail 5 – show skirting Balustrade height too low – increase to 1350mm	C
HLM-SZ-XX-DT-251-004	01	TYPICAL INTERFACE DETAILS - BALUSTRADE	Detail 5 – remove step at approx. 150mm above FRL Balustrade height too low – increase to 1350mm	C
HLM-SZ-SL-PL-240-001	04	UPPER ROOF LAYOUT	Project Co to provide space to form route for quench pipes through the Facilities to the termination point of the upper roof	C
HLM-Z4-00-AS-240-001	02	A+E CANOPY LAYOUT	Revision to canopy under consideration	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-00-PL-252-002	02	GROUND FLOOR INTERNAL WALL TYPES AND SETTING OUT SHEET 2	<p>Generally there is an inconsistent approach to office partitions – many though not all are not provided with a minimum acoustic performance. Although not clinical spaces, minimum performance criteria for office partitions are provided in SHTM-08-01</p> <p>No separating wall performances given for “Tipperinn Rooms”</p> <p>MRI rooms – query use of single door with no lobby for these – potentially very noisy spaces.</p> <p>Latest revision shows improvements but still concern over a number of rooms.</p> <p>Partition Specific comments:</p> <p>G-F1-028 EPSS Multi-Dis. Office (6P) and G-F1-030 Tipperinn Multi-Dis. Office (7P) - No required performance under SHTM-08-01 as regarded as open plan offices, however recommend 37 Dnt,w (42 Rw).</p> <p>G-F1-030 Tipperinn Multi-Dis. Office (7P) and G-F1-031 Tipperinn Sitting Room - 47 Dnt,w (52 Rw).</p> <p>G-F1-031 Tipperinn Sitting Room and G-F1-032 Tipperinn Group Room - 47 Dnt,w (52 Rw).</p> <p>G-F1-032 Tipperinn Group Room and G-F1-033 Art Room - 47 Dnt,w (52 Rw).</p>	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-00-PL-252-002 (continued from previous page)	02	GROUND FLOOR INTERNAL WALL TYPES AND SETTING OUT SHEET 2	G-F1-031; G-F1-032; G-F1-033 Tipperlin Rooms and G-F1-029 Corridor - 37 Dnt,w (42 Rw).  G-F1-048 Group Room and G-F1-036 Dining - 47 Dnt,w (52 Rw).  G-F1-048 Group Room and G-F1-098 G-F1-098 - 47 Dnt,w (52 Rw).	C
HLM-SZ-00-PL-252-003	02	GROUND FLOOR INTERNAL WALL TYPES AND SETTING OUT SHEET 3	Generally there is an inconsistent approach to office partitions – many though not all are not provided with a minimum acoustic performance. Although not clinical spaces, minimum performance criteria for office partitions are provided in SHTM-08-01  Latest revision shows improvements but still concern over a number of rooms.	C
HLM-Z2-01-PL-252-001	02	FIRST FLOOR INTERNAL WALL TYPES AND SETTING OUT SHEET 1	Generally there is an inconsistent approach to office partitions – many though not all are not provided with a minimum acoustic performance. Although not clinical spaces, minimum performance criteria for office partitions are provided in SHTM-08-01  Latest revision shows improvements but still concern over a number of rooms.	C
HLM-SZ-01-PL-252-002	02	FIRST FLOOR INTERNAL WALL TYPES AND SETTING OUT SHEET 2	Those partitions separating offices from other spaces are generally marked up as 37dB DnTw walls where SHTM-08-01 recommendations for these partitions are generally 42db DnTw. Latest revision shows improvements but still concern over a number of rooms.	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-02-PL-252-002	02	SECOND FLOOR INTERNAL WALL TYPES AND SETTING OUT SHEET 2	<p>Generally there is an inconsistent approach to office partitions – many though not all are not provided with a minimum acoustic performance. Although not clinical spaces, minimum performance criteria for office partitions are provided in SHTM-08-01</p> <p>Latest revision shows improvements but still concern over a number of rooms.</p>	C
HLM-ZZ-03-PL-252-001	02	THIRD FLOOR INTERNAL WALL TYPES AND SETTING OUT SHEET 1	<p>Generally there is an inconsistent approach to office partitions – many though not all are not provided with a minimum acoustic performance. Although not clinical spaces, minimum performance criteria for office partitions are provided in SHTM-08-01</p> <p>Latest revision shows improvements but still concern over a number of rooms.</p> <p>Partition Specific comments:</p> <p>3-K2-053 Residents Play Room and Corridor - No required performance under SHTM-08-01, however recommend 37 Dnt,w (42 Rw) to limit noise break-out to family bedrooms opposite.</p> <p>3-K2-051 Residents Day Room and Corridor - No required performance under SHTM-08-01, however recommend 37 Dnt,w (42 Rw) to limit noise break-out to family bedrooms opposite.</p> <p>R-H3-004 Workshop / Tutorial Room 2 and 3-H3-007 WC - 42 Dnt,w (47 Rw)</p>	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-03-PL-252-003	02	THIRD FLOOR INTERNAL WALL TYPES AND SETTING OUT SHEET 3	<p>Partitions separating multi-bed rooms have been specified with Dntw 37dB in line with general hospital multi-bed rooms. Note that SHTM-08-01 has a higher performance requirement of 42dB DnTw for partitions separating "Children and older people (multi bed)" rooms.</p> <p>Those partitions separating offices from other spaces are generally marked up as 37dB DnTw walls where SHTM-08-01 recommendations for these partitions are generally 42db DnTw.</p> <p>Partition Specific Comments:</p> <p>3-C1.4-063 Play Room and 3-C1.4-020 Corridor - No required performance under SHTM-08-01, however recommend 37 Dnt,w (42 Rw) to limit noise break-out to nearby treatment rooms and bed room.</p>	C
HLM-SZ-04-PL-252-002	02	FOURTH FLOOR INTERNAL WALL TYPES AND SETTING OUT SHEET 2	<p>Inconsistency in office partition specification.</p> <p>Query whether partition between Upper Primary Classroom and Secondary Classroom specified with sufficient acoustic performance as not consistent with guidance from Building Bulletin 93, Acoustic Design of Schools a Design Guide.</p> <p>Partition Specific Comments:</p> <p>4-R2-011 1:1 (assumed interview room) and 4-R2-003 Ass. Health Rec. Mgr (4P) - 37 Dnt,w (42 Rw).</p> <p>4-R2-011 1:1 (assumed interview room) and 4-R2-001 Corridor - 37 Dnt,w (42 Rw).</p>	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-B1-PL-252-001	02	BASEMENT INTERNAL WALL TYPES AND SETTING OUT SHEET 1	There is inconsistency in mark up of the ancillary spaces - e.g. mailroom - storage given higher performing partition than office to office Kitchen to trolley park is given a high performing partition at 52dB Those partitions separating offices from other spaces are generally marked up as 37dB DnTw walls where SHTM-08-01 recommendations for these partitions are generally 42db DnTw. Latest revision shows improvements but still concern over a number of rooms.	C
HLM-SZ-XX-DT-251-009	03	TYPICAL INTERFACE DETAILS - COURTYARD EXTERNAL WALLS	Detail 3 - Door Threshold. Potential cold bridge at threshold. Note regarding Full Fill Cavity insulation F30 150A incorrect	C
HLM-Z2-SL-EL-251-001	02	TYPICAL CLADDING - LITTLE BROTHER ENVELOPE	Clouded areas to be confirmed	C
HLM-Z4-SL-EL-251-001	03	TYPICAL CLADDING - BIG BROTHER ENVELOPE	Clouded areas to be confirmed	C
HLM-SZ-00-EL-251-001	02	TYPICAL CLADDING AND EXTENT - SPINE WALL	Details of pattern to be applied to wall panelling to be submitted for review	C
HLM-Z4-SL-EL-251-002	02	TYPICAL CLADDING - CAMHS	Clouded areas to be confirmed	C
HLM-SZ-SL-SE-251-001	02	TYPICAL SECTIONS THROUGH EXTERNAL WALL SHEET 1	Transfer beams not shown in Sections 1 and 2. Half landing at GF does not touch wall. It would greatly assist the review process if room names were added.	C
HLM-SZ-SL-SE-251-002	02	TYPICAL SECTIONS THROUGH EXTERNAL WALL SHEET 2	Structural section at stepped slab yet to be resolved in Section 7. It would greatly assist the review process if room names were added.	C
HLM-SZ-SL-SE-251-003	02	TYPICAL SECTIONS THROUGH EXTERNAL WALL SHEET 3	Structural section at stepped slab yet to be resolved in Section 8. It would greatly assist the review process if room names were added.	C
HLM-SZ-SL-SE-251-004	02	TYPICAL SECTIONS THROUGH EXTERNAL WALL SHEET 4	Stepped slab resolved in Section 11? Board to advise required height of balustrade at balcony in Section 13. It would greatly assist the review process if room names were added.	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-SL-SE-251-005	02	TYPICAL SECTIONS THROUGH EXTERNAL WALL SHEET 5	Board to advise required height of balustrades in Section 15. The helpad structure should be show in Section 15. Is the section at the stepped slab at the Plant Rooms correct? It is much smaller than elsewhere. It would greatly assist the review process if room names were added.	C
HLM-SZ-SL-SE-251-006		TYPICAL SECTIONS THROUGH EXTERNAL WALL SHEET 6	Board to advise required height of balustrades. Structural section at stepped slab yet to be resolved. It would greatly assist the review process if room names were added.	C
HLM-SZ-SL-SE-251-007	01	TYPICAL SECTIONS THROUGH EXTERNAL WALL SHEET 7	Section 21s shown twice on the key plan and the CAMHS section appears to be incorrect or omitted. It would greatly assist the review process if room names were added.	C
HLM-SZ-SL-SE-251-008	01	TYPICAL SECTIONS THROUGH EXTERNAL WALL SHEET 8	Details of Basement structure and waterproofing to be confirmed. Is there a joint in the concrete roof structure at the Energy Centre end of the service corridor roof. It would greatly assist the review process if room names were added.	C
HLM-SZ-SL-SE-251-009	01	TYPICAL SECTIONS THROUGH EXTERNAL WALL SHEET 9	Details of Basement structure and waterproofing to be confirmed. Is there a joint in the concrete roof structure at the Energy Centre end of the service corridor roof. It would greatly assist the review process if room names were added.	C
HLM-SZ-SL-DT-322-001	02	TYPICAL INTERNAL DOOR TYPES	Concern that proposed vision panels may not provide an acceptable level of observation	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-00-PL-322-001	02	GROUND FLOOR INTERNAL DOORS AND SCREENS	CAMHS – square upper vision panels with vistamatic blinds confirmed for bedrooms – outward opening in emergency - all therapy and group rooms and G-F1-039 and 037 to have vision panels. Rooms No's G-F1-048, 005, 007, 008, 009, 026, 022(h), 024(h), 020(h) and 004 to have vision panels. Square upper vision panels denoted (h). All side screens in CAMHS to have interstitial blinds. Room G-A1-069 external door to have vision panel. Room G-A1-035 both doors to be type 1b and 1d. Room G-A1-031 to be type 1d. Resus Rooms and Treatment Rooms with doors to have vision panels. Room G-A1-017 to be type 1b. Room G-A1-066 to be type 1d. On all floors Consult Exam Rooms to have vision panel with vistamatic blind. Doors and screen in shelled MRI to be as per other MRI accommodation. Room G-Q1-098 to be type 1d. Room G-Q1-108 to be type 1d. Inconsistent Control Room screen designation for CT Scanner Rooms G-Q1-035 and 036 to be type 1d. Room G-Q1-034 to be type 1b. Rooms G-Q1-010 and 014 to be type 1d. Prep Room/Fluoroscopy confirm radiation protection. G-D1-008 to be type 1d. Vision panels in Department D2 to be confirmed. Rooms G-D5-004, 007, 008, 009 and 010 to be type 1d.	C
HLM-SZ-01-PL-322-001	02	FIRST FLOOR INTERNAL DOORS AND SCREENS	Room 01-H2-016 to be type 1d. Room 01-B1-043 to be type 1b. Room 01-B1-00 to be 1d. Room 01-B1-007 to be 1d. Room 01-J1-003 to be type 1d into comdor. 01-L1-005 both doors to be type 1d. 01-L1-052 to be type 1b. On all floors 1 to 1 rooms to be type 1B. Room 01-P1-048 to be type 1a. Rooms 01-P1-025 & 026 to be type 1d. Room 01-P1-015 to be type 1b. Department D6 – all Rehab & Treatment Rooms to be type 1d. Room 01-D3-001 to be type 1b.	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-03-PL-322-001	02	THIRD FLOOR INTERNAL DOORS AND SCREENS	On all floors all Treatment Rooms and Clean Utility Rooms to be door type 1d. On all floors Ward Kitchens to have door type 1d. 03-C1.2-028 to be door type 1a. 03-C1.6-002 to be door 1b. Screen adjacent to door at room no 03-C1-052. Room 03-D9-016 to be type 1e. Room 03-U1-001 to be type 1d. Room 03-C1.3-025 to be type 1d. Room 03-C1.5-003 to be type 1d. Room 03-K2-039 to be type 1a. Room 03-H3-018 to be type 1B. 03-H3-019 to be type 1b.	C
HLM-SZ-00-PL-330-001	04	GROUND FLOOR INTERNAL FINISHES PLAN	All DSRs, Cleaners Rooms and Dirty Utilities to be F8/W2/S4. Emergency Department -Resus Rooms G-A1-028, 029 and Triage G-A1-035 walls should be W2. Room G-A1-066 should be F8/W1/S4. Confirm finishes in Room No's G-A1-014, 060, 040, 063,064 and 065, G-A2-036, 040, G-A3-002, 003 and 004, G-D1-024, G-Q1-036, G-N1-040 G-D2-013 and 001.  G-D5-007 walls should be W2. G-F1-022 and G-A1-015 cushioned sports flooring. Add finishes in all stairs	C
HLM-SZ-01-PL-330-001	04	FIRST FLOOR INTERNAL FINISHES PLAN	All DSRs, Cleaners Rooms and Dirty Utilities to be F8/W2/S4. All walls in Clinical Bed Spaces to be W2. 01-B1-023 add accent floor. Need to discuss S3 rather than S4 in Theatres Suites. 01-B1-065 query colour change. Testing Rooms in D4 inconsistent – proprietary booths 01-P1-048, 149, 161 and 162 finishes missing. Cushioned sports flooring to 01-D6-027, 028,029,030,035 048, 039, 046, 054, 053, 036, 032. Specialist hygienic white wall cladding to 01-D6-039 and 046. Add finishes in all stairs	C
HLM-SZ-02-PL-330-001	04	SECOND FLOOR INTERNAL FINISHES PLAN	All DSRs, Cleaners Rooms and Dirty Utilities to be F8/W2/S4. Cushioned sports flooring to 02-N2-008, 011, 012 and 023. Specialist hygienic white wall cladding to 02-N2-023 Carpet pattern to be discussed as part of RDD. Add finishes in all stairs	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-03-PL-330-001	04	THIRD FLOOR INTERNAL FINISHES PLAN	All DSRs, Cleaners Rooms and Dirty Utilities to be F8/W2/S4. Room no's 03-H3-001, 004, 005 and 010 to be F5. 03-U1-001, 002 and 003 to be W4. Add finishes in all stairs	C
HLM-SZ-04-PL-330-001	04	FOURTH FLOOR INTERNAL FINISHES PLAN	All DSRs, Cleaners Rooms and Dirty Utilities to be F8/W2/S4. Room no 04-R1-009 to be F5. 4-H1-013, 022, 024, 025, 028, 029, 030, 031, 032, 012 and 017 to be F4. Confirm finishes for 04-H1-026. Add finishes in all stairs	C
HLM-SZ-B1-PL-330-001	05	BASEMENT INTERNAL FINISHES PLAN	All DSRs, Cleaners Rooms and Dirty Utilities to be F8/W2/S4. B-S3-002 and 005, B-S12-001 and B-S8-001 to be F12. WEEE/Furniture/White Goods Store to be F12. Add finishes in all stairs	C
HLM-SZ-00-PL-330-100		ANTI-LIGATURE PROPOSALS	As discussed at the meeting on 17/10/14, in addition to the areas in CAMHS and the Mental Health Exam Room in A1, the following rooms require to have anti-ligature fittings. G-A2-044, 1-L1-015, 2-L2-010, 2-L2-142 and 3-C1.1-058	C
HLM-Z2-00-PL-332-001	02	GROUND FLOOR CEILING LAYOUT SHEET 1	Room No G-08-002, G-K1-010 015, 017 & 018 – Type C. G-D5-007 – Type B. G-G2-013 – Type A, G-D1-037, 041 – Type C. G-D1-010,020, 021 & 046 – Type B.	C
HLM-SZ-00-PL-332-002	02	GROUND FLOOR CEILING LAYOUT SHEET 2	Room No G-Q1-141 – Light Clinical Dry, CAMHS - plasterboard ceilings in all clinical areas. Inconsistencies in ceiling designation in Toilets	C
HLM-SZ-00-PL-332-003	02	GROUND FLOOR CEILING LAYOUT SHEET 3	Room No G-M1-012, 027 and 042 – Type B as other Consult/Exam Rooms. G-M1-010, 029 and 036 should be type C. G-Q1-082 – Type C. G-A1-010 – Type B.	C
HLM-Z2-01-PL-332-001	02	FIRST FLOOR CEILING LAYOUT SHEET 1	Room Number 01-D4-004 – Type C. 01-D4-002, 003,005 & 007 - Specialist installation, 01-D3-001 – Type C. 01-D7-003 & 006 – Type B. 01-D7-005 – Type C. 01-D6 remaining five no Therapy Rooms to be Type B. 01-D1 – 015 & 016 – Type B	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-01-PL-332-002	02	FIRST FLOOR CEILING LAYOUT SHEET 2	Dept. B1 – all bed areas to be Type D1. 01-B1-045, 047, 048, 049, 060, 082, 078 & 084 – Type C. 01-H2-007 – Type C. 01-H2-021-Type D1. 01-P1-162 – Type C. 01-P1-143, 145, 147, 172 & 174 – Type C. 01-P1-024, 025, 026, 029, 030, 031 – Type B. 01-P1-089 – Type C	C
HLM-SZ-01-PL-332-003	02	FIRST FLOOR CEILING LAYOUT SHEET 3	Room No 01-P1-109 & 113 – Type B. 01-P1-100 & 102 Type D2 & D3. 01-P1-119 – Type C. 01-L1-031 – Type B. 01-L1-052, 060 & 061	C
HLM-SZ-02-PL-332-002	02	SECOND FLOOR CEILING LAYOUT SHEET 2	Room No 02-M4-004, 005, 007 & 013 – Type C. 02-L2-056, 057 – Type C	C
HLM-SZ-02-PL-332-003	02	SECOND FLOOR CEILING LAYOUT SHEET 3	02-S5-005 & 004 – Type D2 & D3. 02-L2-069, 075 & 076 – Type C. 02-N2-001 – Type F	C
HLM-Z2-03-PL-332-001	03	THIRD FLOOR CEILING LAYOUT SHEET 1	Room No 03-D2-003, 008, 051, 053 & 085 – Type C. 03-02-042 & 078 – Type D2	C
HLM-SZ-03-PL-332-002	02	THIRD FLOOR CEILING LAYOUT SHEET 2	Room No 03-Z1-008 – Type F. 03-C1.8-037 – Type C. 03-C1.2-028, 043 – Type C. 03-C1.1-030 – Type C. 03-C1.5-003 – Type C. 03-C3-004 – Type C. 03-C1.7-003, 004 & 005 – Type B. 03-C1.7-002 – Type C. 03-C1.3-018 & 020 – Type C	C
HLM-SZ-03-PL-332-003	02	THIRD FLOOR CEILING LAYOUT SHEET 3	Room No 03-C1.4-023, 024, 025, 026, 028, 029 & 030 – Type C. 03-U1-007 & 010 – Type C. 03-D9-007 & 015 – Type C. 03-C2-002 – Type A. 03-U1-001- Type D1	C
HLM-SZ-04-PL-332-002	02	FOURTH FLOOR CEILING LAYOUT SHEET 2	Room No 04-H1-026 – why is this by Specialist? 04-H1-016, 018 & 027 – Type D1	C
HLM-SZ-00-PL-450-002	05	GROUND FLOOR ACCESS & MAINTENANCE STRATEGY	Confirm large and small cherry picker can fit into FM Lift 005 and rooms identified as access routes to balconies.	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-00-PL-410-001	02	GROUND FLOOR WALL PROTECTION LAYOUT	<p>Some disposal holds missing full wall protection and full height door protection. GA2-082 and GK1-029 missing full wall protection.</p> <p>Route for food and other trolleys to CAMHs dining room - no wall protection.</p> <p>No bed head locators shown in ground floor areas with bed. Is this deliberate?</p> <p>Why only half height door protection in Resus?</p>	C
HLM-SZ-01-PL-410-001	02	FIRST FLOOR WALL PROTECTION LAYOUT	<p>Some disposal holds missing full wall protection. IH2-001 and P1-099 missing full wall protection.</p> <p>Protection needed for linen delivery to changing rooms.</p> <p>Consider full height wall protections from into and out of recovery room back to wards.</p> <p>Corner protection missing in following areas 01-D6-003, 01-H2-023, 01-H2-014, 01-T2-003, 01-P1-156, 01-P1-182, 01-P1-189, 01-P1-057, 01-H2-029, 01-L-085, 01-L1-080, 01-B1-101, 01-B1-070, 01-B1-034 (Linen Bay), Recover bay pillar, Staff bases</p>	C
HLM-SZ-02-PL-410-001	02	SECOND FLOOR WALL PROTECTION LAYOUT	<p>Corner protection missing in following areas 02-L2-141, 02-L2-043, 02-G2-002</p>	C
HLM-SZ-03-PL-410-001	02	THIRD FLOOR WALL PROTECTION LAYOUT	<p>Corner protection missing in following areas 03-D9-016, 03-C1-1-023, 03-C1-8-028, 03-T2-001, 03-C1-3-002, 03-C1-3-023, 03-C4-007.</p>	C
HLM-SZ-04-PL-410-001	02	FOURTH FLOOR WALL PROTECTION LAYOUT	<p>Corner protection missing in 04-S7-003, 04-R1-009</p>	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-B1-PL-410-001	02	BASEMENT WALL PROTECTION LAYOUT	<p>Assume full height wall protection is from skirting to height of 2000mm</p> <p>Suggest some principles for these drawings</p> <p>1) All FM routes should have half or full height wall protection.</p> <p>2) All rooms which linen, catering, waste, HSDU trolleys are used should have full height wall protection.</p> <p>3) All rooms which linen, catering, waste, HSDU trolleys are used should have full height door protection.</p> <p>Missing in clean and dirty trolley holds in main kitchen and supplies receipt bay</p> <p>4) All corners in corridors where FM traffic is moving should have corner protection. Corner protection looks as if it is missing in some areas e.g. corner of bed store, corner of corridor from lift.</p> <p>5) All bedded areas should have some door protection.</p> <p>6) Wall protection (NBS -P20/170k) is needed in the following rooms within the kitchen area:</p> <ul style="list-style-type: none"> <li>o B-S1-013</li> <li>o B-S1-017</li> <li>o B-S1-031</li> </ul> <p>7) The following doors need door protection - NBS P20/170L:</p> <ul style="list-style-type: none"> <li>o B-S1 - 031</li> <li>o B-S1 - 021</li> <li>o B-S1 - 022</li> <li>o B-S1 - 025</li> <li>o B-S1 - 005</li> </ul>	C
HLM-SZ-00-SK-401-001	02	RHSC MAIN RECEPTION DESK DETAILS	Key reception desks at the entrances of the building will need to be secured, closed down out of office hours.	C
HLM-SZ-00-SK-401-002	02	RHSC POD RECEPTION DESK	Key reception desks at the entrances of the building will need to be secured, closed down out of office hours.	C
HLM-SZ-00-SK-401-003	02	DCN MAIN RECEPTION DESK DETAILS	Key reception desks at the entrances of the building will need to be secured, closed down out of office hours.	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-Z2-00-PL-400-402	04	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-402	See comments on drawings	C
HLM-Z2-00-PL-400-420	03	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-420	See comments on drawings	C
HLM-Z2-01-PL-400-404	03	FIRST FLOOR EQUIPMENT LAYOUT SHEET 01-404	See comments on drawings	C
HLM-Z3-03-PL-400-406	03	THIRD FLOOR EQUIPMENT LAYOUT SHEET 03-406	See comments on drawings	C
HLM-Z4-00-PL-400-413	03	GROUND FLOOR EQUIPMENT LAYOUT SHEET 00-413	See comments on drawings	C
HLM-Z4-02-PL-400-411	04	SECOND FLOOR EQUIPMENT LAYOUT SHEET 02-411	See comments on drawings	C
HLM-Z4-B1-PL-400-402	04	BASEMENT FLOOR EQUIPMENT LAYOUT SHEET B1-402	See comments on drawings	C
HLM-SZ-00-PL-400-422	01	Ground Floor Equipment Layout Sheet 00-422	CCTV and Access Control requirements to be incorporated. G-COR-007 to have 1no Resting Place required on window side looking into Spiritual Care Courtyard.	C
HLM-SZ-00-PL-400-423	01	Ground Floor Equipment Layout Sheet 00-423	CCTV and Access Control requirements to be incorporated G-COR-008 – add 1no Resting Place at G-M1-038. Delete Resting Place in G-COR-011.	C
HLM-SZ-01-PL-400-421	01	First Floor Equipment Layout Sheet 01-421	CCTV and Access Control requirements to be incorporated.	C
HLM-SZ-01-PL-400-422	01	First Floor Equipment Layout Sheet 01-422	CCTV and Access Control requirements to be incorporated 01-COR-007 – move Resting Places to window side looking into courtyards. Omit Resting Place in 01-COR-011.	C
HLM-SZ-02-PL-400-414	01	Second Floor Equipment Layout Sheet 02-414	CCTV and Access Control requirements to be incorporated 02-COR-006 – move Resting Place to window side looking into courtyard.	C
HLM-SZ-02-PL-400-415	01	Second Floor Equipment Layout Sheet 02-415	CCTV and Access Control requirements to be incorporated 02-COR-006 – move Resting Places to window side looking into courtyards.	C
HLM-SZ-03-PL-400-419	01	Third Floor Equipment Layout Sheet 03-419	CCTV and Access Control requirements to be incorporated.	C
HLM-SZ-03-PL-400-420	01	Third Floor Equipment Layout Sheet 03-420	CCTV and Access Control requirements to be incorporated 03-COR-006 Move Resting place to south side of corridor looking into courtyard.	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
HLM-SZ-04-PL-400-407	01	Fourth Floor Equipment Layout Sheet 04-407	CCTV and Access Control requirements to be incorporated.03-COR-007 Move Resting place to south side of corridor looking into courtyard	C
WW-XX-XX-SC-511-001	1	NATURAL GAS SCHEMATIC	Each Boiler to be separately metered. Gas meters to be fitted with a bypass Note 1 – Egg crate grilles to ventilated ceilings may be an infection control issue. To be reviewed for compliance with infection control and health facilities notes. Gas requirement to kitchen now removed.	C
WW-XX-XX-SC-513-001	1	OIL MAINS SCHEMATIC	Detail to be provided of day tank ancillaries e.g. vents, overflow, alarms etc. Oil metering strategy to account for oil returns to main tank	C
WW-XX-XX-SC-521-001	2	ENERGY CENTRE HEATING SCHEMATIC	Schedule of plant and sizes to be developed in line with the design progression	C
WW-XX-XX-SC-521-002	1	HEAT STATION 1 SCHEMATIC	Schedule of plant and sizes to be developed in line with the design progression DHW expansion vessel type not consistent with Domestic Water Schematic expansion vessel type. To be addressed	C
WW-XX-XX-SC-521-003	1	HEAT STATION 2 SCHEMATIC	Schedule of plant and sizes to be developed in line with the design progression DHW expansion vessel type not consistent with Domestic Water Schematic expansion vessel type. To be addressed	C
WW-XX-XX-SC-521-004	1	HEAT STATION 3 SCHEMATIC	Schedule of plant and sizes to be developed in line with the design progression DHW expansion vessel type not consistent with Domestic Water Schematic expansion vessel type. To be addressed	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
WW-XX-XX-SC-521-005	1	HEAT STATION 4 SCHEMATIC	Schedule of plant and sizes to be developed in line with the design progression DHW expansion vessel type not consistent with Domestic Water Schematic expansion vessel type. To be addressed	C
WW-SZ-B1-PL-500-001	1	Level B1 – Water Services Distribution	As ground floor general comment	C
WW-SZ-00-PL-500-001	1	Level 00 - Water Services Distribution	General Comment – Drawing lacks detail. Further detailed drawings expected. Schedule of plant and sizes to be developed in line with the design progression Typical connection details expected Rooms requiring water not shown to have connections, IHSLS to check and amend. Examples include:  G-A*-080 DSR expected to have water G-F1-037 Therapeutic kitchen expected to have water G-A1—058, 055, 044 WC and staff shower expected to have water	C
WW-SZ-01-PL-500-001	1	Level 01 - Water Services Distribution	As ground floor general comment	C
WW-SZ-02-PL-500-001	1	Level 02 - Water Services Distribution	As ground floor general comment	C
WW-SZ-03-PL-500-001	1	Level 03 - Water Services Distribution	As ground floor general comment	C
WW-SZ-04-PL-500-001	1	Level 04 - Water Services Distribution	As ground floor general comment	C
WW-SZ-04-PL-500-003	1	Level 04 – Water Tank Room	Proposal is generally clear. Schedule of plant and sizes to be developed in line with the design progression. A number of further issues need to be addressed: – Pipework details need to be made clear with either legend or additional notes. For example, it needs to be clear whether pipes are at high/low level, exposed/in voids – Additional notes required	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>where pipe break are shown ie where pipe continuation may be found</p> <ul style="list-style-type: none"> <li>- Lab water tank pipework needs to be shown</li> <li>- Clear access ways and maintenance space should be shown (ie pipework from pumps P3 and P4 to lab water tank appears to block access through plantroom, is pipework at high level?)</li> <li>- Multi-service co-ordination to be shown to confirm access / maintenance space is suitable</li> </ul> <p>Pipe sizes need to be reviewed. ECWS from basement is shown as 133mm dia on layout but 108mm dia on the schematic. Cold water feed sizes from filtered tank (76mm dia) do not tie up with schematic (shows 159mm dia)</p>	
WW-SZ-B1-PL-521-001	1	Level B1 - Heating Distribution	<p>General Comment – Drawing lacks detail. Further detailed drawings expected including all valving details. Schedule of plant and sizes to be developed in line with the design progression</p> <p>Specific drawing comments - Provide detail of Primary Heating Header Highlight heat stations IHSI to confirm the relevance of pipework colours</p>	C
WW-SZ-00-PL-521-001	1	Level 00 -Heating Distribution	See basement level general comments	C
WW-SZ-01-PL-521-001	1	Level 01 -Heating Distribution	See basement level general comments	C
WW-SZ-02-PL-521-001	1	Level 02 -Heating Distribution	See basement level general comments	C
WW-SZ-03-PL-521-001	1	Level 03 -Heating Distribution	See basement level general comments	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
WW-SZ-04-PL-521-001	1	Level 04 -Heating Distribution	See basement level general comments	C
WW-SZ-B1-PL-524-001	1	Level B1 - Ventilation Distribution	See ground floor level general comments Confirm dedicated ventilation for the UPS room is to a minimum of BS EN 5072-2 Not one duct size shown Room numbers are not shown on the XREF Required, add	C
WW-SZ-00-PL-524-001	1	Level 00 -Ventilation Distribution	General Comments – Drawing significantly lacks detail in order to provide a suitable review Drawing purely shows main duct run locations. No ancillaries (fire dampers, attenuators etc.) shown and no room detail provided (grille types, locations, connections). This is all required for each room or various typical details to be provided to Board's satisfaction Duct sizes only shown for very few locations – all duct sizes required, including risers etc. Could be done through schematics if easier Number of ducts and duct drops clash with partitions. Co-ordination required. Co-ordination with other services to be undertaken – sections of congested areas to be shown to ensure clear ceiling heights are maintained Notes need to be much clearer i.e. if ductwork is in a void/exposed, whether a duct is rising or dropping Legend needs to be revised. Symbols shown aren't on the layout. Needs to detail what the significance of duct colours are i.e. blue extract, pink supply, green dirty Full design to be in line with all PCPs, BCRs, manufacturer's guidance and SHTM requirements High extent of main duct runs shown above rooms north of gridline F01	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			including through labs, staff rooms, consultation rooms, surgery rooms and open plan offices. All ducts above rooms to have acoustic treatment to maintain acoustic requirements	
WW-SZ-01-PL-524-001	1	Level 01 - Ventilation Distribution	See ground floor general comments	C
WW-SZ-02-PL-524-001	1	Level 02 - Ventilation Distribution	See ground floor general comments A number of rooms between grid lines E01 and E06 do not have ventilation supplies shown. Rooms to have mechanical ventilation.	C
WW-SZ-03-PL-524-001	1	Level 03 - Ventilation Distribution	See ground floor general comments Drawing is clearly incomplete. All rooms to have mechanical ventilation	C
WW-SZ-04-PL-524-001	1	Level 04 - Ventilation Distribution	See ground floor general comments Room numbers are not shown on the XREF. Required, add. Drawing does have more detail than other floors between grid lines E01-E06. More suitable level of detail i.e. ductwork sizes, FD's etc. shown but expect this level of detail everywhere across the drawings	C
WW-SZ-B1-PL-525-001	1	Level B1 - Cooling Distribution	General Comment - Drawing lacks detail. Further detailed drawings expected including all valving details. Schedule of plant and sizes to be developed in line with the design progression	C
WW-SZ-00-PL-525-001	1	Level 00 - Cooling Distribution	See basement level comments	C
WW-SZ-01-PL-525-001	1	Level 01 - Cooling Distribution	See basement level comments	C
WW-SZ-02-PL-525-001	1	Level 02 - Cooling Distribution	See basement level comments	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
WW-SZ-03-PL-525-001	1	Level 03 -Cooling Distribution	See basement level comments	C
WW-SZ-04-PL-525-001	1	Level 04 -Cooling Distribution	See basement level comments	C
WW-Z3-04-PL-523-001	1	Zone Z3 - Level 04 – Chilled Water Plant Area	<p>Drawing shows generally a suitable level of information with relevant labelling and information</p> <p>Schedule of plant and sizes to be developed in line with the design progression</p> <p>Medical air and vaccum plant layout to be provided</p> <p>Location and resilience of chillers still under review – to be to the Board's satisfaction</p> <p>To scale chiller and external cooling units for MRI, server rooms and Board Equipment to be shown, including pipework arrangements</p>	C
WW-Z3-02-PL-524-001	1	Level 02 - Theatre Ventilation Plantroom	<p>Level of information is more suitable with labelled AHUs, louvres, drops etc</p> <p>Schedule of plant and sizes to be developed in line with the design progression</p> <p>Drawing to show duct sizes such that co-ordination can be reviewed</p> <p>Concern on access and maintenance, particularly as space appears full without attenuators and any heating/cooling/electrical services shown. Access and maintenance areas to be shown. 3D views/sections of the plant should be provided to show co-ordination and services co-ordination at highly serviced areas</p> <p>Multiple co-ordination issues to address. Examples:</p> <ul style="list-style-type: none"> <li>- Theatre 5 AHU shown to overlap with structural hole and also columns appear to limit plant access and for maintenance.</li> <li>- CTCcant.0, Theatre 3, Xray L0 and MRI Scanners L0 AHUs all</li> </ul>	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			shown to clash with columns) - Theatre 1 AHU also appears to be constrained by column.  AHUs to be co-ordinated with structure and access	
WW-Z2-04-PL-524-001	1	Zone Z2 - Level 04 - Ventilation Plantroom 1	Drawing referencing required (AHUs, ductwork sizes, FAls, drops etc.) Detail of services (attenuators etc.) also to be shown  Drawing is too difficult to review without this information	C
WW-Z2-04-PL-524-002	1	Zone Z2 - Level 04 - Ventilation Plantroom 2	Drawing referencing required (AHUs, ductwork sizes, FAls, drops etc.) Detail of services (attenuators etc.) also to be shown  Drawing is too difficult to review without this information	C
WW-Z3-04-PL-524-001	1	Zone Z3 - Level 04 - Ventilation Plantroom 3	Drawing to include detail and not make reference to a 'similar drawing'	C
ME-SZ-B1-PL-512-001	2	Basement Floor Plan - Medical Gases Layout	As ground floor comments	C
ME-SZ-00-PL-512-001	2	Ground Floor Plan - Medical Gases Layout	Medical alarm panels do not appear correct. Agreement of locations and provision to be confirmed with the Board  Appears to be an over provision of AVSUs, without associated area alarms. Proposals to be reviewed with the Board.  Pipework sizes to be shown  Valving arrangements to be shown	C
ME-SZ-01-PL-512-001	2	First Floor Plan - Medical Gases Layout	As ground floor comments	C
ME-SZ-02-PL-512-001	2	Second Floor Plan - Medical Gases Layout	As ground floor comments	C
ME-SZ-03-PL-512-001	2	Third Floor Plan - Medical Gases Layout	As ground floor comments	C
ME-SZ-04-PL-512-001	2	Fourth Floor Plan - Medical Gases Layout	As ground floor comments	C
ME-XX-XX-DT-512-001	1	Fourth Floor Plan Medical Gases Scool	Plant details provided in pictorial form  Schedule of plant and sizes to be developed in line with the design progression	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			Drawing to reflect to scale drawings of Plant proposals	
ME-XX-XX-SC-512-001		Medical Gas \ Medical Oxygen Schematic	<b>NOT SUBMITTED</b>	
ME-XX-XX-SC-512-002		Medical Gas \ Nitrous Oxide Schematic	<b>NOT SUBMITTED</b>	
ME-XX-XX-SC-512-003		Medical Gas \ Medical Air Schematic	<b>NOT SUBMITTED</b>	
ME-XX-XX-SC-512-004		Medical Gas \ Surgical Air Schematic	<b>NOT SUBMITTED</b>	
ME-XX-XX-SC-512-005		Medical Gas \ Vacuum Schematic	<b>NOT SUBMITTED</b>	
ME-XX-XX-SC-512-006		Medical Gas \ Anaesthetic Gas Scavenging Schematic	<b>NOT SUBMITTED</b>	
ME-XX-XX-SC-512-007		Medical Gas \ Plant Alarm Schematic	<b>NOT SUBMITTED</b>	
ME-XX-XX-SC-512-008		Medical Gas \ Local distribution Alarm Panel Schematic	<b>NOT SUBMITTED</b>	
ME-SZ-B1-PL-569-001	2	Basement Floor Plan - Pneumatic Tube System Layout	Pipework size to be shown Section detail drawings to be provided to show co-ordination in highly serviced areas	C
ME-SZ-00-PL-569-001	2	Ground Floor Plan - Pneumatic Tube System Layout	Refer to basement level comments	C
ME-SZ-01-PL-569-001	2	First Floor Plan - Pneumatic Tube System Layout	Refer to basement level comments	C
ME-SZ-02-PL-569-001	2	Second Floor Plan - Pneumatic Tube System Layout	Refer to basement level comments	C
ME-SZ-03-PL-569-001	2	Third Floor Plan - Pneumatic Tube System Layout	Refer to basement level comments	C
ME-SZ-04-PL-569-001		Fourth Floor Plan - Pneumatic Tube System Layout	<b>NOT SUBMITTED</b>	
<del>ME-XX-XX-SC-569-001</del> ME-SZ-XX-SC-569-001	3	Pneumatic Tube System Schematic	Auxiliary power supplies, controls cabling and pipework sizing to be detailed	G
ME-SZ-B1-PL-575-001	2	Basement Floor Plan - Sprinkler Coverage	Detailed head, pipework and valving layouts to be provided in line with the detailed developed fire strategy	C
ME-SZ-00-PL-575-001	2	Ground Floor Plan - Sprinkler Coverage	Detailed head, pipework and valving layouts to be provided in line with	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			the detailed developed fire strategy	
ME-SZ-01-PL-575-001	2	First Floor Plan - Sprinkler Coverage	Detailed head, pipework and valving layouts to be provided in line with the detailed developed fire strategy	C
ME-SZ-02-PL-575-001	2	Second Floor Plan - Sprinkler Coverage	Detailed head, pipework and valving layouts to be provided in line with the detailed developed fire strategy	C
ME-SZ-03-PL-575-001	2	Third Floor Plan - Sprinkler Coverage	Detailed head, pipework and valving layouts to be provided in line with the detailed developed fire strategy	C
ME-SZ-04-PL-575-001	2	Fourth Floor Plan - Sprinkler Coverage	Detailed head, pipework and valving layouts to be provided in line with the detailed developed fire strategy	C
ME-XX-XX-SC-575-002		Sprinkler System Schematic	<b>NOT SUBMITTED</b>	
WW-XX-XX-SC-530-001	1	HV Distribution Schematic	To be developed. Cable sizing etc. to be provided	C
WW-XX-XX-SC-530-002	1	LV Distribution Sub-Station No.1 Schematic	To be developed. Cable sizing etc. to be provided	C
WW-XX-XX-SC-530-003	1	LV Distribution Sub-Station No 2 Schematic	To be developed. Cable sizing etc. to be provided	C
WW-XX-XX-SC-530-004	1	IPS System	To be developed. Cable sizing etc. to be provided	C
WW-XX-XX-SC-539-001	1	UPS System Schematic	To be developed. Cable sizing etc. to be provided	C
WW-XX-XX-SC-539-002	1	Earthing System Schematic	To be developed in line with developed design	C
WW-XX-XX-SC-540-001	1	Lighting Control Schematic	Drawing is generic. Drawing to be developed specific to the developed design Timing operation to be agreed with the Board Night lighting detail to be provided	C
WW-XX-XX-SC-542-001	1	Emergency Lighting Schematic	Drawing is generic. Drawing to be developed specific to the developed design.	C
WW-XX-XX-SC-559-002	1	Induction loop system details & typical electrical mounling heights	No legend or ADB codes for items. IHSL to confirm where panel heaters	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			are being used Cleaners sockets to be illustrated. Reference to PA in induction loop schematic – there is no PA, revise No indication of special height items (e.g. press to exit at high level to prevent use by small children).	
WW-Z3-B1-PL-530-001	1	Zone Z3 – Level B1 – Electrical Plantrooms	Confirmation required that HV Transformers can be readily removed and replaced.	C
WW-Z4-B1-PL-530-001	1	Zone Z4 – Level B1 – Electrical Plantrooms	Confirmation required that HV Transformers can be readily removed and replaced.	C
WW-SZ-B1-PL-533-001	1	Level B1 - Power Plant & Containment Routes	Co-ordinated sections with mechanical services required	C
WW-SZ-00-PL-533-001	1	Level 00 - Power Plant & Containment Routes	Co-ordinated sections with mechanical services required	C
WW-SZ-01-PL-533-001	1	Level 01 - Power Plant & Containment Routes	Co-ordinated sections with mechanical services required	C
WW-SZ-02-PL-533-001	1	Level 02 - Power Plant & Containment Routes	Co-ordinated sections with mechanical services required	C
WW-SZ-03-PL-533-001	1	Level 03 - Power Plant & Containment Routes	Co-ordinated sections with mechanical services required	C
WW-SZ-04-PL-533-001	1	Level 04 - Power Plant & Containment Routes	Co-ordinated sections with mechanical services required	C
ME-SZ-B1-PL-538-001	3	Basement Floor Plan - Layout of Nurse Call Panels	IHSL to confirm if this drawing is required. Cannot locate any information on the drawing relating to Nurse Call	C
ME-SZ-00-PL-538-001	3	Ground Floor Plan - Layout of Nurse Call Panels	Drawing lacks level of detailed required Expect Nurse Call Panels to be generally located at Staff Bases – at present they are mainly located at reception areas and waiting areas. IHSL to confirm if architectural backgrounds require updating to identify staff base locations. No indicative Nurse Call Design indicated to illustrate typical extent of coverage; line of sight, follow me	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			lights etc. Detail to be added	
ME-SZ-01-PL-538-001	3	First Floor Plan - Layout of Nurse Call Panels	<p>Drawing lacks level of detailed required.</p> <p>Expect Nurse Call Panels to be generally located at Staff Bases – at present they are mainly located at reception areas and waiting areas. IHSL to confirm if architectural backgrounds require updating to identify staff base locations.</p> <p>No indicative Nurse Call Design indicated to illustrate typical extent of coverage, line of sight, follow me lights etc. Detail to be added</p>	C
ME-SZ-02-PL-538-001	3	Second Floor Plan - Layout of Nurse Call Panels	<p>Drawing lacks level of detailed required.</p> <p>Expect Nurse Call Panels to be generally located at Staff Bases – at present they are mainly located at reception areas and waiting areas. IHSL to confirm if architectural backgrounds require updating to identify staff base locations.</p> <p>No indicative Nurse Call Design indicated to illustrate typical extent of coverage, line of sight, follow me lights etc. Detail to be added</p> <p>Also either very few panels located on this level or panels have been obscured by backgrounds e.g. 2-L2-045 TD Base etc? IHSL to confirm and address</p>	C
ME-SZ-03-PL-538-001	2	Third Floor Plan - Layout of Nurse Call Panels	<p>Drawing lacks level of detailed required.</p> <p>Expect Nurse Call Panels to be generally located at Staff Bases – at present they are mainly located at reception areas and waiting areas. IHSL to confirm if architectural backgrounds require updating to identify staff base locations.</p> <p>No indicative Nurse Call Design indicated to illustrate typical extent of coverage, line of sight, follow me lights etc. Detail to be added</p> <p>Also either very few panels located on this level or panels have been obscured by backgrounds? IHSL to</p>	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			confirm and address	
ME-SZ-04-PL-538-001	3	Fourth Floor Plan - Layout of Nurse Call Panels	No Nurse Call panels indicated on this level. IHSJ to confirm and address.	C
ME-XX-XX-SC-538-001		Nurse Call System Schematic	NOT SUBMITTED	
ME-EW-XX-PL-571-001	2	Site Plan: External CCTV Layout	Please provide coverage cones to indicate extent of coverage. Camera references, cabling ducting etc. to be detailed	C
ME-SZ-B1-PL-571-001	4	Basement Floor Plan - CCTV & Door Access	Drawing to be updated to reflect comments made during UGM held 18/08/2014 Please provide coverage cones to indicate extent of coverage Identify camera types e.g. fixed, PTZ. Coverage to include all circulation stairs. Show detail of card reader, press to exit and break glass to show protected area. Make it clear what is a Video Door Entry system, symbol is very similar with what appear to be structural elements of the drawing. Video door entry to show location of receiving station	C
ME-SZ-00-PL-571-001	4	Ground Floor Plan - CCTV & door Access	Drawing to be updated to reflect comments made during UGM held 18/08/2014 Please provide coverage cones to indicate extent of coverage Identify camera types e.g. fixed, PTZ. Coverage to include all circulation stairs. Show detail of card reader, press to exit and break glass to show protected area. Video door entry to show location of receiving station Fit door and Access Control (AC) to stair 2 to basement	C
ME-SZ-01-PL-571-001	4	First Floor Plan - CCTV & door Access	Drawing to be updated to reflect comments made during UGM held 18/08/2014	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>Please provide coverage cones to indicate extent of coverage. Identify camera types e.g. fixed, PTZ.</p> <p>Coverage to include all circulation stairs and lift lobbies. Show detail of card reader, press to exit and break glass to show protected area.</p> <p>Video door entry to show location of receiving station.</p> <p>Address inconsistency with access control on some disposal hold.</p> <p>No access control to Plastics dressing clinic and beyond shown – this is not deemed correct. JHSL to address.</p> <p>FM lifts 4 &amp; 5 to have AC.</p> <p>PICU HDU to be a secure area.</p> <p>AC to MRI suite already within protected zone, to be agreed with the Board.</p>	
ME-SZ-02-PL-571-001	4	Second Floor Plan - CCTV & door Access	<p>Drawing to be updated to reflect comments made during UGM held 18/08/2014.</p> <p>Please provide coverage cones to indicate extent of coverage. Identify camera types e.g. fixed, PTZ.</p> <p>Coverage to include all circulation stairs and lift lobbies. Show detail of card reader, press to exit and break glass to show protected area.</p> <p>Video door entry to show location of receiving station.</p>	C
ME-SZ-03-PL-571-001	4	Third Floor Plan - CCTV & door Access	<p>Drawing to be updated to reflect comments made during UGM held 18/08/2014.</p> <p>Please provide coverage cones to indicate extent of coverage. Identify camera types e.g. fixed, PTZ.</p> <p>Coverage to include all circulation stairs and lift lobbies. Show detail of card reader, press to exit and break glass to show protected area.</p> <p>Video door entry to show location of receiving station.</p>	C
ME-SZ-04-PL-571-001	4	Fourth Floor Plan - CCTV & door Access	<p>Drawing to be updated to reflect comments made during UGM held 18/08/2014.</p>	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>Please provide coverage cones to indicate extent of coverage. Identify camera types e.g. fixed, PTZ.</p> <p>Coverage to include all circulation stairs and lift lobbies. Show detail of card reader, press to exit and break glass to show protected area.</p> <p>Video door entry to show location of receiving station.</p>	
ME-XX-XX-SC-571-001	2	Intruder Access Control and CCTV Schematic	Drawing is too generic and requires more detail e.g. cable types etc.	C
ME-Z2-00-PL-541-401	2	Ground Floor Plan. Social Work Department. Lighting Layout.	<p>Luminaire schedule to be submitted to review light fittings for suitability.</p> <p>No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown.</p> <p>Sample calculations to be submitted to demonstrate normal and emergency lighting levels.</p> <p>Note that the proposal indicates 50% of light fittings are emergency – IHSL to confirm this is correct.</p>	C
ME-Z2-00-PL-541-402	2	Ground Floor Plan. Paediatric Dentistry Department. Lighting Layout.	<p>Luminaire schedule to be submitted to review light fittings for suitability.</p> <p>No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown.</p> <p>Sample calculations to be submitted to demonstrate normal and emergency lighting levels.</p> <p>Note that the proposal indicates 1 in 6 of the light fittings are emergency – IHSL to confirm this is correct.</p>	C
ME-Z2-00-PL-541-403	2	Ground Floor Plan. Family Support Services Department. Lighting Layout.	<p>Luminaire schedule to be submitted to review light fittings for suitability.</p> <p>No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown.</p> <p>Sample calculations to be submitted to demonstrate normal and emergency lighting levels.</p> <p>Note that the proposal indicates that offices that are 30% larger than other smaller offices still have the</p>	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			same number of light fittings – what is the impact on achieving energy targets and lighting levels? IHSL to review and address.	
ME-Z2-00-PL-541-404	2	Ground Floor Plan, Cardiology & Respiratory Department, Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z2-00-PL-541-405	2	Ground Floor Plan, Main Outpatients Department, Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels. Light fittings do not appear to align to a grid pattern – are they mounted in plasterboard? IHSL to confirm and address.	C
ME-Z2-00-PL-541-420	2	Ground Floor Plan, RHSC Entrance Lighting Layout	Entrance lighting not designed. Area to be designed and submitted.	C
ME-Z3-00-PL-541-407	2	Ground Floor Plan, Radiology Department Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels. MRI Room to be fully detailed. IHSL to confirm there is adequate emergency lighting provision in Xray. IHSL to confirm Provision of 'Room in Use' lights.	C
ME-Z4-00-PL-541-411	2	Ground Floor Plan, Emergency department, Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	
ME-Z4-00-PL-541-413	2	Ground Floor Plan Paediatric Acute Receiving Unit Department Lighting Layout	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z4-00-PL-541-418	2	Ground Floor Plan, Child & Adolescent Department Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z2-01-PL-541-401	2	First Floor Plan, Audiology Department Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels. Requirement for 'Room in Use' lights?	C
ME-Z2-01-PL-541-402	2	First Floor Plan, Orthoptics Department Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z2-01-PL-541-404	2	First Floor Plan, RHSC Therapies Department Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			control information to be shown Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	
ME-Z2-01-PL-541-406	2	First Floor Plan, RHSC Therapies Department Lighting Layout	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels. Will track for hoist clash with light fitting? Review location of emergency light in Rehab Room.	C
ME-Z3-01-PL-541-409	2	First Floor Plan, Operating Theatres Department Lighting Layout	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z3-01-PL-541-410	2	First Floor Plan, Operating Theatres Department Lighting Layout	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z3-01-PL-541-413	2	First Floor Plan, Operating Theatres Department Lighting Layout	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z4-01-PL-541-415	2	First Floor Plan, DCN Acute Care Department Lighting Layout	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching /	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			automatic control. Circuiling and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	
ME-Z4-01-PL-541-417	2	First Floor Plan, PICU & HDU's Department. Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiling or control information to review level of local switching / automatic control. Circuiling and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z4-01-PL-541-418	2	First Floor Plan, PICU & HDU's Department. Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiling or control information to review level of local switching / automatic control. Circuiling and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z2-02-PL-541-403	2	Second Floor Plan. Clinical / Management Suite. Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiling or control information to review level of local switching / automatic control. Circuiling and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z4-02-PL-541-406	2	Second Floor Plan, DCN Inpatients Department. Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiling or control information to review level of local switching / automatic control. Circuiling and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z4-02-PL-541-410	2	Second Floor Plan. Programmed Investigations Unit Department. Lighting layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiling or control information to review level of local switching / automatic control. Circuiling and control information to be shown.	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	
ME-Z4-02-PL-541-411	2	Second Floor Plan, DCN Therapies Department, Lighting Layout	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z4-02-PL-541-413	2	Second Floor Plan, Neurophysiology Department, Lighting Layout	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z2-03-PL-541-404	2	Third Floor Plan, Clinical Education Suite Department, Lighting Layout	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z3-03-PL-541-405	2	Third Floor Plan, Paediatric Neurophysiology Department, Lighting Layout	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z3-03-PL-541-406	2	Third Floor Plan, Neuroscience Outpatients Department, Lighting Layout	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			emergency lighting levels.	
ME-Z3-03-PL-541-409	2	Third Floor Plan. Haem / Onc Inpatients & Daycase Department. Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z3-03-PL-541-410	2	Third Floor Plan. Specialist Paediatric Biochemistry Lab Department. Lighting layout.	No luminaire schedule submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z4-03-PL-541-412	2	Third Floor Plan. Medical Day Care unit. Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z4-03-PL-541-417	2	Third Floor Plan. Surgical Long Stay Inpatients. Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C
ME-Z4-04-PL-541-404	2	Fourth Floor Plan. Clinical / Management Suite Department. Lighting Layout.	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels.	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
ME-Z4-04-PL-541-406	2	Third Floor Plan. Child Life & Health Department. Lighting Layout	Luminaire schedule to be submitted to review light fittings for suitability. No circuiting or control information to review level of local switching / automatic control. Circuiting and control information to be shown. Sample calculations to be submitted to demonstrate normal and emergency lighting levels	C
<del>ME-SZ-B1-PL-572-002</del> ME-SZ-B1-PL-572-001	3	Basement Floor Plan - Layout of Fire Alarm Panels	Fire compartments and fire zones to be identified. The Fire Alarm Design is required to indicate extent and type of detector coverage (e.g. smoke, heat, beam, vesda etc.), interfacing to devices e.g. door hold opens etc. extent of ceiling void coverage etc.	C
<del>ME-SZ-00-PL-572-002</del> ME-SZ-00-PL-572-001	3	Ground Floor Plan - Layout of Fire Alarm Panels	Fire compartments and fire zones to be identified. Fire Alarm Design required to indicate extent and type of detector coverage (e.g. smoke, heat, beam, vesda etc.), interfacing to devices e.g. door hold opens etc. extent of ceiling void coverage etc.	C
<del>ME-SZ-01-PL-572-002</del> ME-SZ-01-PL-572-001	3	First Floor Plan - Layout of Fire Alarm Panels	Fire compartments and fire zones to be identified. The Fire Alarm Design is required to indicate extent and type of detector coverage (e.g. smoke, heat, beam, vesda etc.), interfacing to devices e.g. door hold opens etc. extent of ceiling void coverage etc.	C
<del>ME-SZ-02-PL-572-002</del> ME-SZ-02-PL-572-001	3	Second Floor Plan - Layout of Fire Alarm Panels	Fire compartments and fire zones to be identified. The Fire Alarm Design is required to indicate extent and type of detector coverage (e.g. smoke, heat, beam, vesda etc.), interfacing to devices e.g. door hold opens etc. extent of ceiling void coverage etc.	C
<del>ME-SZ-03-PL-572-002</del> ME-SZ-03-PL-572-001	3	Third Floor Plan - Layout of Fire Alarm Panels	Fire compartments and fire zones to be identified. The Fire Alarm Design is required to indicate extent and type of detector coverage (e.g. smoke, heat, beam, vesda etc.), interfacing to devices e.g. door hold opens etc. extent of ceiling void	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			coverage etc.	
ME-SZ-04-PL-572-002 ME-SZ-04-PL-572-001	3	Fourth Floor Plan - Layout of Fire Alarm Panels	Fire compartments and fire zones to be identified. The Fire Alarm Design is required to indicate extent and type of detector coverage (e.g. smoke, heat, beam, vesda etc.), interfacing to devices e.g. door hold opens etc. extent of ceiling void coverage etc.	C
ME-XX-XX-SC-572-001	2	Fire Alarm Schematic	Identify location of RIE Fire Alarm Control Panel. Add legend to drawing giving a description of the devices and how they operate. Confirm if inputs and outputs on the same I/O device or only one way communication on each leg.	C
ME-XX-XX-SC-572-002	2	Fire Alarm Interface Schematic	Note 3 may not comply with BS5839 for a phased evacuation system – IHSL to review and confirm/address. Any interfaces to Smoke Extract Panels of Fire Dampers to be shown. Schematic is generic and a legend required to be provided for symbols. Please explain what the numbers are beside each panel and how they relate to the drawings. Local / Repeater panels to be indicated on schematic.	C
WW-SZ-B1-PL-581-001	1	Level B1 – Drainage Strategy	Co-ordination of highly serviced areas (section drawings) to be developed.	C
WW-Z2-00-PL-581-001	1	Zone Z2 – Level 00 – Drainage Strategy	Co-ordination of highly serviced areas (section drawings) to be developed.	C
WW-Z3-00-PL-581-001	1	Zone Z3 – Level 00 – Drainage Strategy Sheet 1 of 2	Co-ordination of highly serviced areas (section drawings) to be developed.	C
WW-Z3-00-PL-581-002	1	Zone Z3 – Level 00 – Drainage Strategy Sheet 2 of 2	Co-ordination of highly serviced areas (section drawings) to be developed.	C
WW-Z4-00-PL-581-001	1	Zone Z4 – Level 00 – Drainage Strategy - Sheet 1 of 2	Co-ordination of highly serviced areas (section drawings) to be developed.	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
WW-Z4-00-PL-581-002	1	Zone Z4 – Level 00 – Drainage Strategy - Sheet 2 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z5-00-PL-581-001	1	Zone Z5 (Energy Centre) – Level 00 – Drainage Strategy	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z2-01-PL-581-001	1	Zone Z2 – Level 01 – Drainage Strategy	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z3-01-PL-581-001	1	Zone Z3 – Level 01 – Drainage Strategy Sheet 1 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z3-01-PL-581-002	1	Zone Z3 – Level 01 – Drainage Strategy Sheet 2 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z4-01-PL-581-001	1	Zone Z4 – Level 01 – Drainage Strategy - Sheet 1 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z4-01-PL-581-002	1	Zone Z4 – Level 01 – Drainage Strategy - Sheet 2 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z5-01-PL-581-001	1	Zone Z5 (Energy Centre) – Level 01 – Drainage Strategy	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z2-02-PL-581-001	1	Zone Z2 – Level 02 – Drainage Strategy	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z3-02-PL-581-001	1	Zone Z3 – Level 02 – Drainage Strategy Sheet 1 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z3-02-PL-581-002	1	Zone Z3 – Level 02 – Drainage Strategy Sheet 2 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z4-02-PL-581-001	1	Zone Z4 – Level 02 – Drainage Strategy - Sheet 1 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z4-02-PL-581-002	1	Zone Z4 – Level 02 – Drainage Strategy - Sheet 2 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
WW-Z5-02-PL-581-001	1	Zone Z5 (Energy Centre) – Level 02 – Drainage Strategy	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z2-03-PL-581-001	1	Zone Z2 – Level 03 – Drainage Strategy	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z4-03-PL-581-001	1	Zone Z3 – Level 03 – Drainage Strategy Sheet 1 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z4-03-PL-581-002	1	Zone Z3 – Level 03 – Drainage Strategy Sheet 2 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z3-03-PL-581-001	1	Zone Z4 – Level 03 – Drainage Strategy - Sheet 1 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z3-03-PL-581-002	1	Zone Z4 – Level 03 – Drainage Strategy - Sheet 2 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z2-04-PL-581-001	1	Zone Z2 – Level 04 – Drainage Strategy	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z3-04-PL-581-001	1	Zone Z3 – Level 04 – Drainage Strategy - Sheet 1 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z3-04-PL-581-002	1	Zone Z3 – Level 04 – Drainage Strategy - Sheet 2 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z4-04-PL-581-001	1	Zone Z4 – Level 04 – Drainage Strategy- Sheet 1 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z4-04-PL-581-002	1	Zone Z4 – Level 04 – Drainage Strategy- Sheet 2 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z2-05-PL-581-001	1	Zone Z2 – Level 05 (Roof) – Drainage Strategy	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z3-05-PL-581-001	1	Zone Z3 – Level 05 (Roof) – Drainage Strategy – Sheet 1 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
WW-Z3-05-PL-581-002	1	Zone Z3 – Level 05 (Roof) – Drainage Strategy - Sheet 2 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z4-05-PL-581-001	1	Zone Z4 – Level 05 (Roof) – Drainage Strategy- Sheet 1 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-Z4-05-PL-581-002	1	Zone Z4 – Level 05 (Roof) – Drainage Strategy- Sheet 2 of 2	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-XX-XX-SC-500-001	1	Domestic Water Services Schematic	Energy centre connection should not be branched off wards and departments – IHSL to address. Steam plant connection shown – none in the project. IHSL to revise. Holipad fire fighting systems connected to metered domestic water system – this does not appear correct – IHSL to review	C
WW-XX-XX-SC-500-002	1	Landscape/Plants/Window Cleaning Water. Concept Schematic	Internal IV required to MDCU terrace Water meter shown on the outlet rather than inlet, IHSL to revise	C
WW-Z2-XX-SC-572-001	1	Dry riser zone 2 system schematic & details	No detail of dry riser outlet box	C
WW-SZ-XX-SC-572-001	1	Dry riser zone 3 and zone 4 system schematic & details	IHSL to confirm fill time for stair 01 & 02 system is acceptable to Fire & Rescue Services Ground floor plan old version, refer stair 01 location – IHSL to update XREF and address any required changes No detail of dry riser outlet box	C
WW-SZ-B1-PL-572-001	1	Level B1 - Dry Riser Layout	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-SZ-00-PL-572-001	1	Level 00 - Dry Riser Layout	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-SZ-01-PL-572-001	1	Level 01 - Dry Riser Layout	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-SZ-02-PL-572-001	1	Level 02 - Dry Riser Layout	Co-ordination of highly serviced areas (section drawings) to be developed	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			developed	
WW-SZ-03-PL-572-001	1	Level 03 - Dry Riser Layout	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-SZ-04-PL-572-001	1	Level 04 - Dry Riser Layout	Co-ordination of highly serviced areas (section drawings) to be developed	C
WW-SZ-SL-500-004 WW-SZ-SL-DT-500-001	1	Touch Down Base; MEP Services	<p>General comment –</p> <p>The drawings do not provide the level of detail expected. Please show loaded plans for co-ordination. Drawing to include type of elements i.e. type of grilles, lights, switches, fire alarms etc. as well as detailing services distribution in the room i.e pipework and containment runs and how services will be concealed (boxing, IPS, in voids etc.)</p> <p>A number of other issues identified Non-exhaustive items to be addressed include –</p> <p>Legend to be completed</p> <p>IHSL to confirm what an affray alarm is and confirm required</p> <p>2 symbols for radiant panel - address</p>	C
WW-SZ-SL-500-002 WW-SZ-SL-DT-500-002	1	Adult Single Bedroom with Ensuite; MEP Services	<p>See Touch Down Base general comments.</p> <p>A number of other issues identified Non-exhaustive items to be addressed include –</p> <p>Disabled refuge alarm in en-suite is not correct</p> <p>Radiant panel in en-suite not on environmental matrix</p> <p>Bedroom radiant panel seems very large</p> <p>Nurse call to be shown</p> <p>Light switch shown as 1 way – not correct.</p> <p>Lightswitch shown for en-suite, environmental matrix shows this as presence detection</p> <p>Two different symbols for dual data</p>	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			point	
<del>WW-SZ-SL-500-003</del> WW-SZ-SL-DT-500-003	1	Paediatric Single Bedroom with Ensuite MEP Services	<p>See Touch Down Base general comments.</p> <p>A number of other issues identified Non-exhaustive items to be addressed include –</p> <p>Disabled refuge alarm in en-suite is not correct</p> <p>Radiant panel in en-suite not on environmental matrix</p> <p>Bedroom radiant panel seems very large</p> <p>Nurse call to be shown Light switch shown as 1 way – not correct.</p> <p>Lightswitch shown for en-suite, environmental matrix shows this as presence detection</p> <p>Two different symbols for dual data point</p> <p>Confirm location of TV point is correct</p> <p>IRR in en-suite not on legend.</p> <p>Items "A" not on legend</p>	C
<del>WW-SZ-SL-500-004</del> WW-SZ-SL-DT-500-004	1	Paediatric Four Bedded room; MEP Services	<p>See Touch Down Base general comments.</p> <p>A number of other issues identified Non-exhaustive items to be addressed include –</p> <p>Disabled refuge alarm in en-suite is not correct</p> <p>Radiant panel in en-suite not on environmental matrix.</p> <p>Nurse call to be shown</p> <p>Light switch shown as 1 way</p> <p>Lightswitch shown for en-suite, environmental matrix shows this as presence detection.</p> <p>Two different symbols for dual data point.</p> <p>Items "A" outside doors not on legend</p>	C
<del>WW-SZ-SL-500-005</del> WW-SZ-SL-DT-500-005	1	Clean Utility Out Patient Department MEP Services	See Touch Down Base general comments.	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			A number of other issues identified Non-exhaustive items to be addressed include –  Light switch shown, environmental matrix states presence detection. Confirm which is correct to Board agreement.	
<del>WW-SZ-SL-500-006</del> WW-SZ-SL-DT-500-006	1	Clean Utility In-patients MEP Services	See Touch Down Base general comments.  A number of other issues identified Non-exhaustive items to be addressed include –  Light switch shown, environmental matrix states presence detection. Confirm which is correct to Board agreement.	C
<del>WW-SZ-SL-500-007</del> WW-SZ-SL-DT-500-007	1	Typical Staff Base MEP Services	See Touch Down Base general comments.  A number of other issues identified Non-exhaustive items to be addressed include – IRR to be added to legend  IHSL to confirm if voice outlet is a single data point in Cat 6A.	C
<del>WW-SZ-SL-500-008</del> WW-SZ-SL-DT-500-008	1	Typical Reception MEP Services	See Touch Down Base general comments.  A number of other issues identified Non-exhaustive items to be addressed include – PIL to be added to legend Environmental matrix does not have extract at reception.  Environmental matrix has radiant panel at reception, IHSL to confirm and revise proposals	C
<del>WW-SZ-SL-500-009</del> WW-SZ-SL-DT-500-009	1	Typical Dirty Utility MEP Services	See Touch Down Base general comments.  A number of other issues identified Non-exhaustive items to be addressed include –  Environmental matrix does not have	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			radiant panel in dirty utility. IHSL to confirm and revise proposals	
<del>WW-SZ-SL-500-010</del> WW-SZ-SL-DT-500-010	1	Typical Operating Theatre MEP Services	See Touch Down Base general comments.  A number of other issues identified. Non-exhaustive items to be addressed include – Surgeons panel to be shown Access to scrub area should not have door. Operating light and pendants to be indicated IPS sockets need symbol	C
<del>WW-SZ-SL-500-014</del> WW-SZ-SL-DT-500-011	1	Typical MRI/X-Ray Room MEP Services	See Touch Down Base general comments.  A number of other issues identified. Non-exhaustive items to be addressed include – Chilled water cassette in centre of room will be directly over the medical equipment, this is not acceptable – IHSL to review  IHSL to confirm Pushbutton is an EPO	C
<del>WW-SZ-SL-500-012</del> WW-SZ-SL-DT-500-012	1	Typical Treatment Room MEP Services	See Touch Down Base general comments.  A number of other issues identified. Non-exhaustive items to be addressed include – Staff call system to be shown. Cleaners socket to be shown. Environmental Matrix does not have extract in treatment rooms. IHSL to confirm and revise proposals  Examination light to be shown	C
WW-EW-XX-PL-718-001	1	External Lighting Layout	Appears there will be light pollution from uplighters. IHSL to confirm that light pollution will not occur Feeder pillar to be defined  Schematic details and circuit references to be provided	C
WW-EC-00-PL-500-001	1	Energy Centre – Ground		C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
		Floor Plan	<p><u>Noted complete drawing to be re-worked to accommodate the revised flue proposal and add the CHP Buffer Vessel</u></p> <p>Otherwise, generally, the drawing shows a reasonable level of information with relevant labelling and information, including sections</p> <p>Schedule of plant and sizes to be developed in line with the design progression</p> <p>HV cable routes to be fully identified to demonstrate segregation to avoid single points of failure.</p> <p>Equipment/Plant access and egress to be reviewed particularly at HV switchrooms.</p> <p>What level of risk is there of an explosion at the VIE plant which could damage the main HV Switchgear taking out the whole hospital electrical supply? IHSL to address</p>	
WW-EC-01-PL-500-001	1	Energy Centre – Mezzanine Floor Plan	<p>Schedule of plant and sizes to be developed in line with the design progression</p> <p>Equipment access and egress to be reviewed particularly at UPS and Batteries area (cat ladder provision only does not appear suitable, what about plant replacement etc.)</p> <p>Number of issues to be reviewed and addressed to the Board's satisfaction –</p> <ul style="list-style-type: none"> <li>- Does battery ventilation comply with BS EN 50272-2?</li> <li>- Have the weights of the batteries and UPS been considered?</li> <li>- Will water and drainage be provided?</li> <li>- If so drains will run through HV Switchrooms?</li> </ul>	C
WW-SZ-B1-PL-591-001	1	Energy Centre Link & Basement Plant Layout Mezzanine Floor Plan	HV cable route 2 does not align with drawing WW-EC-00-PL-500-001	C
WW-SZ-XX-DT-600-001	1	1:50 Typical Sections	Too generic.	C
WW-SZ-SL-DT-600-001	1	Sheet 1 of 2		C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			No legend Not all services shown e.g drainage/PTS and PTS diverter boxes Pipework zone above electrical services – this is not good practice. IHSL to review	
WW-SZ-XX-DT-600-002 WW-SZ-SL-DT-600-002	1	150 Typical Sections Sheet 2 of 2	Too generic. No legend Not all services shown e.g drainage/PTS and PTS diverter boxes Pipework zone above electrical services – this is not good practice. IHSL to review	C
WW-SZ-B1-533-002	1	Level B1 Power Metering Drawings	Drawings are too generic and do not provide enough detail	C
WW-SZ-00-533-002	1	Level 00 Power Metering Drawing	Drawings are too generic and do not provide enough detail Paediatric Dentistry and Social work appear to be combined. IHSL to show how circulation spaces are treated	C
WW-SZ-01-533-002	1	Level 01 Power Metering Drawing	Drawings are too generic and do not provide enough detail Some minor departments have been merged	C
WW-SZ-02-533-002	1	Level 02 Power Metering Drawing	Drawings are too generic and do not provide enough detail Some minor departments have been merged	C
WW-SZ-03-533-002	1	Level 03 Power Metering Drawing	Drawings are too generic and do not provide enough detail	C
WW-SZ-04-533-002	1	Level 04 Power Metering Drawing	Drawings are too generic and do not provide enough detail	C
WW-SZ-B1-500-002	1	Level B1 Water Metering Drawing	Drawings are too generic and do not provide enough detail	C
WW-SZ-00-500-002	1	Level 00 Water Metering Drawing	DHW meter can only be on CWS supply to heat station calorifiers. Metering is not in line with the BCRs which states – ‘Project Co shall allow sub-metering of electricity, heating and domestic	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			water usage for each individual department / unit". IHSL to amend drawing to suit.	
WW-SZ-01-500-002	1	Level 01 Water Metering Drawing	DHW meter can only be on CWS supply to heat station calorifiers. Metering is not in line with the BCRs which states – "Project Co shall allow sub-metering of electricity, heating and domestic water usage for each individual department / unit" IHSL to amend drawing to suit.	C
WW-SZ-02-500-002	2	Level 02 Water Metering Drawing	DHW meter can only be on CWS supply to heat station calorifiers. Metering is not in line with the BCRs which states – "Project Co shall allow sub-metering of electricity, heating and domestic water usage for each individual department / unit" IHSL to amend drawing to suit.	C
WW-SZ-03-500-002	1	Level 03 Water Metering Drawing	DHW meter can only be on CWS supply to heat station calorifiers. Metering is not in line with the BCRs which states – "Project Co shall allow sub-metering of electricity, heating and domestic water usage for each individual department / unit" IHSL to amend drawing to suit.	C
WW-SZ-04-500-002	1	Level 04 Water Metering Drawing	DHW meter can only be on CWS supply to heat station calorifiers. Metering is not in line with the BCRs which states – "Project Co shall allow sub-metering of electricity, heating and domestic water usage for each individual department / unit". IHSL to amend drawing to suit.	C
WW-SZ-B1-521-002	1	Level B1 Heating Metering	Metering is not in line with the BCRs	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
		Drawing	which states – "Project Co shall allow sub-metering of electricity, heating and domestic water usage for each individual department / unit". IHSL to amend drawing to suit	
WW-SZ-00-521-002	1	Level 00 Heating Metering Drawing	Metering is not in line with the BCRs which states – "Project Co shall allow sub-metering of electricity, heating and domestic water usage for each individual department / unit". IHSL to amend drawing to suit	C
WW-SZ-01-521-002	1	Level 01 Heating Metering Drawing	Metering is not in line with the BCRs which states – "Project Co shall allow sub-metering of electricity, heating and domestic water usage for each individual department / unit". IHSL to amend drawing to suit	C
WW-SZ-02-521-002	1	Level 02 Heating Metering Drawing	Metering is not in line with the BCRs which states – "Project Co shall allow sub-metering of electricity, heating and domestic water usage for each individual department / unit". IHSL to amend drawing to suit	C
WW-SZ-03-521-002	1	Level 03 Heating Metering Drawing	Metering is not in line with the BCRs which states – "Project Co shall allow sub-metering of electricity, heating and domestic water usage for each individual department / unit". IHSL to amend drawing to suit	C
WW-SZ-04-521-002	1	Level 04 Heating Metering Drawing	Metering is not in line with the BCRs which states – "Project Co shall allow sub-metering of electricity, heating and domestic water usage for each individual department / unit".	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			IHSL to amend drawing to suit	
ME-XX-B1-PL-700-001	3	Basement Floor Plan Existing Building RIE Connections	Drawing to be clear where cables will run in the building i.e. void or high level	C
ME-XX-00-PL-700-001	3	Ground Floor Plan Existing Building RIE Connections	PTS pipework size to be shown Section detail drawings to be provided to show co-ordination in highly serviced areas Further notes/a legend to be provided to confirm meaning of services (ie what are the shaded green boxes adjacent to stairs) Confirmation of new access hatch requirement in existing RIE required	C
ME-XX-01-PL-700-001	2	First Floor Plan Existing Building RIE Connections	PTS pipework size to be shown Section detail drawings to be provided to show co-ordination in highly serviced areas Further notes/a legend to be provided to confirm meaning of services (ie what are the shaded green boxes adjacent to stairs)	C
ME-XX-02-PL-700-001	2	Second Floor Plan Existing Building RIE Connections	All PTS pipework size to be shown Section detail drawings to be provided to show co-ordination in highly serviced areas XREF to be made all one colour, difficult to review with multiple colours on the XREF Drawing to be clear what clouds mean? Are these from the XREF and as such should be removed?	C
ME-XX-03-PL-700-001	2	Third Floor Plan Existing Building RIE Connections	All PTS pipework size to be shown	C
RBG-SZ-B1-PL-200-001	01	Basement Loading Plan	Comments related to structural aspects 1 Insufficient information provided to adequately review the proposed surcharge loading.	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			2 Remove note subject to confirming specific clinical equipment loads.	
RBG-SZ-00-PL-200-001	01	Ground Floor Loading Plan	Comments related to structural aspects 1 Insufficient information provided to adequately review the proposed surcharge loading. 2 Remove note subject to confirming specific clinical equipment loads	C
RBG-SZ-01-PL-200-001	01	First Floor Loading Plan	Comments related to structural aspects 1 Remove note subject to confirming specific clinical equipment loads.	C
RBG-SZ-02-PL-200-001	01	Second Floor Loading Plan	Comments related to structural aspects 1 Remove note subject to confirming specific clinical equipment loads.	C
RBG-SZ-03-PL-200-001	01	Third Floor Loading Plan	Comments related to structural aspects 1 Remove note subject to confirming specific clinical equipment loads.	C
RBG-SZ-04-PL-200-001	01	Fourth Floor Loading Plan	Comments related to structural aspects 1 Remove note subject to confirming specific clinical equipment loads.	C
RBG-SZ-05-PL-200-001	01	Fifth Floor Loading Plan	Comments related to structural aspects 1 Remove note subject to confirming specific clinical equipment loads. 2 Insufficient information provided to adequately review the proposed helicopter loading	C
RBG-SZ-SL-PL-210-101	02	Pile Layout GA	1. We appreciate that this drawing is not a final design. However, our	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>comments are valid at this stage. Schedule of pile numbers with noted currently proposed pile diameters and pile cut off levels has not been provided</p> <p>2. We appreciate that this drawing is not a final design. However, our comments are valid at this stage. Piles in some pile group appear to be closely spaced (relevant piles references were highlighted- referenced as per comments numbers 4 to 41, 43 to 58, 60 to 110, 112 to 114, 116 to 127, 129 to 149, 151 to 160, 162, 164 to 189, 191 to 204 shown on the appended drawing "RBG-SZ-SL-Pl.-210-101-Comments-Geotechnical"). We understand that pile group analysis will be undertaken at the detailed design stage in order to take into account the pile group effects. We will require to see evidence of pile group analysis</p> <p>3. We appreciate that this drawing is not a final design. However, our comments are valid at this stage. We note that use of large diameter piles is proposed where single piles are used under columns. Single pile per column is a non-redundant configuration to account for quality and performance issues. Therefore, quality control and assurance during construction and pile testing to verify pile performance will be of great importance. Currently the pile testing proposals are unknown.</p> <p>42. No pile reference is provided</p> <p>59. No pile reference is provided</p> <p>111. We appreciate that this drawing is not a final design. However, our comments are valid at this stage. We note that the pile P436 appears to be located closely to the pile wall. We assume that construction</p>	

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>tolerances will be maintained on site in order to avoid pile clashing. We also assume that the influence from the pile load onto the pile wall will be assessed in order to ensure that it will not have an adverse effect onto the performance of the pile wall, and in reverse.</p> <p>115. It is noted in the Piling Specification that the pile design is to be undertaken in accordance with Eurocode 7. However, the pile loads are not set out in permanent and variable load components, as per Eurocode requirements.</p> <p>128. Orientation of specified load is not clear.</p> <p>150. 1180mm pile diameter is a non-commonly used pile diameter for bored cast in-situ piles.</p> <p>161. Loads for pile group design should be provided. Piling Specification indicates that the piling contractor will be responsible for all aspects of pile design. We assume that this includes design of pile configurations below the proposed buildings and their interaction with the adjacent buildings.</p> <p>163. The table should also contain details of lateral and tension pile loads.</p> <p>190. No legend provided for this symbol. This should be added to the drawing.</p> <p>206. Shallower than 2.0m depth ground water levels were recorded during water monitoring, as reported in the factual ground investigation reports.</p> <p>207. Pile symbol not explained on the drawing legend.</p>	



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>208. Pile references are not shown. These should be added to the drawing.</p> <p>209. Smaller than 3.0m Glacial Till thicknesses were recorded on site.</p> <p>210. Shallower rockheads than the ones presented on the typical ground profile were recorded on site.</p> <p>211. Siltstone rock was also recorded on site.</p> <p>212. It is unclear if this ground model represents the best or the worst ground conditions on site. We note that ground conditions are variable.</p> <p>213. It is understood that contiguous pile wall is proposed. This type of wall is generally used to retain firm/stiff cohesive soils. The soils on site include granular deposits, soft clays and peat. This causes some concern in terms of suitability of the proposed wall type due to loss of material between the piles due to the ground conditions on site.</p>	
RBG-SZ-B1-PL-260-101	03	Basement GA Plan	<p>Comments related to structural aspects</p> <p>1. Remove note subject to confirmation that vibration analysis has been carried out on the design of slabs and beams. We require this information to be final.</p> <p>2. Calite waterproof concrete specified elsewhere to be specified here also.</p> <p>3. Review dimensions of dowels and amend accordingly.</p> <p>4. Provision of gas protection to CS2 is noted and welcomed, however, the detail provided contradicts the</p>	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>PCP and CGL letter. No mention of radon protection provided as per the PCP and CGL letter.</p> <p>5. It is understood that contiguous pile wall is proposed. This type of wall is generally used to retain firm/stiff cohesive soils. The soils on site include granular deposits, soft clays and peat. This causes some concern in terms of suitability of the proposed wall type due to loss of material between the piles due to the ground conditions on site.</p> <p>6. It is unclear if the space between the concrete wall and pile wall will be backfilled. Details of backfill material were not provided.</p> <p>7. Drawings showing section information to be provided in addition.</p>	
RBG-SZ-00-PL-280-101	03	Ground Floor GA Plan Sheet 1	<p>Comments related to structural aspects</p> <p>1. Remove note subject to confirmation that vibration analysis has been carried out on the design of slabs and beams. We require this information to be final</p> <p>2. Drawings showing section information to be provided in addition.</p> <p>3. The wall corner is not supported by a pile. We would normally expect wall corners to be directly supported by piles.</p> <p>4. Pile Located away from the corner of the wall. We would normally expect piles to support wall corners.</p> <p>5. Provision of gas protection to CS2 is noted and welcomed, however, the detail provided contradicts the PCP and CGL letter. No mention of radon protection provided as per the PCP and CGL letter.</p>	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>6. It is understood that contiguous pile wall is proposed. This type of wall is generally used to retain firm/stiff cohesive soils. The soils on site include granular deposits, soft clays and peat. This causes some concern in terms of suitability of the proposed wall type due to loss of material between the piles due to the ground conditions on site.</p> <p>5. End of the wall not supported by a pile. We would normally expect a pile to be located under the end of the wall.</p>	
RBG-SZ-00-PL-260-102	03	Ground Floor GA Plan Sheet 2	<p>Comments related to structural aspects</p> <p>1. Insufficient information to ascertain the detail and intent.</p> <p>2. Drawings showing section information to be provided in addition.</p> <p>3. Information on waterproofing, gas protection and dewatering is not included.</p> <p>4. It is unclear what foundation solution is to be adopted for the retaining wall. We would expect the retaining wall to be piled, taking into account the ground conditions on site.</p>	C
RBG-SZ-01-PL-260-101	03	First Floor GA Plan	<p>1. Comments related to structural aspects Insufficient information to ascertain the detail and intent.</p> <p>2. Remove note subject to confirmation that vibration analysis has been carried out on the design of slabs and beams. We require this information to be final.</p> <p>Drawings showing section information to be provided in addition.</p>	C
RBG-SZ-02-PL-260-101	03	Second Floor GA Plan	Comments related to structural	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			aspects 1. Remove note subject to confirmation that vibration analysis has been carried out on the design of slabs and beams. We require this information to be final. 3. Drawings showing section information to be provided in addition.	
RBG-SZ-03-PL-260-101	03	Third Floor GA Plan	Comments related to structural aspects 1. Remove note subject to confirmation that vibration analysis has been carried out on the design of slabs and beams. We require this information to be final. 2. Insufficient information to ascertain the detail and intent. 2. Drawings showing section information to be provided in addition.	C
RBG-SZ-04-PL-260-101	02	Fourth Floor GA Plan	Comments related to structural aspects 1. Remove note subject to confirmation that vibration analysis has been carried out on the design of slabs and beams. We require this information to be final. 2. Drawings showing section information to be provided in addition.	C
RBG-SZ-05-PL-260-101	02	Fifth Floor GA Plan	Comments related to structural aspects 1. Remove note subject to confirmation that vibration analysis has been carried out on the design of slabs and beams. We require this information to be final. 2. Insufficient information to ascertain the detail and intent. 3. Drawings showing section	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			information to be provided in addition. Structural steelwork plan, details and sections to be provided. If an additional drawing is required then this is to be added to the list of drawings	
RBG-SZ-SL-SE-260-001	01	Substructure Sections and Details Sheet 1	1. Provision of gas protection to CS2 is noted and welcomed, however, the detail provided contradicts the PCP and CGL letter. No mention of radon protection provided as per the PCP and CGL letter.  2. Deeper pile cap is proposed for 1200mm diameter pile than for the 1000mm diameter pile. This appears illogical between one single pile cap and another.  3. Pile diameter inconsistent with the diameters referenced on the Pile Layout GA Plan (RBG-S2-SL-PL-210-101)	C
RBG-SZ-SL-SE-260-002	01	Substructure Sections and Details Sheet 2	1. Provision of gas protection to CS2 is noted and welcomed, however, the detail provided contradicts the PCP and CGL letter. No mention of radon protection provided as per the PCP and CGL letter.	C
RBG-SZ-SL-SE-260-010	01	Superstructure Sections and Details Sheet 1	Comments related to structural aspects  1. Insufficient information to adequately review details. 2. As the Board is unable to determine from the drawing submitted the extent and location of proposed transfer beams, beams will only be allowed at the absolute discretion of the Board  Full extent and detail of proposed gas membrane to be provided. If an additional drawing is to be provided to cover this then drawing number to be added to PCP list.	C
RBG-XX-XX-PL-XXX-000		Cover Sheet		
RBG-SZ-00-PL-711-001	03	Pavement Plan Sheet 1	Points 1 & 3 - What happens to this section of car park that is outwith the	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>site boundary? Do finishes match with proposed permeable paving?</p> <p>1. Reference should be made to Note 7 and table below, relevant to CBR testing.</p> <p>2. Reference should be made to Note 7 and table below, relevant to CBR testing.</p> <p>3. Assumed CBR values are not provided for other details</p> <p>4. Frequency of CBR testing was not specified.</p> <p>5. It is not clear to which detail this table refers. No table number was provided</p> <p>6. Founding conditions below the kerb are not clearly defined.</p> <p>7. Founding conditions below the kerb are not clearly defined.</p> <p>8. Founding conditions below the kerb are not defined.</p> <p>9. Dimensions and legend for this detail are incomplete. Material thickness and type below the foundation are not clearly specified</p> <p>10. Founding conditions below the kerb are not defined.</p> <p>11. It is unclear what this line represents.</p> <p>12. Founding conditions below the kerb are not defined.</p> <p>13. Material types and thicknesses below the kerb are not clearly specified</p>	



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
RBG-SZ-00-PL-711-002		Pavement Plan Sheet 2	Not received	
RBG-SZ-00-PL-711-003		Pavement Plan Sheet 3	Not received	
RBG-SZ-00-DT-711-001	03	Pavement Details Sheet 1	Points 1 & 2 - Should be note 7 Point 3 - General note - No kerbing layout supplied Point 4 - General note - no levels layout supplied	C
RBG-SZ-00-DT-714-010	02	Early Works - Road Works Details	Point 1 - Are 'bus boarder' type kerbs required?  1. No comments on ground CBR values assumed in the design were provided.  2. No details of sub-base design were provided.  3. No details of sub-base design were provided	C
RBG-SZ-00-PL-714-001	03	Early Works - Bus Layby Road Works Plan	Point 1 - Should typical 'bus boarder' type kerbs be used at bus access/egress points	C
RBG-SZ-00-PL-770-100	06	Surface Water Underground Drainage Plan Sheet 1	Point 1 - Secondary Surface Water Pipe runs under corner of the building. This needs to be adjusted on the drawing Point 2 - Where does this slot drain (SD) connect to? Point 3 - Drawing reference incorrect. Think it should be RBG-SZ-00-DT-770-001 TO 004 Point 4 - Note not clear. what is meant by 'flat lateral connections to be 135 "Y" junction' Point 5 - This note conflicts with the Standard Detail Drawing RBG-SZ-00-DT-770-001 REV03 - Typical Manhole Detail Type A & B. Point 6 - Location of proposed Oil/Water Separator. See Foul system drawing for detail Point 7 - Direction arrows shown on the Legend for the Proposed & Secondary Surface Water sewer is not shown on the drawing. Point 8 - Figure B15 reference is incorrect this is not the backdrop	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>detail in Sewers for Scotland 2nd Ed. Reference should be Figure 16</p> <p>Point 9 - Location of possible pipe clash between Surface Water and Foul drainage.</p> <p>Point 10 - Is Drawing reference correct?</p> <p>Point 11 - Slot drains through the permeable paving.</p> <p>This would appear to by-pass the SUDs treatment provided by the paving</p> <p>Also this would be bedded directly on the create storage units. How does this work?</p> <p>(This note applies to all slot drains (SD) and Channel drains (CD) across the site.)</p> <p>Point 12 - The Legend does not identify the different type of proposed manhole and inspection chambers that are shown on the drawing.</p> <p>The legend should be updated to show this.</p> <p>Point 13 - Secondary Surface Water Channel Drain (CD-0) will be bedded directly on the create storage units. Some detail required to show how this will work.</p> <p>(This note applies to all channel drains (CD-0) across the site based in cellular storage areas.)</p> <p>Point 14 - This 'G' does not seem attached to any gully</p> <p>Point 15 - Where does this slot drain (SD) connect to?</p> <p>Point 16 - Depth of Attenuation System PP1 is 0.45 and PP2 is 0.4 in drawing RBG-SZ-SL-PL-770-101-REV05</p> <p>Should this read 0.4m to 0.45m deep</p> <p>Point 17 - Tree Shown in a Parking Space. Should this be here?</p> <p>Point 18 - No gradient or depth given for this pipe. (This note also applies to a number of pipes across the site).</p>	

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>In this case if the ground level at upstream end of pipe is 52.00m AOD (from planning drawing) and Invert level at SWMH-09 is 51.50m AOD (from schedule) then this does not work</p> <p>Point 19 - Note confirms that the design is not yet complete.</p> <p>Point 20 - Unknown chamber type. These chambers are not identified in the drawing schedule and are not in the Details Drawings</p> <p>Need to be added to key and a detail provided</p> <p>Point 21 - On Drg RBG-SZ-SL-PL-770-101-REV05 the Attenuation Tank (AT1) is identified as holding 1260m<sup>3</sup> of runoff from hardstanding areas. It is not clear from the drawings how this gets into AT1. The only connection to AT1 is from SWMH-07 and this would appear to be from the roof drainage</p> <p>The area surrounding AT1 is also described as 'Soft Landscaping' on Drg RBG-SZ-SL-PL-770-102-REV01 and therefore may not need storage. Stored flow from AT1 does not appear to be subject to SUDs treatment.</p> <p>Point 22 - ACO Channel could not connect into this pipe at this depth using the connection detail shown on RBG-SZ-00-DT-770-002-REV03.</p> <p>Point 23 - No gradient/depth or diameter for this long pipe run to manhole only 0.58m deep. Nearest ground level show on planning drawing is 52.00m AOD and invert level at SWMH-02 is 51.20m AOD</p> <p>From detail drawing RBG-SZ-00-DT-770-002-REV03 gully connections are 150mm diameter if at 1:150 gradient and 40m (approx) this doesn't work.</p> <p>Point 24 - No SUDs treatment for</p>	

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>this area</p> <p>Point 25 - Secondary Surface water pipe connect to the the surface water system Does this need deleting?</p> <p>Point 26 - There are clashes in this area between the Surface Water pipes and the Secondary Surface Water pipes and ACO channels.</p> <p>Point 27 - Depth from ground level to underside of cellular storage crate is 0.53m (0.4m media and 0.13m road make up).</p> <p>The depth below ground of the Surface Water pipe is 0.58m (from Schedule).</p> <p>Therefore the top of the surface water pipe clashes with the underside of the crate storage.</p> <p>Point 28 - Some Type D manholes have multiple pipes coming into them (SWMH 02) while only 675x675 manhole.</p> <p>Point 29 - Schedule Incomplete. There are no co-ordinates shown for any of the manholes.</p> <p>Point 30 - There is very shallow cover to a number of these pipe runs. Some of which are approximately 355mm just before crossing under buildings.</p> <p>Point 31 - Yard gullies (G) in the permeable pavement. Flow to gullies will bypass the SUDs treatment from the permeable paving.</p> <p>Point 32 - Petrol/Oil interceptor for service yard missing in schedule (Petrol/Oil interceptor for Heli-pad has been included in foul schedule).</p> <p>Point 33 - The Secondary Storage system clashes with the underside of the crate storage at manhole SWMH03.</p> <p>Point 34 - Existing manholes (MHs) ST09 &amp; SW03 type are listed 'AS EXISTING'. Can new connections be fitted in with the existing connections or are new Manholes required? If these chambers are to house hydrobrakes</p>	



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>they will need to be replaced accordingly with a suitable MH design.</p> <p>Point 35 - Is this a Hydrobrake Chamber?</p> <p>Point 36 - This area has been clouded but there is no explanation why it has on the drawing.</p> <p>Point 37 - Drainage runs under the corner of the building.</p> <p>Point 38 - Is this a Hydrobrake Chamber?</p> <p>Point 39 - No gradient or depth or diameter given for this pipe that runs under the building. This is need to check the cover to the pipe is sufficient.</p> <p>Point 40 - Is this Ground Level correct? It is substantially higher than the surrounding ground levels</p> <p>Point 41 - This chamber is a hydrobrake MH. As shown in Detail RBG-SZ-00-DT-770-004 - Attenuation Tank</p> <p>Point 42 - No invert levels shown for Petrol/oil interceptor. (See note on Schedule)</p> <p>Point 43 - Is this a Hydrobrake Chamber?</p> <p>Point 44 - Only two two gullies for all service area.</p> <p>From the detail drawings RBG-SZ-00-DT-770-002-REV03 these are also only Yard Gullies (G) and not Road Gullies (GR).</p> <p>Dependant on kerbing details and ground profile these gullies easily be bypassed by surface water flows from this area.</p> <p>It is not clear from the drawing how this areas subject to SUDs treatment.</p>	
RBG-SZ-00-PL-770-101		Surface Water Underground Drainage Plan Sheet 2	Not received	
RBG-SZ-00-PL-770-102		Surface Water Underground Drainage Plan Sheet 3	Not received	
RBG-SZ-00-PL-770-200	04	Foul Water ground Floor Drainage Plan Sheet 1	Point 1 - No Eastings/Northings	C



Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>provided</p> <p>Point 2 - CSMH-02 - CSMH-05 - Invert levels on this drawing differ from invert levels on drawing RBG-SZ-00-PL-770-202. Please clarify.</p> <p>Point 3 - Conflict between benching note here and details on drawing RBG-SZ-00-DT-770-001, Please clarify.</p> <p>Point 4 - CHMH-05 - 150mm diameter pipe from proposed development discharges into the diverted 375mm diameter County Sewer. Pipes of different diameters entering manholes should be installed with soffits at the same , as per Sewers For Scotland.</p> <p>Point 5 - CHMH-03 - 150mm diameter pipe from proposed development discharges into the diverted 375mm diameter County Sewer. Pipes of different diameters entering manholes should be installed with soffits at the same , as per Sewers For Scotland. Also the angle of incoming 150mm pipe to the County Sewer is less than 90 degrees.</p> <p>Point 6 - PI-HELI and FWMH-HP located within surface water storage area.</p> <p>Point 7 - Substantiation required as to why main foul pipes in these areas are 100mm diameter, whereas 150mm diameter pipes are used elsewhere.</p> <p>Point 8 - General note - Manholes at beginning of pipe runs generally have minimal cover. Will there be sufficient fall from invert where pop-ups begin (with 100mm clearance from underside of slab to top of pipe, as per details drawing) to manhole/branch into main line. Examples (but not limited to) at MH03, MH22, MH28, MH29 and long length of pipe running into PI-HELI.</p> <p>Point 9 - Heli-pad drainage does not</p>	

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>appear to comply with latest guidelines, specifically Health Building Note 15-3 : Hospital Helipads, in particular Chapter 5, clause 5.8.</p> <p>Plastic pipes should not be used in case of burning fuel entering the pipe system. In the event of fire, valves to be provided to divert water, fuel and foam into an oil/water separator (separator shown on drawing).</p> <p>Point 10 - FWMH-39 - 1200mm diameter manhole rings stipulated. Has this been sized appropriately to accommodate 2 No. 225mm diameter and a 150mm diameter incoming pipes, and a 225mm diameter outgoing pipe?</p> <p>Point 11 - Conflict between pipe diameters on details drawing RBG-SZ-00-DT-770-003 (200mm vs 225mm diameter). Clarification required.</p> <p>Point 12 - FWMH-HP - Manhole schedule states 510mm from ground level to pipe invert level. However petrol interceptor detail on drawing RBG-SZ-00-DT-770-003 shows at least 1025mm to incoming/outgoing pipe soffit.</p>	
RBG-SZ-00-PL-770-201	04	Foul Water ground Floor Drainage Plan Sheet 2	<p>Point 1 - CSMH-02 - CSMH-05 - Invert levels on this drawing differ from invert levels on drawing RBG-SZ-00-PL-770-202. Please clarify.</p> <p>Point 2 - Rising main from basement - where does it discharge to? Is there a break pressure chamber to dissipate the flow?</p> <p>Point 3 - Foul rising main pumped directly into manhole within building. Is a break pressure chamber required? Have all other avenues been explored?</p> <p>Point 4 - Conflict between benching note here and details on drawing RBG-SZ-00-DT-770-001. Please clarify.</p> <p>Point 5 - Should be Figure 16.</p>	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			<p>Point 6 - Is all foul drainage shown for this building?</p> <p>Point 7 - General note - Manholes at beginning of pipe runs generally have minimal cover. Will there be sufficient fall from invert level where pop-ups begin (with 100mm clearance from underside of slab to top of pipe, as per details drawing) to manhole/branch into main line. Examples (but not limited to) at MH40</p>	
RBG-SZ-00-PL-770-202	04	Foul Water ground Floor Drainage Plan Sheet 3	<p>Point 1 - CSMH-02 - CSMH-05 - Invert levels on this drawing differ from invert levels on drawing RBG-SZ-00-PL-770-202. Please clarify.</p> <p>Point 2 - Conflict between benching note here and details on drawing RBG-SZ-00-DT-770-001. Please clarify.</p> <p>Point 3 - Should be Figure 16</p> <p>Point 4 - General note - Manholes at beginning of pipe runs generally have minimal cover. Will there be sufficient fall from invert level where pop-ups begin (with 100mm clearance from underside of slab to top of pipe, as per details drawing) to manhole/branch into main line. Examples (but not limited to) at MH01</p>	C
RBG-SZ-B1-PL-770-200		Basement Foul Water Drainage Plan Sheet 1	<p>Point 1 - Conflict between benching note here and details on drawing RBG-SZ-00-DT-770-001</p> <p>Point 2 - General note - Cover to top of pipe at manholes is minimal, especially with a 450mm thick floor slab. Will there be sufficient fall from invert level where pop-ups begin (with 100mm clearance from underside of slab to top of pipe, as per details drawing) to manhole/branch into main line.</p> <p>Point 3 - General note - No manhole type references.</p> <p>Point 4 - Where does rising main discharge? Not clear on Ground Floor Plan.</p>	C

Drawing Reference	Rev	Drawing Title	Comment	Drawing Status
			Point 5 - General note - No details have been supplied for basement slab surface water drainage and high water table, in particular ground water management to mitigate hydrostatic pressure	

**Part 3: Reviewable Design Data:**

Project Co shall submit and the Board shall review the following Reviewable Design Data not provided to the Board nor approved by the Board at Financial Close.

This Part 3 of Section 5 (*Reviewable Design Data*) of Schedule Part 6 (*Construction Matters*) sets out the details of the specific design information, materials, samples and required approvals (as more specifically set out in the table below) ("**Reviewable Design Data**") to be reviewed by the Board in accordance with Schedule Part 8 (*Review Procedure*) before such Reviewable Design Data is incorporated into the Facilities and/or the Site by Project Co.

If Project Co subsequently revises or amends its Project Co's Proposals in relation to the Room Data Sheets and/or Reviewable Design Data, then such revisions or amendments shall require to be issued to the Board for review under Schedule Part 8 (*Review Procedure*).

Any items referenced in the Section 3 (Board's Construction Requirements) and Section 4 (Project Co's Proposals) of Schedule Part 6 (Construction Matters) relating to Schedule Part 8 (Review Procedure), to comments such as "*shall be reviewed as Reviewable Design Data*" or "*to be agreed with the Board*", shall be deemed as Reviewable Design Data to be submitted through Schedule Part 8 (Review Procedure).

Following the date of this Agreement:

- Project Co shall submit a programme of issue dates for Reviewable Design Data set out in this Part 3;
- Project Co shall ensure that such programme shall show the items of Reviewable Design Data forecast to be submitted to the Board within the next 3 months;
- Project Co shall revise and reissue the programme on a monthly basis so as to maintain a rolling 3 month look ahead from each date of issue

Project Co recognises this aspect of the Reviewable Design Data process is still to be agreed and further acknowledges the practicalities for the Board co-ordinating and undertaking the reviews of Reviewable Design Data. Project Co shall ensure that no changes to the first month of each revised 3 month programme shall be made without the prior approval of the Board, and the Board shall approve or reject any Project Co proposal for such a change within 5 Business Days of receipt of the Project Co proposal, failing which the Board shall be deemed to have approved the change.

Project Co shall take reasonable endeavours to sequence the release of information in a manner so as to mitigate the volume of parallel reviews required to be undertaken by the Board pursuant to the Review Procedure.

Ref	Sample	Drawing	Other	Description	Project Co to submit by:	Board to review by:
A				<b>GENERAL INFORMATION</b>		
A1			*	Room Data Sheets (including upper load limits for heavy equipment).		
A2		*		Entrance areas		
A3		*		1:100 detailed landscape plans for all areas including courtyards showing levels, surface finishes, planting details, kerbs, paths and lighting for works both within red		



Ref	Sample	Drawing	Other	Description	Project Co to submit by:	Board to review by:
				line boundary and out with including any visual screening, security details and maintenance access. To include extent, type and location of all external equipment.		
A4		*		1:100 general arrangement floor plans, and sections		
A5	*	*		1:50 details of building envelope in conjunction with 1:50 sections through all external systems/ components particularly at interfaces, changes in plane and junctions. (Note – full size mock ups of key envelope areas to be provided on site.) Also same info for basement and sub structure.		
A6		*		1:50 Loaded room & corridor layouts to include all building services outlets and equipment, showing reflected ceiling plans, internal wall elevations and floor plans.		
A7	*	*	*	1:100 Interior Design & Wayfinding layouts supported by 3D coloured visualisations and materials sample boards sufficient to illustrate in detail the interior design and wayfinding proposals for all areas of the Facilities, including details of where artwork is to be incorporated.		
A8		*		1:200 fire strategy plans – showing all fire compartments, sub compartments, Fire brigade access routes, hazard rooms, fire doors, fire escape doors and routes, call points, detectors, fire extinguishers, emergency lighting, fire dampers, fire hydrant locations, dry riser inlet and outlet points, smoke extract locations and compliance with Firecode.		
A9		*		1:100 elevations and details of window glazing and opening lights types and locations		
A10	*	*		1:50 glazing details, 1:50 sections and full size mock ups of glazing systems to be provide on site.		

Ref	Sample	Drawing	Other	Description	Project Co to submit by:	Board to review by:
A11		*	*	1:100 roof plan with details of rooflights and other roof terminations. Comprehensive specification and details of all proposed roofing systems to be provided.		
A12		*		1:100 sections and 1:50 sections		
A13		*		Loading floor plans and elevations including details of strong routes. Upper load limits for heavy equipment as per Room Data Sheets. Maximum allowable structural deflections, differential settlement, vibration and specific tolerances of areas. (structural)		
A14			*	Detailed specifications for all mechanical and electrical components		
A15			*	List of proposed manufacturers, products, materials and equipment proposed.		
A16		*		Entrance canopy and covered walkway plans and details		
A17		*		Main entrance details		
A18	*			Facing bricks		
A19	*			Facing blocks		
A2-0	*			Cladding - all types		
A21	*		*	Window types		
A22	*		*	Roofing materials		
A23	*		*	Internal wall, column and ceiling linings including details of screening to rooms containing radiology or emitting ionising radiations, field protection around MRI installations and screening to rooms containing EEG or evoked potential recordings equipment.		
A24	*	*	*	Bespoke joinery		
A25			*	External doors		
A26	*		*	Door signage - NHS standard		
A27		*	*	Balustrade		
A28			*	Plaster/render		
A29	*			General floor finishes		
A30	*		*	Painting and decorating		
A31	*		*	Sanitary fittings including schedule		
A32			*	Drainage materials		
A33	*			All light fittings		
A34	*			In patient radiator/valve		

Ref	Sample	Drawing	Other	Description	Project Co to submit by:	Board to review by:
A35	*		*	Typical bed head assembly with patient call, etc.		
A36	*			Typical switches/sockets		
A37	*		*	Typical smoke detector etc		
A38	*		*	Vent, grill & diffuser		
A39		*		Location of all structural movement joints.		
A40		*		Road, car park and footpath design, materials and layout including fire fighting appliance access, Details of pedestrian crossings, road and car park markings.		
<b>A41</b>	*	*	*	Works of art being included in the project including details of associated artists and samples of work.		
<b>A42</b>		*	*	Drawings and report indicating the adaptability strategy incorporated in the proposals.		
<b>A43</b>		*	*	Drawings and report on the demolition methodology being proposed.		
<b>A44</b>		*	*	Full details of helipad and associated procedures.		
<b>A45</b>		*	*	Details for the control of infection		
<b>B</b>				<b>SPECIFIC PROPOSALS</b>		
B1	*	*	*	Nurse call/communication system including Panic Alarm		
B2	*	*	*	Security installations (inc sample of CCTV cameras)		
<b>C</b>				<b>ELEMENTAL INFORMATION</b>		
C1	*	*	*	Internal doors and screens		
C2	*	*	*	Ironmongery schedule, samples and lock suiting including details of card access system		
C3	*		*	Finishes schedule		
C4	*		*	Schedule and details of furniture and fittings		
<b>D</b>				<b>FLOOR FINISHES</b>		
D1	*			Sheet finishes & skirtings		
D2	*			Carpets		
D3	*			Ceramic tiling		
D4	*			Dirt arresting floor coverings/ mats		
D5	*			Resin flooring & skirtings		

Ref	Sample	Drawing	Other	Description	Project Co to submit by:	Board to review by:
<b>E</b>				<b>CEILING FINISHES</b>		
E1	*			Suspended – grid and tile types		
E2			*	Plasterboard		
E3	*			All other ceiling types		
		*		Access Hatches		
<b>F</b>				<b>WALL FINISHES</b>		
F1	*			Decorations		
F2	*			Ceramic tiling		
F3	*			Vinyl Sheet		
F4	*	*		Wall/corner protection		
<b>G</b>				<b>FIXTURES &amp; FITTING</b>		
G1	*		*	Taps – all types		
G2	*	*	*	Touchdown bases		
G3	*	*	*	Reception counters		
G4	*		*	Office workstations		
G5	*		*	External/Internal signage		
G6	*		*	Light switches and sockets		
G7	*			Luminaires		
G8	*		*	Work benches/work surfaces		
G9	*	*	*	Bed head arrangement and patient call		
G10	*		*	Cubicle curtain track		
G11	*		*	Blinds		
G12	*	*	*	Equipment tagging		
G13	*	*		Anti ligature fixtures & fittings		
<b>H</b>				<b>ENGINEERING SERVICES</b>		
The following for mechanical and electrical engineering Reviewable Design Data shall be provided. This will encompass the design, size, location and interface with existing, phasing and temporary provision in schematic format with respect to the following;						
H1		*	*	Boiler/primary heating distribution		
H2		*	*	Hot and cold domestic water storage and distribution		
H3		*	*	hv and lv electrical distribution		
H4		*	*	Standby generators		
H5		*	*	Fire alarms and detection system		
H6		*	*	Nurse call system		
H7		*	*	CCTV/security system		
H8		*	*	Air handling systems		
H9		*	*	Lifts/transportation samples and visualisations of typical lift required.		
H10		*	*	Controls / BMS including details of graphic representations and associated tutorial software..		

Ref	Sample	Drawing	Other	Description	Project Co to submit by:	Board to review by:
H11		*	*	Voice & Data		
H12		*	*	Pneumatic tube system		
1:200 Primary distribution for all areas indicating main distribution routes and plant locations with respect to the following:						
I1		*		LPHW heating		
I2		*		Domestic water services		
I3		*		Ventilation		
I4		*		Lighting and power		
I5		*		Fire alarms		
I7		*		Voice & data		
I8		*		Nurse call		
I9	*	*		Patient tagging		
I10		*		Pneumatic tube system		
1:50 Detail layouts for all areas for the following						
J1		*		Plant rooms and supporting schematics		
J2		*		Heating		
J3		*		Domestic water services		
J4		*		Ventilation		
J5		*		Lighting & power		
J6		*		Fire alarms		
J7		*		Voice and data		
J8		*		Nurse call		
J9		*		Security/CCTV		
J10		*		Personal alarms		
J11		*		Sprinklers		
J12		*		Lightning protection		
J13		*		Pneumatic tube system		
J14		*		Infrared systems and induction loops		
J15		*		Proposed voids above ceilings and safe points of access.		
J16		*		Door access system		
1:500 external services drawing indicating all new works and site modifications, routes of all new and diverted services relating to the following:						
K1		*		Natural gas		
K2		*		Electrical supplies		
K3		*		Water supplies		
K4		*		Street lighting car park lighting		
K5		*		Foul and surface water drainage		
K6		*		Fire alarms		
Such supporting calculations, schedules and information, as requested by the Board to support items above.						



Ref	Sample	Drawing	Other	Description	Project Co to submit by:	Board to review by:
Elevational information related to fully loaded plans for complex areas						
L1		*		Voice & data communication		
<b>M</b>						
<b>ENGINEERING SERVICES</b>						
The following for civil and structural engineering Reviewable Design Data shall be provided. This will encompass the design, size, location and interface with existing, phasing and temporary provision in document and drawing formats with respect to the following;						
M1			*	Piling Specification		
M2			*	Concrete Specification		
M3			*	Steelwork Specification		
M4			*	Civil Specification		
M5			*	Civil Specification – Scottish Water		
M6			*	Bulk Earthworks Specification		
1:200 Plan Drawings showing loading information						
N1		*		Basement Loading Plan		
N2		*		Ground Floor Loading Plan		
N3		*		First Floor Loading Plan		
N4		*		Second Floor Loading Plan		
N5		*		Third Floor Loading Plan		
N7		*		Fourth Floor Loading Plan		
N8		*		Fifth Floor Loading Plan		
1:200 Structural Drawings						
O1		*		Pile Layout GA		
O2		*		Basement GA Plan		
O3		*		Ground Floor GA Plan Sheet 1		
O4		*		Ground Floor GA Plan Sheet 2		
O5		*		First Floor GA Plan		
O6		*		Second Floor GA Plan		
O7		*		Third Floor GA Plan		
O8		*		Fourth Floor GA Plan		
O9		*		Fifth Floor GA Plan		
1:200 Civil Drawings						
P1		*		Foul Water ground Floor Drainage Plan Sheet 1		
P2		*		Foul Water ground Floor Drainage Plan Sheet 2		
P3		*		Foul Water ground Floor Drainage Plan Sheet 3		
P4		*		Basement Foul Water Drainage Plan Sheet 1		
P5		*		Scottish Water Sewer Diversion - Drainage Plan		
1:250 Civil Drawings						

Ref	Sample	Drawing	Other	Description	Project Co to submit by:	Board to review by:
Q1		*		Surface Water Underground Attenuation Systems	1:250	
1:500 Civil Drawings						
R1		*		Surface Water Underground Drainage Plan Sheet 1		
R2		*		Surface Water Underground Drainage Plan Sheet 2		
R3		*		Surface Water Underground Drainage Plan Sheet 3		
R4		*		Pavement Plan Sheet 1		
R5		*		Pavement Plan Sheet 2		
R6		*		Pavement Plan Sheet 3		
R7		*		Underground Surface Water SUDS Treatment Systems		
Civil Drawings with no scale						
S1		*		Early Works - Bus Layby Road Works Plan		
Civil Drawing Details with various scale (1:10, 1:20, 1:50)						
T1		*		Substructure Sections and Details Sheet 1		
T2		*		Substructure Sections and Details Sheet 2		
T3		*		Superstructure Sections and Details Sheet 1		
T4		*		Pavement Details Sheet 1		
T5		*		Early Works - Road Works Details		
T6		*		Basement Drainage Details Sheet 1		
T7		*		Drainage Details Sheet 1		
T8		*		Drainage Details Sheet 2		
T9		*		Drainage Details Sheet 3		
T10		*		Drainage Details Sheet 4		
T11		*		Scottish Water Sewer Diversion - Drainage Details		
Other Civil and Structural Engineering Comments						
U1			*	Design Note 18		
U2		*		Dewatering Sub Contractor Drawings		
U3			*	Project Co GIR		
U4		*	*	Vibration limitations on structural slabs		
U5		*		Structural Steel work and reinforced concrete Elevation and Section		

Ref	Sample	Drawing	Other	Description	Project Co to submit by:	Board to review by:
				drawings sufficient to identify (in conjunction with the slab drawings) the structural detail.		

**Part 4: Non-Approved Project Co's Proposals Design Data comments:**

Project Co shall submit and the Board shall review the following Board comments in respect of relevant Project Co's Proposals (which shall be deemed to be Reviewable Design Data) not approved at Financial Close given that such Reviewable Design Data only received a Level C or Level D at Financial Close, with such Project Co submission addressing the following Board comments in relation to such Reviewable Design Data.

These Board comments shall be incorporated into each relevant item of Design Data (which shall primarily relate to drawings accompanying the relevant Project Co's Proposals) by Project Co and the drawings shall be submitted by Project Co to the Board through Schedule Part 8 (*Review Procedure*).

If Project Co considers that the Board comments below on any of the items listed in this Part 4 amount to a Change, Project Co shall, before complying with the comments and resubmitting the Endorsed RDD, notify the Board of the same and, if it is agreed by the parties or determined pursuant to Schedule Part 20 (*Dispute Resolution Procedure*) that a Change would arise if the comments were complied with, the Board may, if it wishes, implement the Change and it shall be dealt with in accordance with Schedule Part 16 (*Change Protocol*).

Reference	Title	Board Comments
Project Co Proposal Section 4.3	Construction Methodology	<p>Project Co shall provide Room Mock-ups in accordance with Paragraph 5.5 of the Board's Construction Requirements. The mock-ups are to be fully completed and ready for review and inspection within 6 months of Financial Close.</p> <p>The mock-ups will be constructed in locations to be agreed with the Board, failing which the mock-ups may be constructed as discrete units within the site boundary. If Project Co is unable to construct the mock-ups within the site boundary, they may be constructed, with the agreement of the Board, outwith the site boundary but no more than 5 miles from the RIE Campus.</p> <p>Project Co shall ensure that the proposed remediation measures at the Petrol Station will be sufficient for safe habitation and use of the site for temporary office accommodation.</p> <p>Project Co shall provide a schedule of deliveries and other construction traffic on a weekly basis to the Board so that conflicts with other campus movements are avoided.</p>

Project Co Proposal Section 4.4	Architectural and Landscaping	<p>Anti Ligature:</p> <p>HLM-SZ-00-PL-330-100 03 ANTI-LIGATURE PROPOSALS, in addition to the areas in CAMHS and the Mental Health Exam Room in A1, Project Co shall ensure the following rooms have anti-ligature fittings. G-A2-044, 1-L1-015, 2-L2-010, 2-L2-142 and 3-C1.1-058.</p> <p>Project Co shall ensure the following rooms have plasterboard ceilings – G-F1-022, G-F1-023, G-F1-026, G-F1-027, G-F1-47 and G-F1-048.</p> <p>Proximity Parking:</p> <p>HLM-Z0-00-PL-700-021 03 Landscape GA - Hospital Square. DCN proximity parking layout subject to confirmation in relation to adjacent current and known future RIE MRI scanners. Text adjacent to alternative ED Entrance incorrectly located. Drawing subject to further development with Users and submission as part of RDD.</p> <p>The above comment supersedes the comment on Part 1 of Section 5 RDD of Schedule Part 6 - Construction Matters.</p>
Project Co Proposal Section 4.5	Interior Design and Wayfinding	<p>Project Co shall acknowledge that the integration of the Group 3 furniture and equipment into the interior design is fundamental to the quality of the final interior ambiance of the Facilities and therefore, Project Co shall assist the Board with the selection and co-ordination of that Group 3 furniture and equipment.</p> <p>Project Co shall acknowledge that the facility for patients to personalise their rooms is an important part of the therapeutic process and expects that within the interior design proposals, Project Co shall integrate a dedicated and suitably finished space for children to display their own artwork within their rooms.</p>
Project Co Proposal Section 4.8	Civil and Structural Engineering	<p>Geotechnical and Geoenvironmental Reports :</p> <p>Project Co shall not rely on the Arup/BAM report as referenced in the CGL letters.</p> <p>In accordance with the BCR's, Project Co shall submit to the Board an IHSL GDR and GIR report.</p> <p>Project Co to consider that Ground water at levels above 50m OD were recorded during ground water monitoring as recorded in the factual ground investigation reports.</p> <p>Project Co shall submit the pile testing proposals and the piling contractor testing requirements.</p>



		<p>Pending the issue of the GDR and GIR, the Board reserves the right to comment on the item's raised within these reports including but not limited to ground Gas Protection and Waterproofing measures and the use of contiguous pile wall.</p> <p>Project Co to confirm the basement waterproofing details comply with the BCRs.</p> <p>The Board notes a conflict between the drawings and PCPs with regards to the gas protection. Further discussion required on the provision of gas protection through the RDD process.</p>
Project Co Proposal Section 4.9	Mechanical and Electrical Engineering	<p>Retail Units:</p> <p>Project Co shall provide the retail units with the base build system L1 fire detection.</p> <p>Lothian and Borders police to be replaced with Police Scotland.</p>
Project Co Proposal Section 4.9	Sustainability & Energy Model	Final design model to be submitted through Review Procedure following the finalisation of the Plant selection and system arrangement.
Project Co Proposal Section 4.11	BREEAM	<ul style="list-style-type: none"> <li>• Man 1</li> </ul> <p>- Section 7 (Thermal and Energy Efficiency and Testing Procedure) of Schedule Part 6 (Construction Matters) requires a thermographic survey and seasonal commissioning to be undertaken.</p> <p>Project Co shall undertake a thermographic survey and seasonal commissioning and monitoring.</p> <ul style="list-style-type: none"> <li>• Man 4</li> </ul> <p>- Post Occupation Evaluation (POE) is under investigation, further discussion is required relating to the nature of this investigation.</p> <ul style="list-style-type: none"> <li>• Ene 2</li> </ul> <p>Project Co shall review the strikethrough of item 2, as there is a requirement in the BCR's to sub meter departments e.g. catering and building function areas, retail units.</p> <p>Further discussion required on why Item 2 is not currently targeted.</p> <ul style="list-style-type: none"> <li>• Ene 4</li> </ul> <p>Item 2.12 of section 4.9 M&amp;E PCP states Project Co shall provide "free cooling".</p>

		<p>Further discussion is required on where free cooling is utilised, even if Project Co cannot meet the full BREEAM coverage</p> <ul style="list-style-type: none"> <li>• Ene 5</li> </ul> <p>- This BREEAM scope is for “commercial/industrial sized refrigeration and storage systems”, Project Co responsibility.</p> <p>Further discussions required on whether the new storage can meet the BREEAM standard.</p> <ul style="list-style-type: none"> <li>• LE5</li> </ul> <p>Further discussion required on why item 5 is not achievable.</p>
Project Co Proposal Section 4.12	Fire Strategy	<p>Project Co shall submit to the Board the items identified in the derogations as requiring further development.</p> <p>Project Co shall also submit through the RDD process, including but not limited to;</p> <ul style="list-style-type: none"> <li>• Means of escape,</li> <li>• Means of Warning,</li> <li>• Fire Spread and Control, and</li> <li>• fire brigade access.</li> </ul>
Project Co Proposal Section 4.13	Acoustic Strategy	<p>2.1.2 Internal Doors ACC005/9 Project Co to delete comment box</p> <p>Project Co to clarify derogation reference. 2.9 (and 4.6.1)</p> <p>ACC0021: Project Co to confirm that absorption will be provided to achieve STI 0.6-0.75 in waiting reception areas with speaking distances greater than 1m.</p> <p>ACC0002/14: Project Co to confirm that with the windows closed the ventilation requirements and acoustic performance shall be achieved.</p> <p>EFTE roof-airborne noise break in: Project Co shall control plant noise at source to avoid excessive break-in through ETFE roof.</p> <p>Energy Centre Façade: Project Co shall confirm that the 50dBA limit will be achieved.</p>

4.14	ICT Strategy	<p>Project Co shall confirm the extent of the blown fibre solution.</p> <p>Information Technology (IT) Equipment and Distribution Systems Point 7 – Project Co shall use the title 'node' rooms.</p>
4.15	Vertical Transportation	<p>Section 3.0 - 4th para - Project Co shall provide FM lifts to serve all floors including Basement.</p> <p>Project Co to review drafting of text in conjunction with tables:</p> <ul style="list-style-type: none"> <li>-Section 4.0 - L4 and L5 Lift types should be 'type 2' lifts with a paragraph ref of 5.4.2. Still down as Type 1.</li> <li>-Section 5.0 - section 5.4.2 - text to read - (Lifts L6, L7, L12, L13 &amp; L14). Number of stops should read 6. States 5.</li> <li>- Section 5.0 - section 5.4.3 - text to read (Lifts L4, L5 &amp; L11). Only refers to L11.</li> <li>- Section 5.0 - section 5.4.4 - delete text ref to L4 &amp; L5. Not deleted</li> </ul> <p>Section 6.0 - penultimate para - '2 x 1000kgs' - this statement is not in accordance with the lift capacities detailed in table in section 4.0 Main Characteristics summary , Project Co to review calculations.</p> <p>Project Co shall procure that the two service yard FM lifts are supplied from separate electrical circuits to maintain services.</p> <p>Project Co has stated 223 in-patient beds, this should state 233.</p>
Project Co Proposal Section 4.16	Commissioning	<p>Section 12 – Retained Estate Hand back Infrastructure</p> <p>The following statement within the PCP is incorrect in the context of this section “Project Co shall comply with the requirements contained in Schedule Part 18 Handback Procedure”. Project Co shall provide details on the commissioning and handover of the Retained Estate Hand back Infrastructure.</p>

		<p>Project Co shall discuss with the Board the interaction of the Independent Tester with reference to the Completion Criteria.</p> <p>Project Co shall incorporate the following comments in the Outline Commissioning Programme, located within Appendix C of Schedule Part 10:</p> <ul style="list-style-type: none"> <li>• Line 6 – should read 6 months prior to PC</li> <li>• Line 7 – Project Co shall give notice to IT and Board</li> <li>• Line 29 – 10 days after</li> <li>• Line 30 – include drawings and 10 days post PC</li> <li>• Line 33 – Project Co shall rectify snagging – timescale incorrect – 10 days not 4 weeks</li> <li>• Line 44 – orientation of staff will take longer than 2 weeks</li> <li>• Line 48-51- not sure what this refers to – we plan to move the services in phases not yet agreed.</li> <li>• Line 40- needs to happen earlier – some in pre-completion phase and rest immediately after PC</li> <li>• Line 38 – very specific and doesn't cover all- make more general</li> <li>• Line 47 - will be happening from handover to first patient starts</li> <li>• Line 18 – agreed we would get earlier notice as delivery of group 2a needs to be in line with closure of areas of the building.</li> <li>• Line 22 - Date for NHS Early access – 3 months before PC and 6 months before first patient.</li> <li>• Line 23 will happen as late in the period prior to first patient but may spill back into early access time.</li> <li>• Very light on FM Services commissioning</li> <li>• Missing information from Outline Commissioning Programme as follows:</li> <li>• Lines for close down of different parts of building – this is important for procurement and installation of group 2B and IT - Dates for access to Board for installation of</li> </ul>
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		<p>IT in sufficient time to procure and install in agreed phases to match close down of different sections of building</p> <ul style="list-style-type: none"> <li>• Line to cover project Co commissioning and staff training on Board Specified Group 1 equipment</li> <li>• Start of Help desk needs identified and needs to be running on completion</li> <li>• Line to cover 20-30 days notice to IT and Board re works complete and completion test date</li> <li>• Line to cover date for Project Co to give notice to Board of date Board entitled to commence pre-completion commissioning- may be the same as early access</li> <li>• Line for IT to issue certificate of practical completion.</li> </ul>
Project Co Proposal Section 4.17	Access Control Strategy	Further discussion with the Board required to confirm access barrier control locations.
Project Co Proposal Section 4.18	Security Strategy	<p>1.3 Staff Safety</p> <p>Project Co shall provide portable staff attack alarms in line with the BCR's, this requirement shall be discussed further through the Review Procedure.</p> <p>Project Co shall provide the facility to lock departments and public toilets when closed or not in use.</p> <p>Project Co shall provide details as to how reception desks are secured when not attended.</p>
Project Co Proposal Section 4.21	Equipment Strategy	<p>The Board notes that the Equipment Schedule Version 7 used at Financial Close and included within Schedule Part 11 Equipment does not reflect the corrections and updates previously shared with Project Co on drawings or via Aconex and further development is required.</p> <p>Specific equipment responsibilities in areas with specialist fit out will require to be developed further as part of RDD to ensure clarity of roles and responsibilities between Project Co and the Board.</p>
Project Co Proposal Section 4.23	Specifications	<p>MECHANICAL &amp; ELECTRICAL SPECIFICATION</p> <ul style="list-style-type: none"> <li>• Specifications are generic NBS specifications and do not identify if each specification is to be used on this project or for which service it is intended to provide e.g. DHW services pipework should include specification for stainless steel pipework and all associated specifications, pumps, valves, insulation etc.</li> </ul>



		<ul style="list-style-type: none"> <li>• These specifications should be reviewed and only relevant specifications submitted, detailing intended service provision. Example:</li> <li>- Specification 320 - Bulk wholesome quality sectional water storage tanks and break tanks will be located within the basement of the hospital building.</li> <li>- Section 4.9 Mechanical &amp; Electrical Engineering Main raw water, filtered clean water and category 5 storage tanks are located within the fourth floor water tank plant room.</li> <li>• There are 752 pages in the M&amp;E specifications which are generic and include the anomalies as above.</li> <li>• All items that are stated as “Submit proposals” shall be submitted by Project Co through the Review Procedure.</li> <li>• Where options are included these need to be refined to actual proposals.</li> </ul>
		<p>CIVIL &amp; STRUCTURAL SPECIFICATION</p> <p>Project Co shall take account the following comments in ongoing discussions with the Board:</p> <ol style="list-style-type: none"> <li>1. Preliminaries and General Conditions have not been provided for review in conjunction with the Piling Specification.</li> <li>2. “Piling Works Document” and “Performance Specification for Construction Noise and Vibration” have not been provided for review.</li> <li>3. Geotechnical Interpretative reports by BAM Construction Ltd. are referenced in the specification. Project Co does not have reliance on these documents and any reference should be removed.</li> <li>4. Drawing reference (RBG-MZ-B1-PL-210-001) noted in sections 280A and 281 does not match the reference of the Pile Layout Drawing (with noted pile loads) provided for review (RBG-SZ-SL-PL-210-101 rev 02). Drawing RBG-MZ-B1-PL-210-001 was not provided.</li> <li>5. It is stated that the piling guarantee is to be 12 years, which is less the design life of the proposed buildings, Project Co to comply with the BCR’s.</li> <li>6. Reference is made to Contract Documents, but these have not been provided for review</li> </ol>

		<p>7. Table B1.2, as referenced in clause 210A does not contain relevant information for review of piling works proposals.</p> <p>The following information is not contained in the Piling Specification.</p> <p>a. Pile Cut Off levels have not been provided</p> <p>b. Proposed pile commencing surface (indicating lengths of pile head trimming) has not been provided</p> <p>RBG-SZ-XX-SP-260-001 Rev 03 Concrete Specification Specification to be resubmitted on the basis that comments have been made on the structural drawings.</p> <p>RBG-SZ-XX-SP-260-002 Rev 01 Steelwork Specification Comments related to structural aspects Specification to be resubmitted on the basis that no steelwork drawings have been made available for review.</p> <p>RBG-SZ-XX-SP-700-001 Rev 03 Civil Specification Comments on geotechnical aspects of the Civil Specification: Q20 – Granular Sub-base to roads/pavings</p> <p>1. Clause 120 – ‘Checking of Subgrade’ refers to Arup GIR for soil conditions, plasticity parameters, design CBRs, Groundwater conditions – Project Co does not have reliance on these documents.</p> <p>2. Clause 140 – Soft spots &amp; voids – no details of action have been provided, i.e. removal and replacement with suitable compacted granular fill</p> <p>3. Clause 210 – Recycled aggregate is permitted – There is no details provided of any other proposed materials source (i.e. quarry or brownfield site source).</p> <p>4. No section confirming materials testing of Type 1 was provided – as per Series 800, cl. 801. Also there are no details of testing frequency.</p> <p>6. Performance testing requirements of sub-base (and sub-grade) have not been provided. Also there are no details of testing frequency i.e. CBR test spacing of sub-grades</p>
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		<p>CIVILS COMMENTS - ALL SECTION R12</p> <p>Clause 110 – No mention of brick manholes.  Clause 135 – All package pump items noted as TBC.  Clause 667 – Bedding – does not comply with the BCR’s.  Clause 667 – Surround – does not comply with the BCR’s  Clause 753 – Step rungs have not been designed in accordance with the BCR’s or Sewers For Scotland standard detail drawing.  Clause 757 – Benching does not comply with the BCR’s</p> <p>RBG-SZ-XX-SP-700-002  Rev 02  Bulk Earthworks Specification / Status C</p> <p>1. General Comment - The scope of proposed earthworks is unclear and difficult to understand based on the information made available.</p> <p>2. General Comment - No earthworks drawings have been provided to support the proposed bulk earthworks specification and scope of works (ie. cut/fill balance, topsoil storage/landscape mounds, final contour plans)</p> <p>3. Section 2.1.1 of the Specification provides a list of documentation to be read in conjunction with the specification of which various sources:</p> <p>a. have not been made available for review (i.e. site topographic survey),</p> <p>b. IHSL do not have reliance on these documents (i.e. BAM/ARUP Geotechnical Interpretative Report) – these documents appear to form the basis of the anticipated ground conditions onsite and subsequent earthworks design.</p> <p>c. All reference to BAM / Arup should be removed. Have been superseded (i.e. CARD Geotechnics Geotechnical Interpretative Report)</p> <p>4. The Scope of Earthworks appears inconsistent as Section 1.2 Scope of Works only references 6N (Structural Fill) fill operations whilst general filling (including starter layers), capping, type 1 filling (sub-base?) and landscaping operations are detailed in sections 2.4.16 to 2.4.20. Further clarification of the full scope of earthworks is required.</p> <p>5. Section 2.3 Disposal of Materials suggests any site-won material not suitable for 6N/6P ‘Hard Fill’ shall be disposed offsite. This statement does not appear to align with other filling operations mentioned later in the document (see above point) and requires further clarification.</p>
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	<p>6. Anticipated cut and fill quantities within the development have not been provided and it is therefore difficult to determine magnitude of potential offsite disposal.</p> <p>7. No material classification has been provided for suitable/permissible general and landscape fill materials. Given the presence of geologically variable and potentially unsuitable materials at the site; clarification of acceptable/unacceptable soil for re-use as fill shall be submitted for the Boards review. The Board would expect this the correspond with the contents of Appendix A.</p> <p>8. Compaction requirements (ie. 95% Maximum dry Density) have not been provided for the Type 1 and Capping 6F1/6F2 materials.</p> <p>9. It is unclear what is meant by '150KPA TBC'. No information has been provided to determine the basis of this value.</p> <p>10. As stated above, we are not aware that shallow foundations will be adopted on site and requires clarification.</p> <p>11. No information has been provided to comment on location and adequacy of 'H' testing locations.</p> <p>12. It is unclear what is meant by 'zone' testing</p> <p>13. It is unclear whether formation level refers to cut/excavated level or finished earthworks/foundation level.</p> <p>14. No details have been provided to confirm performance testing (including density testing) of engineered earthworks layers and final/finished earthworks level.</p> <p>15. Appendix A is unclear and requires following clarifications:</p> <p>a. Table includes reference to geotextiles however it is unclear within the document where this forms part of the works.</p> <p>b. Frequency of testing does not distinguish between imported and site won fill materials.</p> <p>c. Many testing requirements are referenced back to clause 2.4.25 for bearing capacity testing below shallow foundation areas suggesting these may only be applicable within these zones which remain unclear. Project Co to undertake materials and performance testing to apply throughout the earthworks operations</p> <p>d. Specification for Highway Works Table 6/1 &amp; 6/2 extracts do not include for all materials contained within the Testing</p>
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		Requirements Table
Project Co Proposal Section 4.28	Health and Safety	<p>Project Co shall reinstate the commitment that haul roads shall be surfaced in asphalt to minimise the effects of dust generation from traffic.</p> <p>The responsibilities of Project Co's Construction Director shall be stated in line with those given for other appointments.</p> <p>References to the University of Edinburgh Research Centre should simply be University of Edinburgh.</p>
Environmental Matrix		<p>Project Co shall update the Environmental Matrix to reflect the following Board comments</p> <ul style="list-style-type: none"> <li>• The Environmental Matrix shall be updated by Project Co to reflect all the rooms and room types in the proposed Facility, this should be based on an updated Schedule of Accommodation that has been commented on separately by the Board. This also needs to reflect the names and room numbers in the GSU table.</li> <li>• Include the requirements contained in the Clinical Output Specification including but not limited to the requirement that theatre temperatures are to be able to be raised to 31°C for certain operations</li> <li>• Measures shall be assessed, modelled and implemented to demonstrate that the internal air temperature of the following room types to reduce the temperature control from 28°C to 25°C; <ul style="list-style-type: none"> <li>○ Treatment Rooms;</li> <li>○ Consulting Rooms;</li> <li>○ Laboratory;</li> <li>○ Physiotherapy Studio;</li> <li>○ Recovery.</li> </ul> <p>These room shall not exceed the maximum acceptable level of 25°C for more than 50 hours per annum</p> </li> <li>• Detailed proposal awaited on bedroom ventilation to achieve balanced/negative pressure relative to corridor.</li> <li>• Colour rendering all stated as 80 where certain areas should be 90.</li> <li>• There also need to have a consistent approach e.g. guidance notes and ED body view room stated as 28 -8, bereavement suite body view room stated as 25 -8.</li> <li>• Further discussion is required on the minimum</li> </ul>



		temperate requirement for the Body View Room.
Schedule of Accommodation		Project Co shall update the Schedule of Accommodation to reflect all of the individual elements of the proposed Facilities in accordance with Good Industry Practice.

**AGREEMENT**

**between**

**LOTHIAN HEALTH BOARD**

**and**

**IHS LOTHIAN LIMITED**

**RE-PROVISION OF RHSC AND DCN AT LITTLE FRANCE**

**12<sup>th</sup> and 13<sup>th</sup> FEBRUARY 2015**

**macROBERTS**

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ATTACHMENTS

ATTACHMENT 1      FINANCIAL MODEL



**BETWEEN:**

- (1) **LOTHIAN HEALTH BOARD**, a health board constituted in Scotland under the National Health Service (Constitution of Health Boards) (Scotland) Order 1974 (S.I. 1974/267) as amended by the National Health Service (Constitution of Health Boards) (Scotland) Amendment Order 2003 (S.S.I. 2003/217) pursuant to Section 2 of the National Health Service (Scotland) Act 1978 as amended by section 28 of the National Health Service and Community Care Act 1990 and having its principal address at Waverley Gate, 2-4 Waterloo Place, Edinburgh EH1 3EG (the "**Board**"); and
- (2) **IHS LOTHIAN LIMITED** (registered under number SC493676) whose registered office is Burness Paull LLP, 50 Lothian Road, Festival Square, Edinburgh, EH3 9WJ. ("**Project Co**").

**WHEREAS:**

- (A) The Board wishes to develop new facilities on the Site and Off-Site and to consolidate on the Site services currently provided at other locations in order to improve the quality and efficiency of services provided by the Board.
- (B) The Board wishes to procure the design, build, finance and maintenance of a project to re-provide services from the Royal Hospital for Sick Children, Child and Adolescent Mental Health Service and the Department of Clinical Neurosciences in a single building adjoining the Royal Infirmary of Edinburgh at Little France (the "**Project**").
- (C) In accordance with the Scottish Government's NPD initiative, the Board conducted a competitive dialogue to identify the most economically advantageous tender from persons interested in being appointed the Board's private sector partner and forming a NPD company to procure the Project.
- (D) The tender submitted by Project Co has been selected as the most economically advantageous tender.
- (E) This Agreement is entered into pursuant to a project applying principles similar to the principles of the private finance initiative and is excluded from the Housing Grants, Construction and Regeneration Act 1996 by virtue of the Construction Contracts (Scotland) Exclusion Order 1998 (S.I. 1998/686).

**NOW IT IS HEREBY AGREED** as follows:

**PART 1: GENERAL****1. DEFINITIONS AND INTERPRETATION**

Schedule Part 1 (*Definitions and Interpretation*) shall apply.

**2. EXECUTION AND DELIVERY OF DOCUMENTS**

- 2.1 On or prior to execution of this Agreement Project Co shall deliver to the Board the documents referred to in Section 1 (*Documents to be delivered by Project Co*) of Schedule Part 2 (*Completion Documents*) (unless the requirement to deliver any such document is waived by the Board by written notice to Project Co); and
- 2.2 the Board shall deliver to Project Co the documents referred to in Section 2 (*Documents to be delivered by the Board*) of Schedule Part 2 (*Completion Documents*) (unless the requirement to deliver any such document is waived by Project Co by written notice to the Board).

### 3. COMMENCEMENT AND DURATION

This Agreement, and the rights and obligations of the parties, shall commence on the date of execution of this Agreement and, without prejudice to Clause 47.6, shall terminate automatically on the expiry of the Project Term.

### 4. PROJECT DOCUMENTS

#### Ancillary Documents

4.1 Project Co shall perform its obligations under, and observe all of the provisions of, the Project Documents to which it is a party and shall not:

4.1.1 terminate or agree to the termination of all or part of any Ancillary Document;

4.1.2 make or agree to any material variation of any Ancillary Document;

4.1.3 in any material respect depart from its obligations (or waive or allow to lapse any rights it may have in a material respect), or procure that others in any material respect depart from their obligations (or waive or allow to lapse any rights they may have in a material respect), under any Ancillary Document; or

4.1.4 enter into (or permit the entry into by any other person of) any agreement replacing all or part of (or otherwise materially and adversely affecting the interpretation of) any Ancillary Document,

unless the proposed course of action (and any relevant documentation) has been submitted to the Board's Representative for review under Schedule Part 8 (*Review Procedure*) and either:

(a) there has been no objection in accordance with paragraph 3 of Schedule Part 8 (*Review Procedure*) within twenty (20) Business Days of receipt by the Board's Representative of the submission of the proposed course of action (and any relevant documentation), or such shorter period as may be agreed by the parties; or

(b) Project Co is acting in accordance with the comments of the Board as provided in paragraph 4.2 of Schedule Part 8 (*Review Procedure*);

and, in the circumstances specified in Clause 4.1.1, Project Co has complied with Clause 57 (*Assignment and Sub-contracting*).

#### Changes to Funding Agreements and Refinancing

4.2 Subject to Clauses 4.3, 4.4 and 4.5, Project Co shall be free, at any time, to enter into, terminate, amend, waive its rights and generally deal with its Funding Agreements on such terms and conditions as it sees fit without the prior written consent of the Board provided that (at the time such action is contemplated and

effected) the same will not materially and adversely affect the ability of Project Co to perform its obligations under the Project Documents or this Agreement.

- 4.3 No amendment, waiver or exercise of a right under any Funding Agreement or Ancillary Document shall have the effect of increasing the Board's liabilities on early termination of this Agreement unless:
- 4.3.1 Project Co has obtained the prior written consent of the Board to such increased liability for the purposes of this Clause 4.3; or
- 4.3.2 it is a Permitted Borrowing.
- 4.4 Project Co shall not, without the prior written consent of the Board for the purposes of this Clause 4.4, vary, amend or replace any Funding Agreement or enter into any new Funding Agreement, the effect of which is to:
- 4.4.1 change the circumstances in, or conditions on, which Project Co is entitled or obliged to make payments into the Surplus Account; and/or
- 4.4.2 change the circumstances in, or conditions on, which Project Co is entitled or obliged to make Surplus Payments.
- 4.5 Any amendment or variation of any Funding Agreements which constitutes a Refinancing shall be carried out in accordance with the provisions of Schedule Part 23 (*Refinancing*).
- 4.6 Without prejudice to Clause 4.2, Project Co shall liaise with the Board, and shall use all reasonable endeavours to provide the Board with a copy of the relevant agreement in settled draft form, not less than ten (10) Business Days before it enters into any Funding Agreement (other than the Initial Funding Agreements).

#### **Delivery**

- 4.7 Without prejudice to the provisions of this Clause 4 (*Project Documents*), if at any time an amendment is made to any Project Document, or Project Co enters into a new Project Document (or any agreement which affects the interpretation or application of any Project Document), Project Co shall deliver to the Board a conformed copy of each such amendment or agreement within ten (10) Business Days of the date of its execution or creation, certified as a true copy by an officer of Project Co.

#### **Funding Default**

- 4.8 Project Co shall promptly upon the occurrence of a Funding Default notify the Board of such Funding Default.
- 4.9 The Board may, in circumstances referred to in Clause 4.8 above (regardless of whether the Senior Funders have exercised any enforcement or similar rights under the Senior Funding Agreements), require Project Co to provide an Interim

Project Report and to attend, and use all reasonable endeavours to ensure that the Senior Funders attend, such meetings as the Board may convene to discuss such Interim Project Report and the circumstances giving rise to it.

- 4.10 Project Co shall promptly upon a failure by the Senior Funders to advance amounts due under the Senior Funding Agreements (or in circumstances that might reasonably be expected to lead to such a failure) notify the Board of such failure (or expected failure).
- 4.11 The Board may, in the circumstances referred to in Clause 4.10 above, require Project Co to attend, and use all reasonable endeavours to ensure that the Senior Funders attend, such meetings as the Board may convene to discuss the circumstances.

## 5. THE PROJECT OPERATIONS

### Scope

- 5.1 Subject to and in accordance with the provisions of this Agreement, Project Co shall perform its duties under this Agreement at its own cost and risk without recourse to the Board except as otherwise expressly provided in this Agreement.

### General standards

- 5.2 Project Co shall at its own cost be solely responsible for procuring that the Project Operations are at all times performed:
- 5.2.1 in compliance with all Law and Consents (including without limitation the giving of notices and the obtaining of any such Consents) and so as not to prejudice the renewal of any such Consents;
  - 5.2.2 in a manner that is not likely to be injurious to health or to cause damage to property;
  - 5.2.3 in a manner consistent with the Quality Plans;
  - 5.2.4 except to the extent expressly stated to the contrary in the Board's Construction Requirements or the Service Level Specification, in compliance with all applicable NHS Requirements;
  - 5.2.5 in a manner consistent with the Board discharging its statutory duties and other functions undertaken by it as the same may be notified to Project Co from time to time;
  - 5.2.6 in so far as not in conflict with an express obligation of Project Co under this Agreement, or where in relation to a matter there is no express obligation or standard imposed on Project Co under this Agreement, in accordance with Good Industry Practice; and

- 5.2.7 without prejudice to the foregoing generality, where any of the Project Operations are to be carried out on any part of the Retained Site and/or the Retained Estate in compliance with the reasonable requirements of the Board, which Project Co acknowledges may include the reasonable requirements of Consort and/or the University and/or other parties with an interest in the Retained Site and/or Retained Estate (such reasonable requirements shall be, for the avoidance of doubt, always to be communicated to Project Co by the Board) and PROVIDED ALWAYS that where, in the reasonable opinion of Project Co such requirements would give rise to it incurring material additional costs (which, in respect of the Construction Phase or the correction of Defects or Snagging Matters, shall be additional costs of five thousand pounds (£5,000) or more per reasonable requirement), Project Co shall require the Board to serve a Board Change Notice on Project Co in accordance with Clause 33 (*Change Protocol*) and Schedule Part 16 (*Change Protocol*) and Project Co shall not be obliged to comply with such requirements other than in accordance with the provisions of Schedule Part 16 (*Change Protocol*).

In the event that any ambiguity, uncertainty, dispute or discrepancy arises in the nature and scope of Project Co's obligations under this Clause 5.2 (*General Standards*), the provisions of this Clause 5.2 (*General Standards*) will be given meaning and have effect in descending order of precedence set out in this Clause 5.2 (*General Standards*).

### **Board's Undertaking**

- 5.3 The Board undertakes to Project Co that it shall:
- 5.3.1 subject to the provisions of this Agreement, comply with all Laws, NHS Requirements and Consents applicable to it which relate to the Project Operations;
  - 5.3.2 not wilfully impede Project Co in the performance of its obligations under this Agreement (having regard always to the interactive nature of the activities of the Board and of Project Co and to the Board's use of the Facilities, the Retained Estate Handback Infrastructure and/or the Retained Estate to provide the relevant Board Services and any other operations or activities carried out by the Board on or at the Site, Off-Site and/or the Retained Site for the purposes contemplated by this Agreement and any other of the Board's statutory functions);
  - 5.3.2 inform Project Co as soon as reasonably practicable if at any time it becomes unable to meet any of its financial obligations and in such case inform, and keep Project Co informed, of any course of action to remedy the situation recommended or required by the Scottish Government, the Board or other competent authority; and
  - 5.3.3 to the extent permitted by Law, supply to Project Co within sixty (60) Business Days of their publication, a copy of the Board's Annual Report and Accounts,

provided that, to avoid doubt, nothing in this Clause 5.3 (*Board's Undertaking*) shall in any



way fetter the discretion of the Board in fulfilling its statutory functions.

### **Co-operation**

- 5.4 Each party agrees to co operate, at its own expense, with the other party in the fulfilment of the purposes and intent of this Agreement. To avoid doubt, neither party shall be under any obligation to perform any of the other's obligations under this Agreement.
- 5.5 Without prejudice to the generality of Clause 5.4, the parties shall liaise with a view to ensuring that the requirements of The NHS and You and any other NHS requirement relating to customer service and satisfaction which may from time to time supplement or replace The NHS and You are met in respect of the operation of the Facilities.
- 5.6 Without prejudice to the binding contractual obligations set out in this Agreement, the Parties recognise and agree that the partnering ethos, principles and objectives described and set out in Section 4.30 (*Partnering and Collaborative Working*) of Project Co's Proposal and/or Section 1.3 (*Partnership*) of the Method Statements are aspirational and shall not and are not intended to give rise to legally binding rights and obligations between the Parties.

### **Board Works**

- 5.7 Notwithstanding the terms of Schedule Part 5 (*Land Matters*), the Board shall carry out and complete each element of:-
- 5.7.1 Board Enabling Works in accordance with the requirements and timescales corresponding to that element as set out in Section 1 (*Board Enabling Works*) of Schedule Part 30 (*Board Works*).
- 5.7.2 the Board Neighbouring Works in accordance with the requirements and timescales corresponding to that element as set out in Section 2 (*Board Neighbouring Works*) of Schedule Part 30 (*Board Works*).

## **6. GENERAL OBLIGATIONS AND RESPONSIBILITIES OF PROJECT CO**

### **Other business**

- 6.1 Project Co shall not engage in any business or activity other than the business or activities related to, and conducted for, the purpose of the Project Operations.

### **Project Co Parties**

- 6.2 Subject to the provision of Clause 30.1.7 (*Force Majeure*), Project Co shall not be relieved or excused of any responsibility, liability or obligation under this Agreement by the appointment of any Project Co Party. Project Co shall, as between itself and the Board, be responsible for the selection, pricing, performance, acts, defaults, omissions, breaches and negligence of all Project Co

Parties. All references in this Agreement to any act, default, omission, breach or negligence of Project Co shall be construed accordingly to include any such act, default, omission, breach or negligence of a Project Co Party.

### **Safety**

- 6.3 Project Co shall, in carrying out the Project Operations, have full regard for the safety of all persons on the Site, the Retained Site and/or Off-Site (whether lawfully or not) and keep the Site and/or Off-Site, the Works and the Facilities in an orderly state, appropriate in accordance with Good Industry Practice, to avoid danger to such persons.

## **7. BOARD'S DATA**

### **No liability**

- 7.1 Save where expressly provided otherwise pursuant to Clauses 10.3 to 10.5, (*Responsibility for Contamination*), the Board shall not be liable to Project Co for and Project Co shall not seek to recover from the Board (or from any Board Party) any damages, losses, costs, liabilities or expenses which may arise (whether in contract, delict or otherwise) from the adoption, use or application of the Disclosed Data by, or on behalf of, Project Co, the Independent Tester or any Project Co Party.

### **No warranty**

- 7.2 The Board gives no warranty or undertaking of whatever nature in respect of the Disclosed Data and, specifically (but without limitation), the Board does not warrant that the Disclosed Data represents all of the information in its possession or power (either during the conduct of the tender process for the Project or at the time of execution of this Agreement) relevant or material to or in connection with the Project or the obligations of Project Co under this Agreement or under any of the Project Documents. In addition, the Board shall not be liable to Project Co in respect of any failure to disclose or make available to Project Co (whether before, on or after the execution of this Agreement) any information, documents or data, nor any failure to review or to update the Disclosed Data, nor any failure to inform Project Co (whether before, on or after execution of this Agreement) of any inaccuracy, error, omission, defects or inadequacy in the Disclosed Data.

- 7.3 Project Co acknowledges and confirms that:

7.3.1 it has conducted its own analysis and review of the Disclosed Data and has, before the execution of this Agreement, satisfied itself as to the accuracy, completeness and fitness for purpose of any such Disclosed Data upon which it places reliance; and

7.3.2 save where expressly provided otherwise pursuant to Clauses 10.3 to 10.5 (*Responsibility for Contamination*), it shall not be entitled to and shall not (and shall procure that no Project Co Party shall) make any claim against the Board or any Board Party whether in contract, delict or otherwise including, without limitation, any claim in damages, for extensions of time or for additional payments under this Agreement on

the grounds:

- (a) of any misunderstanding or misapprehension in respect of the Disclosed Data; or
- (b) that incorrect or insufficient information relating to the Disclosed Data was given to it by any person, whether or not a Board Party,

nor shall Project Co be relieved from any obligation imposed on, or undertaken by it, under this Agreement on any such ground.

## 8. REPRESENTATIVES

### Representatives of the Board

- 8.1 The Board's Representative shall be Brian Currie or such other person appointed pursuant to this Clause. The Board's Representative shall exercise the functions and powers of the Board in relation to the Project Operations which are identified in this Agreement as functions or powers to be carried out by the Board's Representative. The Board's Representative shall also exercise such other functions and powers of the Board under this Agreement as may be notified to Project Co from time to time.
- 8.2 The Board's Representative shall be entitled at any time, by notice to Project Co, to authorise any other person to exercise the functions and powers of the Board delegated to him pursuant to this Clause, either generally or specifically. Any act of any such person shall, for the purposes of this Agreement, constitute an act of the Board's Representative and all references to the "**Board's Representative**" in this Agreement (apart from this Clause) shall be taken as references to such person so far as they concern matters within the scope of such person's authority.
- 8.3 The Board may by notice to Project Co change the Board's Representative. The Board shall (as far as practicable) consult with Project Co prior to the appointment of any replacement for the Board's Representative, taking account of the need for liaison and continuity in respect of the Project. Such change shall have effect on the date specified in the written notice (which date shall, other than in the case of emergency, be such date as will not cause material inconvenience to Project Co in the execution of its obligations under this Agreement).
- 8.4 During any period when no Board's Representative has been appointed (or when the Board's Representative is unable through illness, incapacity or any other reason whatsoever to carry out or exercise his functions under this Agreement) the Board shall carry out the functions which would otherwise be performed by the Board's Representative.
- 8.5 No act or omission of the Board, the Board's Representative or any officer, employee or other person engaged by the Board shall, except as otherwise expressly provided in this Agreement:
- 8.5.1 in any way relieve or absolve Project Co from, modify, or act as a

waiver or personal bar of, any liability, responsibility, obligation or duty under this Agreement; or

- 8.5.2 in the absence of an express order or authorisation under Schedule Part 16 (*Change Protocol*), constitute or authorise a Change.
- 8.6 Except as previously notified in writing before such act by the Board to Project Co, Project Co and Project Co's Representative shall be entitled to treat any act of the Board's Representative which is authorised by this Agreement as being expressly authorised by the Board and Project Co and Project Co's Representative shall not be required to determine whether an express authority has in fact been given.

### **Representative of Project Co**

- 8.7 Project Co's Representative shall be Wallace Weir or such other person appointed pursuant to Clause 8.8. Project Co's Representative shall have full authority to act on behalf of Project Co for all purposes of this Agreement. Except as previously notified in writing before such act by Project Co to the Board, the Board and the Board's Representative shall be entitled to treat any act of Project Co's Representative in connection with this Agreement as being expressly authorised by Project Co and the Board and the Board's Representative shall not be required to determine whether any express authority has in fact been given.
- 8.8 Project Co may by notice to the Board change Project Co's Representative. Where Project Co wishes to do so, it shall by written notice to the Board propose a substitute for approval, taking account of the need for liaison and continuity in respect of the Project. Such appointment shall be subject to the approval of the Board (not to be unreasonably withheld or delayed).
- 8.9 Project Co's Key Works Personnel are identified in Schedule Part 3 (*Key Works Personnel*). Project Co shall, as far as it is within Project Co's control, ensure that such persons retain their involvement in the Works and, in particular, will not, for the duration of the Works, require or request any of them to be involved in any other project on behalf of Project Co or any of the Shareholders or its or their Associated Companies if, in the reasonable opinion of the Board, this would adversely affect the Project.

### **Board Observer**

- 8.10 Project Co shall, subject to Clauses 8.11 to 8.13, ensure that the Board Observer:

8.10.1 is invited to attend all Project Co board meetings;

8.10.2 receives at or around the time that they are received by Project Co's board members) the agendas and supporting papers that are circulated to the board members in advance of the board meetings or tabled at the board meetings including, without prejudice to the foregoing generality, six-monthly management accounts, budgets and management reports (including explanations of material variances against budget) and the statutory accounts in respect of each financial year;

- 8.10.3 is permitted by Project Co to attend and participate (but not vote at) all Project Co board meetings; and
- 8.10.4 receives (at or around the same time as they are received by the board members) copies of the minutes of Project Co's board meetings and all other financial information relating to Project Co as any Director might reasonably require to keep himself properly informed about the activities of Project Co.
- 8.11 The Board Observer shall, unless otherwise determined by a board resolution in respect of any particular matter, be entitled to disclose any information received pursuant to Clause 8.10 subject to and in accordance with the provisions of Clause 61 (*Confidentiality*) and the Board shall procure that the individual appointed to fulfil such role executes suitable undertakings of confidentiality to comply with the terms of Clause 61 (*Confidentiality*).
- 8.12 Project Co, acting reasonably, shall be entitled to exclude the Board Observer from attending Project Co's board meetings and withhold the agendas and supporting papers referred to in Clause 8.10:
- 8.12.1 in the event that the Board Observer discloses information received pursuant to Clause 8.10 other than in accordance with Clause 8.11; or
- 8.12.2 where and for so long as the conduct of the Board Observer is inappropriate.
- 8.13 Project Co shall be entitled to exclude the Board Observer from attending any part of a Project Co board meeting at which:
- 8.13.1 the exercise or purported exercise of contractual rights by Project Co against the Board or by the Board against Project Co; or
- 8.13.2 any claims or potential claims by Project Co against the Board or by the Board against Project Co; or
- 8.13.3 any matter of interpretation of this Agreement,
- is discussed and shall be entitled to withhold from the Board any supporting papers and information to the extent that they relate to the matters listed in Clauses 8.13.1 to 8.13.3.

## 8A LITTLE FRANCE CAMPUS WORKING GROUP

- 8A.1 The Board, Consort and the University have established a working group to discuss operational Campus Site and Campus Facilities issues (the "**Little France Campus Working Group**").
- 8A.2 The Little France Campus Working Group shall be attended by the Little France Working Group Parties who shall be obliged to attend any meeting of the Little France Working Group during the Project Term.



- 8A.3 The functions of the Little France Campus Working Group shall be:
- 8A.3.1 to provide means for the review of day to day aspects of the health and safety issues relating to the Campus Site and the Campus Facilities;
  - 8A.3.2 to provide a forum for strategic discussion relating to where improvements could be made to facilitate improved health and safety arrangements within the Campus Site and the Campus Facilities; and
  - 8A.3.3 to monitor and review the Programme to ensure that correct health and safety procedures are adhered to.
- 8A.4 Project Co shall submit to the Board's Representative four (4) Business Days prior to the date of each meeting (except where a meeting is called in an emergency in which case a report will be provided as soon as reasonable in the circumstances) a safety programme, which shall include safety measures to be undertaken by Project Co up to the date of such meeting.
- 8A.5 The role of the Little France Campus Working Group is to make recommendations to the Little France Campus Working Group Parties, which they may accept or reject at their complete discretion. Neither the Little France Campus Working Group itself, nor the Little France Campus Working Group Parties acting in that capacity shall have the authority to vary the provisions of this Agreement or to make any decision which is binding on all of the Little France Campus Working Group Parties. Neither the Board nor Project Co shall rely on any act or omission of the Little France Campus Working Group, nor any Little France Campus Working Group Parties acting in that capacity, so as to give rise to any waiver or personal bar in respect of any right, benefit of obligation of either party.
- 8A.6 Project Co shall appoint and remove its relevant representative of the Little France Campus Working Group and/or alternative by written notice delivered to the Board. If such representative and/or alternate is unavailable to attend then Project Co must issue a report to the Board four (4) Business Days before the relevant meeting of the Little France Campus Working Group setting out any significant health and safety and/or risk management issues within the Site and/or Facilities since the previous meeting, together with the safety programme referred to in Clause 8A.4.

#### **Procedures and practices**

- 8A.7 Subject to the provisions of this Agreement, the Little France Campus Working Parties may adopt such procedures and practices for the conduct of the activities of the Little France Campus Working Group as they consider appropriate from time to time and:
- 8A.7.1 may invite to any meeting of the Little France Campus Working Group such other persons as the Little France Campus Working Group Parties may agree; and
  - 8A.7.2 receive and review a report from any person agreed by its members.
- 8A.8 The Little France Campus Working Group shall meet at least once each month (unless otherwise agreed by its members) and from time to time as necessary.
- 8A.9 Not Used
- 8A.10 Meetings of the Little France Campus Working Group shall be convened by any Little France Working Group Party on not less than seven (7) Business Days notice (identifying the agenda items to be discussed at the meeting) provided that in emergencies a meeting may be called at any time on such notice as may be reasonable in the circumstances.

- 8A.11 Where the Little France Campus Working Group decides it is appropriate, meetings may also be held by telephone or another form of telecommunication, by which each participant can hear and speak to all other participants at the same time.
- 8A.12 Minutes of all recommendations (including those made by telephone or other form of telecommunication) and meetings of the Little France Campus Working Group shall be kept by the Board and copies circulated promptly to the Little France Campus Working Group Parties, normally within five (5) Business Days of the making of the recommendation or the holding of the meeting. A full set of minutes shall be open to inspection by any party at any time, upon request.

## PART 2: LAND ISSUES

### 9. NATURE OF LAND INTERESTS

#### Access During Construction

- 9.1 From the Commencement Date until the Actual Completion Date or (if earlier) the Termination Date, the Board shall grant to Project Co and Project Co Parties, or procure that Project Co and the Project Co Parties are granted the Ancillary Rights set out in paragraphs 1 to 9 of Section 3 (*Ancillary Rights*) of Schedule Part 5 (*Land Matters*), in each case subject only to the Reserved Rights, the Title Conditions and the Board's rights under this Agreement and solely for the purposes of implementing the Works and carrying out Project Co's Pre-Completion Commissioning.

#### Access Following Construction

- 9.2 After the occurrence of the Actual Completion Date the Board shall grant to Project Co and Project Co Parties, or procure that Project Co and Project Co Parties are granted, the Ancillary Rights set out in paragraphs 1 and 10 of Section 3 (*Ancillary Rights*) of Schedule Part 5 (*Land Matters*) subject only to the Reserved Rights, the Title Conditions and the provisions of this Agreement and solely for the purposes of:

9.2.1 carrying out the Project Operations (other than those Project Operations for which Project Co is granted rights pursuant to Clause 9.1 (*Access During Construction*));

9.2.2 remedying Defects and carrying out Snagging Matters and exercising its rights under Clause 23.15 (*Board's Maintenance Obligations*); and

9.2.3 Not Used.

Such rights shall terminate on the Expiry Date or (if earlier) the Termination Date.

#### Extent of Rights

- 9.3 The rights referred to at Clauses 9.1 (*Access During Construction*) and 9.2 (*Access*

*Following Construction*) shall not operate or be deemed to operate as a lease of the Facilities, the Retained Estate Handback Infrastructure, the Site or Off-Site or any part of the Facilities, the Retained Estate Handback Infrastructure, the Site or Off-Site and Project Co shall not have or be entitled to exclusive possession (save to the extent expressly included within the Ancillary Rights) or any estate, right, title or interest in and to the Facilities, the Retained Estate Handback Infrastructure, the Site or Off-Site except as provided herein and shall occupy the Site as a licensee only.

9.4 The rights referred to at Clause 9.1 (*Access During Construction*) and Clause 9.2 (*Access Following Construction*) are personal to Project Co and the Project Co Parties.

9.5 Project Co shall procure that:

9.5.1 all Project Operations carried out at the Site or Off-Site by or on behalf of Project Co (whether before, during or after the completion of the Works) shall be carried out in a manner which does not breach any of the Title Conditions and/or the Reserved Rights; and

9.5.2 there shall be no action, or omission to act by Project Co or a Project Co Party, which shall give rise to a right for any person to obtain title to the Site and/or Off-Site or any part of it.

9.6 Notwithstanding the terms of Clauses 9.1 and 9.2 or any other rights granted under this Agreement, the Board shall (if it is the heritable proprietor of the Site or Off-Site), or (if it is not the heritable proprietor of the Site or Off-Site) shall procure that the heritable proprietor of the Site and/or Off-Site shall, enter into such wayleaves, deeds of servitude or other similar agreements with any third party that Project Co or any Project Co Party may require to be granted in favour of or by any third party, in order to exercise its rights or perform its obligations under this Agreement. The Board shall enter into (or, where appropriate, shall procure that the heritable proprietor of the Site and/or Off-Site shall enter into) any such wayleave, deed of servitude or other similar agreement, as soon as reasonably practicable after Project Co has provided to the Board all relevant information in connection therewith provided always that Project Co has obtained at its own cost the prior agreement of the third party in terms acceptable to the Board (acting reasonably). Project Co shall reimburse the Board for all costs and expenses reasonably and properly incurred by the Board (and/or the heritable proprietor of the Site and/or Off-Site) in connection with entering into such wayleaves, deeds of servitude or other similar agreements at the request of Project Co. Provided that the Board shall have no obligations in terms of this Clause 9.6 in relation to any land or interest in land which is procured by Project Co for the purpose of locating any electricity sub-station, or any ancillary apparatus or cabling to serve such sub-station if such land does not form part of (i) the Site or (ii) limb (a) or (b) of the definition of Off-Site.

## 10. THE SITE AND OFF-SITE

10.1 Subject to Clauses 10.3 and 10.4, the condition of the Site shall be the sole responsibility of Project Co and the condition of the Off-Site shall be the responsibility of Project Co when carrying out the Project Operations and to the extent that the condition of the Off-Site is affected by such Project Operations. Accordingly (without prejudice to any other obligation of Project Co under this Agreement), Project Co shall be deemed to have:

- 10.1.1 reviewed and taken cognisance of the Ground Physical and Geophysical Investigation and the Petrol Station Site Contamination Investigation and to have inspected and examined the Site and Off-Site and its surroundings and (where applicable) any existing structures or works on, over or under the Site and Off-Site;
- 10.1.2 satisfied itself as to the nature of the Site Conditions and Off-Site Conditions, the ground and the subsoil, the form and nature of the Site and Off-Site, the load bearing and other relevant properties of the Site and Off-Site, the risk of injury or damage to property affecting the Site and Off-Site, the nature of the materials (whether natural or otherwise) to be excavated and the nature of the design, work and materials in each case, necessary for the execution of the Works;
- 10.1.3 satisfied itself as to the extent and adequacy of the Site and Off-Site and of the rights of access to and from and through the Site and Off-Site granted hereunder and any accommodation it may require for the purposes of fulfilling its obligations under this Agreement (such as additional land or buildings outside the Site) without prejudice to Project Co's rights under this Agreement in respect of a breach by the Board of its obligations under Clause 9.1 and/or Clause 9.2;
- 10.1.4 satisfied itself as to the reasonable precautions, times and methods of working necessary to prevent any nuisance or interference, whether public or private, being caused to any third parties including without limitation Consort, Consort Parties, the University and any University Parties; and
- 10.1.5 satisfied itself as to the conditions, burdens, restrictions and reservations set out in the Title Conditions and the Reserved Rights.
- 10.2 Subject to Clause 10.3, to avoid doubt, Project Co accepts full responsibility for all matters referred to in Clause 10.1 and Project Co shall:
- 10.2.1 not be entitled to make any claim against the Board of any nature whatsoever save, if applicable, as expressly provided in Clause 29 (*Delay Events*), on any grounds including (without limitation) the fact that incorrect or insufficient information on any matter relating to the Site and Off-Site was given to it by any person, whether or not the Board or a Board Party;
- 10.2.2 be responsible for, and hold the Board harmless from, (1) cleaning up and/or otherwise dealing with any Contamination at the Site and Off-Site and (2) that it shall at all times comply with its obligations under this Agreement including (without limitation) complying with, at its own cost, any applicable Laws and any Consents, orders, notices or directions of any regulatory body (whether made against the Board or Project Co).

### **Responsibility for Contamination**

- 10.3 Notwithstanding the terms of Clause 10.2, and subject to Clause 10.5 below, save to the extent that Project Co has a valid legal claim for breach of duty of care and

or negligence against the provider of the Ground Physical and Geophysical Investigations and/or the Petrol Station Site Contamination Investigation in respect of its loss the Board shall be responsible for:

- 10.3.1 Relevant Petrol Station Site Contamination; and
- 10.3.2 any Contamination arising after the Commencement Date caused by the Board or a Board Party, whether directly or indirectly, at the Site or Off-Site.

If the Board is responsible for such Contamination under this Clause 10.3, the provisions of Clause 10.4 shall apply.

- 10.4 Where pursuant to Clause 10.3 the Board is responsible for any Contamination then the following provisions shall apply:
  - 10.4.1 during the Construction Phase any such matter shall be deemed to be a Compensation Event for the purposes of this Agreement;
  - 10.4.2 where such matter arises during the Operational Term it shall, for the avoidance of doubt, be deemed to be an Excusing Cause for the purposes of Clause 51 (*Excusing Cause*);
  - 10.4.3 where such matter arises during the Operational Term and any work or change to the Services is required or instructed to be done in consequence to it, it shall be deemed to be a Qualifying Change; and
  - 10.4.4 where any such matter is Contamination (whether during the Construction Phase and/or Operational Term) the Board shall further hold Project Co harmless from cleaning up and otherwise dealing with the Contamination and shall indemnify Project Co in respect of all Direct Losses incurred by Project Co resulting from such Contamination.
- 10.5 The Board shall be responsible for any loss suffered by Project Co in accordance with Clause 10.4 as a result of any Contamination under Clause 10.3 which exceeds the liability caps of the provider of the Ground Physical and Geophysical Investigations and/or the Petrol Station Site Contamination Investigation under their relevant contracts or which cannot be recovered by Project Co due to such provider being insolvent.

## 11. CONSENTS & PLANNING APPROVAL

- 11.1 Subject to Clause 11.3, Project Co shall be responsible for:
  - 11.1.1 obtaining all Consents which may be required for the performance of the Project Operations; and
  - 11.1.2 implementing each Consent within the period of its validity in accordance with its terms.

11.2 In the event that:

11.2.1 a Consent that has been granted is subsequently amended, repealed, revoked or otherwise ceases to be in full force and effect in accordance with its terms as a consequence of any action by a Relevant Authority;

11.2.2 affected persons are entitled to claim compensation for the adverse effects of such action under a statutory scheme of compensation; and

11.2.3 Project Co is not entitled in its own name to claim under that scheme but the Board is so entitled

the Board must use all reasonable endeavours, at the request and at the cost of Project Co, to claim or to include within its claim such sums as Project Co acting reasonably requests and shall pay to Project Co the part of any compensation that it receives under that scheme that relates to the sums claimed at the request of Project Co.

#### **Board's Consents and Planning Obligations**

11.3 Each party shall implement and satisfy each of the conditions and reserved matters of the Planning Approval in respect of which responsibility for the same has been allocated to it by the table set out in Part 1 (*Planning Condition Responsibilities*) of Schedule Part 29 (*Planning*).



### PART 3: DESIGN AND CONSTRUCTION

## 12. THE DESIGN CONSTRUCTION AND COMMISSIONING PROCESS

### Overall Responsibility

- 12.1 Project Co shall carry out the Works:
- 12.1.1 so as to procure satisfaction of the Board's Construction Requirements;
  - 12.1.2 in accordance with Project Co's Proposals; and
  - 12.1.3 in accordance with the terms of this Agreement.
- 12.2 To avoid doubt, the obligations in Clauses 12.1.1, 12.1.2 and 12.1.3 are independent obligations. In particular:
- 12.2.1 the fact that Project Co has complied with Project Co's Proposals shall not be a defence to an allegation that Project Co has not satisfied the Board's Construction Requirements; and
  - 12.2.2 the fact that Project Co has satisfied the Board's Construction Requirements shall not be a defence to an allegation that Project Co has failed to comply with Project Co's Proposals.

### Design responsibility

- 12.3 Project Co warrants that it has used, and will continue to use, the degree of skill and care in the design of the Facilities and the Retained Estate Handback Infrastructure that would reasonably be expected of a competent professional designer experienced in carrying out design activities of a similar nature, scope and complexity to those comprised in the Works.

### Corporate Identity and Signage

- 12.4 The parties acknowledge that the Board may, from time to time during the Construction Phase, be required to procure the erection of hoarding, site boards, plaques and/or other signage in connection with the Project. Accordingly:
- 12.4.1 where requested by the Board (acting reasonably), Project Co shall procure the erection and maintenance of such hoarding, site boards, plaques and/or other signage as the Board may require; and
  - 12.4.2 the size, design, information disclosed, position and materials used in connection with such hoarding, site boards, plaques or other signage

shall be approved by the Board, such approval not to be unreasonably withheld; and

- 12.4.3 for the purposes of this Clause 12.4 (*Corporate Identity and Signage*), the Board shall be deemed to be acting reasonably where any proposals made by it and/or any approvals exercised by it conform with any relevant guidance issued to NHS Boards by the Scottish Government Health Directorate (or any successor Directorate) in relation to such matters whether by Executive Letter or otherwise.

### **Board design approval**

- 12.5 The Board confirms that, as at the date of this Agreement, it has reviewed such of Project Co's Proposals as have been initialled by the Board and that, subject to any qualifications and/or comments notified by the Board to Project Co in writing and set out in Section 9 (*Board's Qualification/Comments in respect of Operational Functionality requirements*) of Schedule Part 6 (*Construction Matters*) such proposals satisfy the Board's requirements in respect of Operational Functionality, so far as can reasonably be determined given the level of detail of Design Data which has been disclosed to the Board.

- 12.6 Project Co shall develop and finalise the design and specification of the Works and the Board shall review the Reviewable Design Data in accordance with Schedule Part 8 (*Review Procedure*) and the provisions of this Clause 12.6:

- 12.6.1 Project Co shall submit the Reviewable Design Data and the design of any Changes developed in accordance with the procedure set out in Schedule Part 16 (*Change Protocol*) to the Board's Representative for review under Schedule Part 8 (*Review Procedure*). Project Co shall not commence or permit the commencement of construction of the part or parts of the Facilities and/or Retained Estate Handback Infrastructure to which such Reviewable Design Data relates until it has submitted the appropriate Reviewable Design Data and either it is confirmed by the Board's Representative that Project Co is entitled to proceed with construction in accordance with paragraph 3.3 of Schedule Part 8 (*Review Procedure*) or Project Co is:

- (a) disputing the status of such Reviewable Design Data pursuant to paragraph 1.3.1 or paragraph 4.3 of Schedule Part 8 (*Review Procedure*); and
- (b) proceeding at risk pursuant to paragraph 1.3.2 of Schedule Part 8 (*Review Procedure*).

- 12.6.2 with effect from the date at which any item of Reviewable Design Data is or becomes an Approved RDD Item in accordance with Schedule Part 8 (*Review Procedure*), such Approved RDD Item shall for the purposes of this Agreement be deemed to have satisfied the requirements of the Board in the manner and to the extent set out in, Table A in Appendix 1 of Schedule Part 8 (*Review Procedure*);

- 12.6.3 Project Co shall allow the Board's Representative, at any time, a reasonable opportunity to view any items of Design Data, which shall

be made available to the Board's Representative as soon as practicable following receipt of any written request from the Board's Representative; and

- 12.6.4 Project Co shall procure that the Contractor establishes and maintains a computerised design database which Project Co and the Board's Representative may access remotely by computer to view drawings comprised within the Design Data (including Reviewable Design Data) and electronically store and/or print copies of such Design Data. In the event of the Board's Representative being unable to access such design database, Project Co shall procure that it is made available for inspection by the Board's Representative, or any other person authorised by the Board's Representative.

### **Rectification of Project Co's Proposals**

- 12.7 Without prejudice to Clause 12.1, if it should be found that Project Co's Proposals do not fulfil the Board's Construction Requirements, Project Co shall at its own expense, and in accordance with Clause 12.8 below, amend Project Co's Proposals and rectify the Works or any part affected. Such amendment and rectification shall have the effect that:

- 12.7.1 Project Co's Proposals shall satisfy the Board's Construction Requirements; and

- 12.7.2 following the amendment or rectification, the structural, mechanical and electrical performance of the Facilities and/or Retained Estate Handback Infrastructure will be of an equivalent standard of performance to that set out in Project Co's Proposals prior to their amendment or rectification (for the purpose of this comparison disregarding the fault which required the amendment or rectification to be made).

- 12.8 Where Clause 12.7 applies, Project Co shall submit its proposal for amending Project Co's Proposals and rectifying the Works (or any part affected) to the Board's Representative for review under Schedule Part 8 (*Review Procedure*) and shall not amend Project Co's Proposals or commence or allow the commencement of the rectification of the Works (or any part affected) until it is permitted to proceed in accordance with Schedule Part 8 (*Review Procedure*).

### **Construction Skills Certification Scheme**

- 12.9 Project Co shall ensure that all persons engaged in carrying out the Works (or part thereof) on the Site and/or Off Site are accredited under the Construction Skills Certification Scheme or an equivalent scheme and where Project Co enters into a sub-contract for the purposes of carrying out the Works Project Co shall cause a term to be included in such sub-contract:

- 12.9.1 which requires the sub-contractor to ensure that such persons are accredited under the Construction Skills Certification Scheme or an equivalent scheme; and

- 12.9.2 in the same terms as that set out in this Clause 12.9 (including for the avoidance of doubt this Clause 12.9.2) subject only to modification to

refer to the correct designation of the equivalent party as Project Co and the sub-contractor as the case may be.

### 13. RIGHT OF ACCESS OF BOARD'S REPRESENTATIVE

#### Access to the Site and Off-Site

13.1 Without prejudice to Clause 9 (*Nature of Land Interests*), Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and/or the Interface Proposals, Project Co shall procure that:

13.1.1 subject to complying with all relevant safety procedures, which shall include any relevant construction phase plans and health and safety plans for the construction of the Facilities and the Retained Estate Handback Infrastructure, the Contractor's Site Rules from time to time and any reasonable directions with regard to site safety that may be issued by or on behalf of the Contractor's Site Manager from time to time, the Board's Representative and any other parties authorised by the Board's Representative to accompany the Board's Representative shall have unrestricted access at all reasonable times during normal working hours to:

(a) view the Works at the Site and Off-Site on reasonable prior notice appropriate to the circumstances, provided that the notice procedures in this Clause 13.1.1(a) shall not apply to the right of access for the Board's Representative and his staff and visitors to the office and other facilities provided at the Site and Off-Site for his use; and

(b) subject to obtaining the consent of the relevant manufacturer or supplier (which Project Co agrees to use all reasonable endeavours to obtain), visit any site or workshop where materials, plant or equipment are being manufactured, prepared or stored for use in the Works for the purposes of general inspection and of attending any test or investigation being carried out in respect of the Works;

13.1.2 the Board's Representative shall have such rights of access to the Site and/or Off-Site in an emergency as he (acting reasonably) considers suitable in the circumstances; and

13.1.3 monthly progress meetings and site meetings are held and that the Board's Representative shall have the right to attend such monthly progress meetings and site meetings and to attend such other meetings as the Board's Representative may reasonably request.

#### Increased monitoring

13.2 If, following any viewing, visit or inspection made pursuant to Clause 13.1.1, it is discovered that there are defects in the Works or that Project Co has failed to comply with the Board's Construction Requirements or Project Co's Proposals, the Board's Representative may (without prejudice to any other right or remedy available to the Board) by notice to Project Co increase the level of monitoring of

Project Co until such time as Project Co shall have demonstrated to the satisfaction of the Board that it is capable of performing and will perform all its obligations to the Board under this Agreement. Project Co shall compensate the Board for any reasonable additional costs incurred as a result of such increased monitoring.

### **Right to Open Up**

- 13.3 Subject to Clause 13.4, the Board's Representative shall have the right at any time prior to the Actual Completion Date to request Project Co to open up and inspect any part or parts of the Works where the Board's Representative reasonably believes that such part or parts of the Works is or are defective and Project Co shall comply with such request.
- 13.4 Prior to exercising his right pursuant to Clause 13.3 above, the Board's Representative shall notify Project Co of his intention to exercise such right, setting out detailed reasons.
- 13.5 If, following the exercise by the Board's Representative of his right pursuant to Clause 13.3, the inspection shows that the relevant part or parts of the Works are not defective then Clause 29.3.4 (*Delay Events*) shall apply.
- 13.6 If, following the exercise by the Board's Representative of his right pursuant to Clause 13.3, the inspection shows that the relevant part or parts of the Works is or are defective, Project Co shall rectify and make good such Defect(s) and any consequence of such rectification and/or making good Defect(s) shall be carried out by Project Co at no cost to the Board and Project Co shall not be entitled to any extension of time in relation to such rectification and making good of the Works.
- 13.7 If, following the exercise by the Board's Representative of his right pursuant to Clause 13.3, the Board's Representative is of the opinion that the inspection shows that the relevant part or parts of the Works is or are defective and Project Co does not agree with such opinion, the matter shall be determined in accordance with Schedule Part 20 (*Dispute Resolution Procedure*).
- 13.8 Without prejudice to the rights of the Board's Representative pursuant to this Clause 13 (*Right of Access of Board's Representative*) the parties acknowledge that the exercise of such rights shall not in any way affect the obligations of Project Co under this Agreement save as expressly set out in this Clause 13 (*Right of Access of Board's Representative*).

### **Safety during Construction**

- 13.9 The provisions of Section 2 (*Safety During Construction*) of Schedule Part 6 (*Construction Matters*) shall apply to matters of safety.

### **13A BOARD'S RIGHT TO STOP PROJECT OPERATIONS DURING THE PROJECT TERM**

- 13A.1 The Board's Representative shall have the right at any time during the Project

Term to verbally or in writing instruct Project Co to stop the relevant part or parts of the Project Operations and to allow him to inspect the relevant part or parts of the Project Operations if:

- 13A.1.1 the Board's Representative reasonably believes a Stop Incident has occurred.
  - 13A.1.2 the Board's Representative reasonably believes that the carrying out of the relevant part or parts of the Project Operations has or is likely to have a potentially adverse impact upon the Clinical Services at the Facilities and/or the clinical services at the RIE Facilities; or
  - 13A.1.3 there is an occurrence of a Major Incident during the Construction Phase.
- 13A.2 In the event that Project Co receives an instruction from the Board's Representative to stop the relevant part or parts of the Project Operations pursuant to Clause 13A.1, then Project Co shall immediately stop the relevant part or parts of the Project Operations until such time as:
- 13A.2.1 in the case of Clause 13A.1.1, Project Co has confirmed to the Board its proposals for ensuring that the relevant breach is remedied and that Project Co is able to re-start the relevant part or parts of Project Operations in accordance with such proposals as soon possible, provided that the Board's Representative is satisfied (acting reasonably) with such proposals;
  - 13A.2.2 in any case pursuant to Clause 13A.1, Project Co receives an instruction from the Board's Representative pursuant to Clause 13A.6 below to re-start the relevant part or parts of the Project Operations as soon as possible.
- 13A.3 If following the exercise by the Board's Representative of his right to stop the relevant part or parts of the Project Operations pursuant to:
- 13A.3.1 Clause 13A.1.1, it is agreed or determined under the Dispute Resolution Procedure that the breach which the Board's Representative considers has given rise to a Stop Incident has not occurred, then Clause 29.3.9 (*Delay Events*) shall apply;
  - 13A.3.2 Clause 13A.1.2, then Clause 29.3.10 (*Delay Events*) shall apply;
  - 13A.3.3 Clause 13A.1.3, then Clause 29.3.11 (*Delay Events*) shall apply.
- 13A.4 If following the exercise by the Board's Representative of his rights pursuant to Clause 13A.1.1, the inspection shows that one or more Stop Incident(s) have occurred, Project Co shall rectify and make good such Stop Incident(s) and any consequence of such rectification and/or making good such Stop Incident(s) shall be carried out by Project Co at no cost to the Board and Project Co shall not be entitled to any extension of time in relation to such rectification and making good of such Stop Incident(s).



- 13A.5 If following the exercise by the Board's Representative of his right pursuant to Clause 13A.1.1 the Board's Representative is of the opinion that the inspection shows that one or more Stop Incident(s) have occurred and Project Co does not agree with such opinion, the matter shall be determined in accordance with Schedule Part 20 (*Dispute Resolution Procedure*).
- 13A.6 Without prejudice to Clause 13A.7, following the exercise of the Board's Representative of his rights pursuant to Clause 13A.1, the Board's Representative shall have the right to instruct Project Co to re-start the relevant part or parts of the Project Operations.
- 13A.7 Without prejudice to the rights of the Board's Representative pursuant to this Clause 13A (*Board's right to stop Project Operations during the Project Term*) the parties acknowledge that the exercise of such rights shall not in any way affect the obligations of Project Co under this Agreement save as expressly set out in this Clause 13A (*Board's right to stop Project Operations during the Project Term*).
- 13A.8 The Board's Representative shall provide Project Co with written reasons for any verbal instruction (or for any written instruction where such written instruction did not contain written reasons) to stop the relevant part or parts of the Project Operations pursuant to Clause 13A.1 within three (3) Business Days of any such verbal instruction.
- 13A.9 Project Co shall maintain an up-to-date Stop Log Book for each instruction of the Board's Representative to stop the relevant part or parts of the Project Operations pursuant to Clause 13A.1, which shall set out:
- 13A.9.1 the date and time when the Board's Representative issued a verbal or written instruction to stop the relevant part or parts of the Project Operations pursuant to Clause 13A.1 and the date and time when the relevant part or parts of the Project Operations were re-started by Project Co pursuant to Clause 13A.2;
- 13A.9.2 the written reasons of the Board's Representative in respect of any instruction to stop the relevant part or parts of the Project Operations, together with the reasons of Project Co for re-starting the relevant part or parts of the Project Operations, with such Stop Log Book being updated by Project Co within three (3) Business Days of receipt of the Board's Representative's written reasons pursuant to Clause 13A.8;
- 13A.10 The Board's Representative shall be able to access the Stop Log Book upon written request to Project Co, and Project Co shall provide such access to the Board within three (3) Business Days of receipt of any such request.

## **14. PROGRAMME AND DATES FOR COMPLETION**

### **Dates for Completion**

- 14.1 Project Co shall complete the Works by the Completion Date. Without prejudice to Clause 40 (*Project Co Event of Default*), 42 (*Board Voluntary Termination*), 46 (*Compensation on Termination*) and 47 (*Consequences of Termination*) the Board shall not be entitled to claim liquidated or general damages in respect of any delay

which elapses between the Completion Date and the Actual Completion Date.

### **The Programme**

- 14.2 Any Programme submitted in accordance with the provisions set out below shall be prepared in accordance with Good Industry Practice and shall be in sufficient detail so as to enable the Board's Representative to monitor the progress including all commissioning activities and likely future progress of the Works.
- 14.3 The initial Programme is set out at Schedule Part 7 (*The Programme*). Any change to the Programme shall only be made in accordance with this Clause 14 (*Programme and Dates for Completion*) and Schedule Part 8 (*Review Procedure*). Project Co shall promptly submit to the Board's Representative a copy of any version of the Programme varied in accordance with this Clause 14 (*Programme and dates for Completion*) and Schedule Part 8 (*Review Procedure*).
- 14.4 If it appears to the Board's Representative at any time that the actual progress of the Works has significantly fallen behind the Programme, then the Board's Representative shall be entitled to require Project Co to submit to the Board's Representative a report identifying the reasons for the delay and, unless the event causing the delay is still subsisting and it is not possible to predict with any certainty when the delay might come to an end, require Project Co (at the Board's option):
- 14.4.1 to produce and submit to the Board's Representative in accordance with Schedule Part 8 (*Review Procedure*) a revised Programme showing the manner and the periods in which the Works will be carried out to ensure completion; and/or
- 14.4.2 to produce and submit to the Board's Representative in accordance with Schedule Part 8 (*Review Procedure*) a revised Programme showing the steps which are to be taken to eliminate or reduce the delay.

### **Early completion**

- 14.5 Notwithstanding that the Works may have been completed in accordance with this Agreement, the Actual Completion Date may only occur on a date on or after the Completion Date unless the Board, in its absolute discretion, agrees otherwise in writing.
- 14.6 Not Used.

## **15. INDEPENDENT TESTER**

### **Appointment**

- 15.1 The parties have on or prior to the date of this Agreement, in compliance with all Law relating to procurement which is applicable to either party, appointed a suitably qualified and experienced consultant to act as the Independent Tester for the

purposes of this Agreement upon the terms of the Independent Tester Contract.

### **Changes to terms of appointment**

- 15.2 Neither the Board nor Project Co shall without the other's prior written approval (not to be unreasonably withheld or delayed):
- 15.2.1 terminate, repudiate or discharge the Independent Tester Contract or treat the same as having been terminated, repudiated or otherwise discharged;
  - 15.2.2 waive, settle, compromise or otherwise prejudice any rights or claims which the other may from time to time have against the Independent Tester; or
  - 15.2.3 vary the terms of the Independent Tester Contract or the service performed or to be performed by the Independent Tester.
- 15.3 The parties shall comply with and fulfil their respective duties and obligations arising under or in connection with the Independent Tester Contract.

### **Co-operation**

- 15.4 The parties agree to co-operate with each other generally in relation to all matters within the scope of or in connection with the Independent Tester Contract. All instructions and representations issued or made by either of the parties to the Independent Tester shall be simultaneously copied to the other and both parties shall be entitled to attend all inspections undertaken by or meetings involving the Independent Tester.

### **Replacement**

- 15.5 If the Independent Tester's appointment is terminated otherwise than for full performance, the parties shall liaise and co-operate with each other in order to appoint, in accordance with this Clause 15.5, a replacement consultant to act as the Independent Tester as soon as reasonably practicable. The identity of any such replacement shall be as agreed by the parties and the terms of his appointment shall, unless otherwise agreed, be as set out in the Independent Tester Contract.
- 15.6 If the parties fail to agree the identity and/or terms of a replacement Independent Tester in accordance with Clause 15.5 within ten (10) Business Days of the original Independent Tester's appointment being terminated then such disagreement shall be referred for resolution in accordance with Schedule Part 20 (*Dispute Resolution Procedure*).

## **16. EQUIPMENT**

Project Co and the Board each shall comply with their respective obligations set out in

Schedule Part 11 (*Equipment*) in respect of Equipment.

## 17. PRE-COMPLETION COMMISSIONING AND COMPLETION

- 17.1 Not less than nine (9) months before the Completion Date, the Board shall provide Project Co with a draft of the Final Commissioning Programme as jointly developed by the Board and Project Co in accordance with the provisions of Clause 17.2 and 17.3. Project Co shall provide the Board with comments on the draft Final Commissioning Programme submitted to it within fifteen (15) Business Days. The parties shall, within fifteen (15) Business Days of receipt by the Board of Project Co's comments agree the terms of the Final Commissioning Programme provided that the Board may by prior notice to Project Co change the scope and time of the Board's Commissioning and reimburse Project Co its reasonable costs incurred as a result of such change in scope or time. If the parties are unable to agree the Final Commissioning Programme or the change in scope or time of the Board's Commissioning by three (3) months, the matter shall be referred for determination in accordance with Schedule Part 20 (*Dispute Resolution Procedure*).
- 17.2 The Final Commissioning Programme shall be in accordance with the Outline Commissioning Programme and shall impose no greater or more onerous obligations on the Board than those set out in the Outline Commissioning Programme (unless otherwise agreed by the Board in its absolute discretion). The Final Commissioning Programme shall then replace the Outline Commissioning Programme.
- 17.3 The Final Commissioning Programme shall describe the steps necessary, the party responsible for taking each of such steps and the timing and sequence of each of such steps to ensure:
- 17.3.1 that Project Co's Pre-Completion Commissioning and the Board's Commissioning will not delay the Actual Completion Date from occurring by the Completion Date; and
- 17.3.2 that Project Co's Post Completion Commissioning and the Board's Post Completion Commissioning are completed by the Commissioning End Date.
- 17.4 The parties shall procure that the steps that they are responsible for carrying out and completing pursuant to the Final Commissioning Programme include, in the case of Project Co's activities, the activities described at paragraph 4.5.17 (*Completion Requirements*) of the Board's Construction Requirements.
- 17.5 Project Co shall notify the Independent Tester and the Board's Representative of the date when Project Co (acting reasonably) considers that the Works will be complete in accordance with the Board's Construction Requirements, the Completion Criteria and this Agreement not less than three (3) months prior to such anticipated completion. Such notification shall trigger the activities of the Independent Tester under this Clause.
- 17.6 The parties each undertake to co-operate with the Independent Tester to ensure that the Independent Tester is familiar with all necessary aspects of the Project for the purposes of its role as described in this Clause.

**Commissioning prior to Completion Date**

- 17.7 Project Co shall:
- 17.7.1 undertake Project Co's Pre-Completion Commissioning in accordance with the Final Commissioning Programme; and
  - 17.7.2 permit the Board to undertake the Board's Commissioning including permitting specialist contractors engaged by the Board to deliver and install equipment on such dates as agreed between the Board and Project Co, in accordance with the Final Commissioning Programme

and the Board shall undertake the Board's Commissioning in accordance with the Final Commissioning Programme and so as not to cause material damage to the Works.

- 17.8 Project Co shall give written notice to the Independent Tester and the Board of the commencement of Project Co's Pre-Completion Commissioning and shall ensure that the Independent Tester and the Board's Representative are invited to witness all of, and are provided with all information they may reasonably require in relation to, Project Co's Pre-Completion Commissioning and that the Independent Tester is invited to comment on Project Co's Pre-Completion Commissioning.
- 17.9 Project Co shall (or shall procure that the Contractor shall), give the Board access to the Facilities and the Retained Estate Handback Infrastructure at such times as may be set out in the Final Commissioning Programme to enable the Board to undertake the Board's Commissioning in accordance with the Final Commissioning Programme for the period prior to completion. When exercising such rights the Board shall comply with all relevant safety procedures, which shall include any relevant construction phase plans and health and safety plans for the construction of the Facilities and the Retained Estate Handback Infrastructure, the Contractor's Site Rules from time to time and any reasonable directions with regard to site safety that may be issued by or on behalf of the Contractor's Site Manager from time to time.

**Pre-Completion inspection**

- 17.10 Without prejudice to the notice periods in respect of the Works which are set out in Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) in respect of which notice of completion is to be given by Project Co, Project Co shall in addition give the Independent Tester and the Board's Representative not less than twenty (20) Business Days notice and not more than thirty (30) Business Days notice of the date upon which Project Co considers that the Works will be complete and the tests on completion required to be performed in accordance with the Final Commissioning Programme will be carried out. Following receipt of the notice specified in this Clause 17.10 (*Pre-Completion Inspection*) the Board's Representative and the Independent Tester shall be entitled to inspect the Works on the date or dates reasonably specified by Project Co in accordance with this Clause 17.10 (*Pre-Completion Inspection*), and to attend any of the tests on completion. Project Co shall, if so requested, accompany the Board's Representative and the Independent Tester on any such inspection.

**Pre-Completion matters**

- 17.11 The parties shall procure that the Independent Tester, within five (5) Business Days of any inspection made pursuant to Clause 17.10 (*Pre-Completion Inspection*), notifies Project Co and the Board of any outstanding matters (including, without limitation, the repetition of any of the tests on completion which are required to be carried out and passed in accordance with the Final Commissioning Programme) which are required to be attended to before the Works can be considered to be complete in accordance with the Board's Construction Requirements, Project Co's Proposals and the Completion Criteria. Project Co shall attend to such matters and shall, if necessary, give the Independent Tester further notices in accordance with Clause 17.10 (*Pre-Completion Inspection*) (but dealing only with matters raised in the notification under this Clause 17.11 (*Pre-Completion Matters*)) so that the procedures in Clause 17.10 (*Pre-Completion Inspection*) and this Clause 17.11 (*Pre-Completion Matters*) are repeated as often as may be necessary to ensure that all outstanding matters in relation to the Works are attended to.

### **Completion Certificate**

- 17.12 Pursuant to the terms of the Independent Tester Contract, the parties shall procure that the Independent Tester, when he is satisfied that the Facilities and the Retained Estate Handback Infrastructure are complete in accordance with the Completion Criteria, issues a Certificate of Practical Completion to that effect to the Board and to Project Co.
- 17.13 Without prejudice to Clauses 17.14 and 17.17, the issue of the Certificate of Practical Completion shall, in the absence of manifest error, bad faith or fraud, be conclusive evidence (but only for the purpose of ascertaining the Payment Commencement Date), that the Facilities and the Retained Estate Handback Infrastructure were complete in accordance with the Completion Criteria on the date stated in the Certificate of Practical Completion.
- 17.14 The Independent Tester shall issue the Certificate of Practical Completion notwithstanding that there are Snagging Matters. Where there are Snagging Matters, the parties shall procure that the Independent Tester shall, within ten (10) Business Days of the date of issue of the Certificate of Practical Completion, issue a Snagging Notice which shall specify the Snagging Matters and an estimate of the cost of rectifying such Snagging Matters.
- 17.15 Following the issue of a Snagging Notice, Project Co shall, in consultation with the Board's Representative and in such manner as to cause as little disruption as reasonably practicable to the Board's Post Completion Commissioning and the Board's use of the Facilities and the Retained Estate Handback Infrastructure and the Retained Estate, rectify all Snagging Matters within ten (10) Business Days of the issue of the Snagging Notice.
- 17.16 If, within ten (10) Business Days of the issue of the Snagging Notice, Project Co has failed to rectify the Snagging Matters specified in the Snagging Notice the Board may by itself (or engage others to) carry out the works necessary to rectify the Snagging Matters, at the risk and cost of Project Co.
- 17.17 The issue of the Certificate of Practical Completion shall in no way affect the obligations of Project Co under this Agreement including in respect of any Defects.

### **As-built specification**



- 17.18 Within ten (10) Business Days, after the issue of the Certificate of Practical Completion, Project Co shall provide to the Board three (3) hard copies and one (1) electronic copy of the as-built building specification, together with all drawings relating to the Works.

## **18. POST COMPLETION COMMISSIONING**

### **Commissioning**

- 18.1 Project Co and the Board shall respectively undertake and complete Project Co's Post-Completion Commissioning and the Board's Post Completion Commissioning, in accordance with the Final Commissioning Programme. Both parties shall, at all times, and in particular in the period between the Actual Completion Date and the Actual Commissioning End Date, use reasonable endeavours to assist the other party to ensure compliance with the Final Commissioning Programme.

### **Information**

- 18.2 Project Co shall ensure that the Board's Representative is provided with all the information he may reasonably require in relation to Project Co's Post-Completion Commissioning and the Board shall ensure that Project Co is provided with all information Project Co may reasonably require in relation to the Board's Post Completion Commissioning.
- 18.3 If the Board's Representative, acting reasonably, makes any comment in relation to the carrying out of Project Co's Post-Completion Commissioning, such comments shall be taken into account by Project Co and if Project Co, acting reasonably, makes any comment in relation to the carrying out of the Board's Post Completion Commissioning, such comment shall be taken into account by the Board.
- 18.4 On the completion of Project Co's Post-Completion Commissioning and the Board's Post Completion Commissioning the Independent Tester shall issue the Commissioning Completion Certificate.

### **Operational Manuals**

- 18.5 Project Co shall make available on the Site to the Board's Representative:
- 18.5.1 at least twenty four (24) weeks prior to the anticipated Actual Completion Date, one (1) electronic copy and three (3) hard copies of a draft operation and maintenance manual in sufficient detail to allow the Board to plan for the safe and efficient operation of the Facilities and the Retained Estate Handback Infrastructure;
- 18.5.2 on or before the Actual Completion Date one (1) electronic copy and three (3) hard copies of a final draft operation and maintenance manual in sufficient detail to allow the Board to operate and use the Facilities and the Retained Estate Handback Infrastructure safely and efficiently;

18.5.3 within ten (10) Business Days following the Actual Completion Date, the principal operation and maintenance manual;

in each case including all manufacturers' instructions relating to Equipment installed by or on behalf of Project Co.

18.6 Project Co shall provide to the Board such information after the Actual Completion Date as relates to any Snagging Matters or rectification of Defect as is reasonably necessary to allow for the updating of any of the items listed in Clause 18.5.

18.7 On termination of this Agreement (howsoever arising) prior to the provision by Project Co in accordance with Clause 18.5 of the items listed therein, Project Co shall within ten (10) Business Days of such termination provide in triplicate hard copies and a single electronic copy of any operating and maintenance manual not yet provided (completed as appropriate to the date of termination) to the Board.

## 19. FOSSILS AND ANTIQUITIES

### Property

19.1 As between the parties, all fossils, antiquities, and other objects having artistic, historic or monetary value and human remains which may be found on or at the Site and Off-Site are or shall become, upon discovery, the absolute property of the Board.

### Discovery

19.2 Upon the discovery of any such item during the course of the Works, Project Co shall:

19.2.1 immediately notify the Board's Representative of such discovery;

19.2.2 take all steps not to disturb the object and, if necessary, cease any Works in so far as the carrying out of such Works would endanger the object or prevent or impede its excavation; and

19.2.3 take all necessary steps to preserve the object in the same position and condition in which it was found.

### Action

19.3 The Board shall procure that the Board's Representative promptly, and in any event within ten (10) Business Days of receipt of notice pursuant to Clause 19.2.1, issues an instruction to Project Co specifying what action the Board's Representative requires Project Co to take in relation to such discovery.

19.4 Project Co shall promptly and diligently comply with any instruction issued by the Board's Representative referred to in Clause 19.3 above (except and to the extent

that such instruction constitutes a Board Change pursuant to Clause 19.6 below in which case the provisions of Schedule Part 16 (*Change Protocol*) shall apply), at its own cost.

19.5 If directed by the Board's Representative, Project Co shall allow representatives of the Board to enter the Site and Off-Site for the purposes of removal or disposal of such discovery provided that such entry shall be subject to the Board complying with all relevant safety procedures, which shall include any relevant construction phase plans and health and safety plans for the construction of the Facilities and the Retained Estate Handback Infrastructure, the Contractor's Site Rules from time to time and any reasonable directions with regard to site safety that may be issued by or on behalf of the Contractor's Site Manager from time to time.

19.6 If, in relation to such discovery, the Board requires Project Co to carry out works (being any work of alteration, addition, demolition or extension or variation in the Works) which are not works which would be necessary for the purpose of compliance with Law or any Consents, it must issue a Board Change Notice in accordance with the provisions of Schedule Part 16 (*Change Protocol*).

**19A CONSORT INTERFACE WITH CAMPUS SITE AND/OR CAMPUS FACILITIES**

Project Co shall comply with the provisions of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and shall provide and thereafter adhere to all relevant Interface Proposals in relation to such Schedule.

## PART 4: QUALITY ASSURANCE

### 20. QUALITY ASSURANCE

#### Quality Plans and Systems

- 20.1 Project Co shall procure that all aspects of the Project Operations are the subject of quality management systems in accordance with the provisions of this Clause 20 (*Quality Assurance*).
- 20.2 The quality management systems referred to in Clause 20.1 above shall be reflected in appropriate quality plans, the standard of which shall be consistent with BS EN ISO 9001 or 9002 (as the case may be) or any equivalent standard which is generally recognised as having replaced them (or either of them).
- 20.3 Without limitation to the generality of Clause 20.2, there shall be:
- 20.3.1 a Design Quality Plan;
  - 20.3.2 a Construction Quality Plan; and
  - 20.3.3 a Services Quality Plan for each Service,
- provided that the Design Quality Plan and the Construction Quality Plan may be incorporated into one document.
- 20.4 Project Co shall procure that the Project Operations are carried out in compliance with the Quality Plans. All Quality Plans shall be submitted to the Board's Representative in accordance with Schedule Part 8 (*Review Procedure*) and Project Co shall not be entitled to implement or procure the implementation of any Quality Plan unless Project Co is entitled to proceed with such implementation pursuant to Schedule Part 8 (*Review Procedure*).
- 20.5 Project Co shall implement the quality management systems referred to in Clause 20.1 and shall procure that:
- 20.5.1 the Contractor implements the Design Quality Plan;
  - 20.5.2 the Contractor implements the Construction Quality Plan;
  - 20.5.3 each Service Provider implements the relevant Services Quality Plan for each Service being provided by that Service Provider.
- 20.6 Where any aspect of the Project Operations is performed by more than one contractor or subcontractor, then the provisions of this Clause 20 (*Quality Assurance*) (in so far as relevant or appropriate to the activities to be performed by

such contractor or subcontractor) shall apply in respect of each of such contractors or subcontractors, and references in this Clause 20 (*Quality Assurance*) to the "**Contractor**" or the "**Service Provider**" shall be construed accordingly. To avoid doubt, this Clause shall not be construed as requiring subcontractors of the Contractor or the Service Provider to have their own quality plans but only to comply with the Design Quality Plan and the Construction Quality Plan or the relevant aspects of the Services Quality Plan (as the case may be).

- 20.7 Project Co shall from time to time submit to the Board's Representative in accordance with Schedule Part 8 (*Review Procedure*) any changes to any of the Quality Plans required for such Quality Plan to continue to comply with the requirements set out in Clause 20.2. The Board's Representative may raise comments on any such proposed change only on the grounds set out in paragraph 3 of Schedule Part 8 (*Review Procedure*).
- 20.8 If there is no objection under Schedule Part 8 (*Review Procedure*) to a change to any Quality Plan proposed pursuant to Clause 20.7, the Quality Plan shall be amended to incorporate such change.

### **Quality Manuals and Procedures**

- 20.9 If any Quality Plan refers to, relies on or incorporates any quality manual or procedure, then such quality manual or procedure or the relevant parts of it shall be submitted to the Board's Representative at the time that the relevant Quality Plan or part of (or change to) a Quality Plan is submitted in accordance with Schedule Part 8 (*Review Procedure*), and the contents of such quality manual or procedure shall be taken into account in the consideration of the relevant Quality Plan or part of (or change to) a Quality Plan in accordance with Schedule Part 8 (*Review Procedure*).

### **Quality Management**

- 20.10 Project Co shall maintain a quality management system which shall:
- 20.10.1 ensure the effective operation of the quality systems described in this Clause 20 (*Quality Assurance*);
  - 20.10.2 cause an audit of the quality systems at regular intervals and the findings of such audit will be reported to the Board's Representative;
  - 20.10.3 require review of all quality systems at intervals agreed with the Board's Representative to ensure their continued suitability and effectiveness;
  - 20.10.4 require liaison with the Board's Representative on all matters relating to quality management; and
  - 20.10.5 require production of reports and their delivery to Project Co.

### **Quality Monitoring**

- 20.11 The Board's Representative may carry out audits of Project Co's quality management system (including all relevant Quality Plans and any quality manuals and procedures) to establish that Project Co is complying with Clauses 20.1 and 20.3. The Board's Representative may carry out such audits at approximate intervals of three (3) months and may carry out other periodic monitoring, spot checks and auditing of Project Co's quality management systems. Project Co shall procure that the Board's Representative shall have an equivalent right in respect of the Contractor's and the Service Provider's quality management systems. Project Co shall co operate, and shall procure that any Sub-Contractor co-operates, with the Board's Representative including providing him with all information and documentation which he reasonably requires in connection with his rights under this Clause.



**PART 5: NOT USED**

**21. NOT USED**

## PART 6: SERVICES

### 22. THE SERVICES

#### General obligations

22.1 Throughout the Operational Term Project Co shall provide (or procure that the Service Provider provides) the Services in accordance with:

22.1.1 the Service Level Specification;

22.1.2 the Method Statements; and

22.1.3 the terms of this Agreement

22.2 To avoid doubt the obligations in Clauses 22.1.1, 22.1.2 and 22.1.3, are independent obligations and:

22.2.1 the fact that Project Co has complied with the Method Statements shall not be a defence to an allegation that Project Co has not satisfied the Service Level Specification; and

22.2.2 the fact that Project Co has complied with the Service Level Specification shall not be a defence to an allegation that Project Co has not satisfied the Method Statements,

provided that where there is any conflict between the Service Level Specification and the Method Statements the Board shall be entitled (in its sole discretion) to decide which shall take precedence and inform Project Co of its decision and Project Co shall, at its own cost, be obliged to implement the Board's decision.

#### Commencement of Services

22.3 Project Co shall procure that the provision of the Services commences on the Actual Completion Date.

#### Project Co Services Changes

22.4 Project Co may at any time submit to the Board's Representative in accordance with Schedule Part 8 (*Review Procedure*) proposals for amendments to or substitution for the Method Statements or any part of them. If there is no comment on such proposed amendment or substitution (on the grounds set out in paragraph 3 of Schedule Part 8 (*Review Procedure*)), then the Method Statements as so amended or substituted shall be the Method Statements for the purposes of this Agreement, subject to any further amendment or substitution to which there has been no comment in accordance with Schedule Part 8 (*Review Procedure*).

- 22.5 To avoid doubt, an amendment to or substitution for the Method Statements proposed pursuant to Clause 22.4 shall not be a Qualifying Change entitling Project Co to any payment (or other compensation) or to any relief from the performance of its obligations under this Agreement.

### No disruption

- 22.6 Project Co shall perform the Services so as to co-ordinate with the Board's operations on the Site, the Retained Site and Off-Site and/or in the Facilities and/or the Retained Estate and shall take all reasonable care to ensure that it does not interfere with the operations of the Board and/or Board Party.

## 23. MAINTENANCE

### Programmed Maintenance Works

- 23.1 No later than three (3) months prior to the Completion Date Project Co shall submit to the Board's Representative in accordance with Schedule Part 8 (*Review Procedure*) a Schedule of Programmed Maintenance for the period from the Completion Date to the expiry of that Contract Year.
- 23.2 Not later than three (3) months prior to the commencement of each subsequent Contract Year Project Co shall submit to the Board's Representative in accordance with Schedule Part 8 (*Review Procedure*) a Schedule of Programmed Maintenance for the next succeeding Contract Year.
- 23.3 Each Schedule of Programmed Maintenance shall contain the following information (the "**Programmed Maintenance Information**"):
  - 23.3.1 details of the proposed start and end dates for each period of Programmed Maintenance, the works to be carried out and the proposed hours of work; and
  - 23.3.2 details of any effect of the Programmed Maintenance on the delivery of any of the Services and/or the activities of the Board; and
  - 23.3.3 any other information which is required pursuant to Section 2 (*Operational Construction Issues*), Section 5 (*Access Strategy*), Section 6 (*Service Strip and Foul Service Strip*) and Section 7 (*Link Building*) of Part 1 and Part 2 of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and/or of Clause 9 (*Nature of Land Interests*).
- 23.4 Not later than twenty (20) Business Days prior to the commencement of any quarter (being a three month period commencing on 1 April, 1 July, 1 October or 1 January), Project Co may submit to the Board's Representative for approval in accordance with Schedule Part 8 (*Review Procedure*) a revision to the Schedule of Programmed Maintenance for the Contract Year in which the relevant quarter falls showing the effect of the proposed changes to the Programmed Maintenance Information. If the Board's Representative does not raise comments on such proposed revision in accordance with Schedule Part 8 (*Review Procedure*), the

Schedule of Programmed Maintenance as revised shall become the Schedule of Programmed Maintenance in respect of that quarter.

- 23.5 Where the Board's Representative raises comments in respect of any Programmed Maintenance periods and/or hours of work shown in a Schedule of Programmed Maintenance in accordance with paragraph 3 of Schedule Part 8 (*Review Procedure*), he shall indicate whether, and if so when, the Programmed Maintenance can be re-scheduled and Project Co shall amend the relevant Schedule of Programmed Maintenance accordingly.

## **23A LIFECYCLE REPLACEMENT**

### **Lifecycle Replacement**

- 23A.1 No later than three (3) months prior to the Actual Completion Date, Project Co shall submit to the Board's Representative in accordance with Schedule Part 8 (*Review Procedure*) a Schedule of Lifecycle Replacement for the Facilities for the Project Term.
- 23A.2 Not later than three (3) months prior to each subsequent Contract Year, Project Co shall submit to the Board's Representative in accordance with Schedule Part 8 (*Review Procedure*) a Schedule of Lifecycle Replacement for the Facilities for the next succeeding Contract Year.
- 23A.3 Each Schedule of Lifecycle Replacement shall contain the following information:
- 23A.3.1 details of all items of Plant and Group 1 Equipment and any other asset for which Lifecycle Replacement is planned during the Project Term; and
  - 23A.3.2 the Contract Year (or Years) when the Lifecycle Replacement is planned to take place.
- 23A.4 Each Schedule of Lifecycle Replacement shall contain the following additional information for the items scheduled for the following Contract Year:
- 23A.4.1 details of all items of Plant and Group 1 Equipment and any other asset for which Lifecycle Replacement is planned during the Contract Year;
  - 23A.4.2 any changes in any Plant, Group 1 Equipment or any other assets which appear in the Schedule of Lifecycle Replacement since the previous annual revision of the Schedule of Lifecycle Replacement;
  - 23A.4.3 evidence which demonstrates that Project Co has taken into account in the proposed Lifecycle Replacement the cost to the Board of occupation and operation of the Facilities, which may be affected by Project Co's proposals for Lifecycle Works, including without limitation, energy consumption and the Board's maintenance and cleaning obligations;

- 23A.4.4 details of Group 1 Equipment to be replaced and commentary on how this has been determined with particular reference to any changes to the Board Services which the Board has made Project Co aware of, which mean that a like for like replacement of Group 1 Equipment may not be appropriate or represent best value for money to the Board;
- 23A.4.5 details of the proposed start and end dates for the Lifecycle Replacement, the works to be carried out and the proposed hours of work, and any other information which the Board may reasonably require; and
- 23A.4.6 details of any effect of the Lifecycle Replacement on the delivery of any of the Services and/or the activities of the Board.
- 23A.5 Where Lifecycle Replacement provides an opportunity to improve whole life costs, such as through lower energy consumption, longer life, or lower replacement costs, Project Co shall provide the Board with the details and benefits of any alternative products or solutions.
- 23A.6 The Board's Representative may comment on each Schedule of Lifecycle Replacement submitted by Project Co in accordance with this Clause 23A in accordance with Schedule Part 8 (*Review Procedure*). Project Co shall consider the Board's Representative comments but, for the avoidance of doubt (and without prejudice to Project Co's obligations under this Agreement), Project Co shall not be obliged to amend the Schedule of Lifecycle Replacement to reflect any comments which the Board's Representative may make in accordance with the provisions of paragraph 3.11 of Schedule Part 8 (*Review Procedure*).

### **Programmed and Unprogrammed Maintenance**

- 23.6 Project Co shall not carry out any Programmed Maintenance or Unprogrammed Maintenance Works or Lifecycle Replacement save:
- 23.6.1 in accordance with a Schedule of Programmed Maintenance or Schedule of Lifecycle Replacement to which subject to Clause 23A.6 (*Lifecycle Replacement*), no objection has been made under Schedule Part 8 (*Review Procedure*) or, where comment has been raised in respect of the Programmed Maintenance periods and/or time, the Schedule of Programmed Maintenance or Schedule of Lifecycle Replacement has been amended pursuant to the Service Level Specification;
- 23.6.2 in accordance with the procedures set out in Clause 23.8; or
- 23.6.3 in an emergency, in accordance with Clause 23.9.
- 23.7 Notwithstanding that there has been no objection to a Schedule of Programmed Maintenance or Schedule of Lifecycle Replacement, the Board's Representative may, at any time, require Project Co to accelerate or defer any Programmed Maintenance or Lifecycle Replacement by giving written notice to Project Co, (unless otherwise agreed) not less than twenty (20) Business Days prior to the scheduled date for carrying out such Programmed Maintenance or Lifecycle

Replacement, which notice shall set out the time and/or periods at or during which the Board requires the Programmed Maintenance or Lifecycle Replacement to be performed. Project Co shall notify the Board of the amount of any additional reasonable costs which it will incur as a direct consequence of such acceleration or deferment (the "**Estimated Increased Maintenance and Lifecycle Costs**") within five (5) Business Days of the receipt of the written notice advising of the requirement for an acceleration or deferment of the Programmed Maintenance or Schedule of Lifecycle Replacement. The Board shall, within a further period of five (5) Business Days following receipt by the Board of notification of the amount of the Estimated Increased Maintenance and Lifecycle Costs, at the Board's option, either confirm or withdraw its request to accelerate or defer the Schedule of Programmed Maintenance and Schedule of Lifecycle Replacement. If the Board does not respond within this five (5) Business Day period, the request shall be deemed to have been confirmed. The Board shall reimburse Project Co the direct and reasonable costs actually incurred by Project Co as a consequence of such acceleration or deferment up to, but not exceeding, the amount of the Estimated Increased Maintenance and Lifecycle Costs.

- 23.8 If, in circumstances other than an emergency, the need arises for Maintenance Works or Lifecycle Replacement (excluding any works of a *de minimis* nature in respect of which the parties have agreed this Clause 23.8 shall not apply and excluding works carried out for the purpose of Rectification, which shall take place in accordance with the provisions of Schedule Part 14 (*Payment Mechanism*)), which are not scheduled to be carried out as part of the Programmed Maintenance or Lifecycle Replacement ("**Unprogrammed Maintenance or Lifecycle Replacement Works**"), Project Co shall not carry out any Unprogrammed Maintenance or Lifecycle Replacement Work unless and until the Board's Representative has approved the proposed commencement date, the proposed hours of work and estimated duration of the requisite Unprogrammed Maintenance or Lifecycle Replacement Work in accordance with the provisions of paragraph 3.9 of Schedule Part 8 (*Review Procedure*). Nothing in this Clause 23.8 (including any approval of the Board pursuant to Schedule Part 8 (*Review Procedure*)) shall prevent the Board from making any deductions in calculating the Monthly Service Payments pursuant to the Payment Mechanism.
- 23.9 If, as a result of an emergency, the need arises for Unprogrammed Maintenance or Lifecycle Replacement Works, Project Co may carry out such Unprogrammed Maintenance or Lifecycle Replacement Works provided that Project Co shall notify the Board's Representative as soon as possible (and in any event within one (1) hour of the occurrence of the emergency) of the extent of the necessary Unprogrammed Maintenance or Lifecycle Replacement Works and the reasons for them. Project Co shall take all reasonable steps to minimise the duration of such Unprogrammed Maintenance or Lifecycle Replacement Works. Nothing in this Clause 23.9 shall prevent the Board from making any deductions in calculating the Monthly Service Payments pursuant to the Payment Mechanism.
- 23.10 Where Programmed Maintenance and/or Lifecycle Replacement scheduled to be carried out in accordance with the Schedule of Programmed Maintenance has been deferred by the Board's Representative under Clause 23.7, Project Co shall not be treated as having failed to perform the relevant Service on account of the condition of the Facilities or any part of them from the time the Programmed Maintenance and/or Lifecycle Replacement was scheduled to have been completed until the time the deferred Programmed Maintenance and/or Lifecycle Replacement was scheduled to have been completed, but not afterwards, provided always, to avoid doubt, that Project Co shall not be relieved from the consequences of any failure to maintain the Facilities in respect of any period prior to the period for performing the particular work according to the Schedule of Programmed Maintenance or the Schedule of Lifecycle Replacement.



### 5 Year Maintenance Plan

- 23.11 Project Co shall deliver to the Board's Representative not less than three (3) months prior to the Completion Date, and thereafter not less than three (3) months prior to the commencement of each Contract Year the latest version of the 5 Year Maintenance Plan.
- 23.12 The Board shall have a right to inspect the Facilities and the Maintenance Works to ensure that the Facilities are being maintained in accordance with the Service Level Specification and that the Facilities comply with the Board's Construction Requirements and Project Co's Proposals throughout the Project Term. The Board may appoint an independent third party for the purposes of carrying out any such inspection and shall make known the findings to Project Co and the Funders. The parties shall then meet to discuss any implications of such findings and any steps that are necessary to remedy any failure to comply with such obligations. Project Co shall (subject to Clause 33 (*Change Protocol*)) take into account such discussions in the next Schedule of Programmed Maintenance so that any failure to comply with such obligations shall be remedied.

### Board's Maintenance Obligations

- 23.13 The Board's Maintenance Obligations are as follows:
- 23.13.1 not less frequently than once in every five (5) years from the Actual Completion Date, in a good and workmanlike manner to make good plaster and other interior wall and ceiling finishes and decoration in all such parts of the interior of the Functional Areas as were plastered, finished and/or decorated by Project Co as part of the Works or in implementing a Board Change;
- 23.13.2 Not Used;
- 23.13.3 Not Used;
- 23.13.4 as often as is necessary to maintain anything provided by the Board under a Derogated Low Value Change; and
- 23.13.5 to ensure that all portable electrical appliances that are connected to the electricity supply in the Facilities by the Board and Board Parties have been tested in accordance with Law and the "**Code of Practice for In-service Inspection and Testing of Electrical Equipment**" published from time to time by the Institution of Electrical Engineers.
- 23.14 Subject to Clause 23.21, the Board must carry out and perform the Board's Maintenance Obligations or procure that the Board's Maintenance Obligations are carried out and performed as often as required by Clause 23.13 and in accordance with Good Industry Practice. Without prejudice to the Board's rights under Clause 23.7, the Board's Maintenance Obligations must be scheduled by the Board so as not to interfere with Project Co carrying out Programmed Maintenance or Lifecycle Replacement in accordance with the Schedule of Programmed Maintenance or Schedule of Lifecycle Replacement and/or interfere with Project Co carrying out Unprogrammed Maintenance Work or Lifecycle Replacement in accordance with

## Clause 23.8.

23.15 If the Board is in breach of Clause 23.14, Project Co may, while the breach is continuing, give a notice to the Board requiring it to carry out the relevant Board Maintenance Obligations. If the Board:

23.15.1 does not reply to Project Co in writing within ten (10) Business Days of the date of Project Co's notice with a programme for carrying out the relevant Board Maintenance Obligations within a period of time that is reasonable having regard to the nature of the breach, the reasonably foreseeable consequences of non-performance of the relevant Board Maintenance Obligations for the Services and Project Co's obligations under this Agreement; or

23.15.2 having provided such a programme, does not comply with it,

Project Co shall be entitled to perform the Board's Maintenance Obligations so far as necessary to prevent any reasonably foreseeable adverse effect on the Services and/or Project Co's obligations under this Agreement consequent upon the non-performance of the relevant Board Maintenance Obligations ("**Project Co-Remedial Services**").

23.16 Project Co shall not carry out any Project Co's Remedial Services unless and until the Board's Representative, pursuant to this Clause 23.16, has approved or is deemed to have approved or has specified the proposed commencement date, the proposed hours of work and the estimated duration of Project Co's Remedial Services (together the "**PRS Timetable**"). Project Co must give the Board not less than twenty (20) Business Days notice of its proposed PRS Timetable. If the Board's Representative considers that the proposed PRS Timetable is not consistent with the principles set out in Appendix 2 to Schedule Part 8 (*Review Procedure*), he may specify an alternative PRS Timetable that is consistent with those principles, which shall be as near to the PRS Timetable proposed by Project Co as reasonably practicable. If the Board's Representative fails either to approve Project Co's proposed PRS Timetable or to specify an alternative PRS Timetable within ten (10) Business Days of receipt of Project Co's proposed PRS Timetable, he shall be deemed to have approved it.

23.17 The Board must allow Project Co and relevant Project Co Parties access to the Site and the Facilities:

23.17.1 for the purpose of monitoring the carrying out of Board's Maintenance Obligations; and

23.17.2 in accordance with the approved PRS Timetable for the purpose of carrying out any of Project Co's Remedial Services.

23.18 If the Board does not allow access to the Site and/or the Facilities as required pursuant to Clause 23.17.2, or otherwise prevents or interferes with Project Co and any relevant Project Co Party performing the PRS Remedial Works, Project Co may propose a new PRS Timetable in respect of the relevant Project Co's Remedial Services and Clause 23.16 shall apply.

- 23.19 In carrying out and performing Project Co's Remedial Services, Project Co must comply with the standards applicable to the relevant Board's Maintenance Obligations and Good Industry Practice and must use reasonable endeavours to match colours and other finishes to those that currently exist in the relevant part or parts of the Facilities.
- 23.20 The Board must reimburse Project Co all reasonable costs that it incurs in carrying out and performing Project Co's Remedial Services in accordance with this Clause 23.
- 23.21 Notwithstanding the terms of Clauses 23.14 to 23.19 above, Project Co is responsible for:
- 23.21.1 making good any defects in plaster and other interior wall and ceiling finishes and decoration provided by Project Co as part of the Works or in implementing a Board Change, caused by defective design or workmanship in the carrying out of the Works or in implementing the Board Change; and
- 23.21.2 making good any defects in plaster and other interior wall and ceiling finishes and decoration provided by Project Co as part of the Works or in implementing a Board Change (whether or not these have subsequently been replaced or renewed by the Board) and things referred to in Clause 23.13.4 consequential on any Programmed Maintenance or Unprogrammed Maintenance or any act or omission of Project Co.
- 23.22 The Board and Project Co shall co-operate with each other to coordinate any activities that the Board proposes to undertake to implement any of the Board's Maintenance Obligations and Project Co's Programmed Maintenance and Project Co must include the Board's intentions with regard to performing the Board's Maintenance Obligations in the Schedule of Programmed Maintenance for each Contract Year.

### **Energy for Repairs**

- 23.23 Subject to Clause 23.24, the Board is entitled to be reimbursed by Project Co for costs incurred by the Board for Utilities supplied to the Facilities during the Operational Term that are consumed in the process of Project Co or any Project Co Party carrying out operations to rectify an Availability Failure.
- 23.24 For the purpose of applying Clause 23.23 the cost of each Utility shall be considered separately and Clause 23.23 shall not apply if the costs concerned, in respect of the particular Availability Failure, do not exceed the daily average cost based on bills paid by the Board to the supplier of the relevant Utility to the Facilities over the most recent twelve (12) month period for which figures are available. If the particular Availability Failure occurs prior to first anniversary of the Actual Completion Date then the daily average cost based on bills paid by the Board to the supplier of the relevant Utility shall be calculated by reference to the period from the Actual Completion Date to the date of the Availability Failure.
- 23.25 Where the Board claims reimbursement of Utilities costs pursuant to Clause 23.23 it must reasonably estimate those costs using all available evidence and send

Project Co a statement showing its calculation of the amount claimed along with its supporting evidence. Unless Project Co disputes the statement within ten (10) Business Days of receipt, the Board will be entitled, pursuant to Clause 34.6 (*Set Off*), to set-off the amount claimed.

### Energy for deviation from the Energy Strategy

- 23.26 Subject to Clause 23.27, the Board is entitled to be reimbursed by Project Co for costs and losses incurred by the Board in relation to Utilities supplied to the Facilities during the Operational Term that are consumed as a result of the occurrence of Performance Failure(s) in respect of Performance Standard FM67A, such additional costs to be calculated in accordance with Clause 23.29 below (the “**Utility Cost Difference**”).
- 23.27 For the purpose of applying Clause 23.26 the Board shall not be entitled to reimbursement if the Utility Cost Difference is less than zero (0).
- 23.28 Where the Board claims reimbursement of Utilities costs and/or losses pursuant to Clause 23.26 it must calculate the Utility Cost Difference pursuant to Clause 23.29 and send Project Co a statement showing its calculation of the amount claimed along with its supporting evidence. Unless Project Co disputes the statement within ten (10) Business Days of receipt, the Board will be entitled, pursuant to Clause 34.6, to set-off the amount claimed.
- 23.29 The Board shall calculate the Utility Cost Difference using the following formula:

$$\text{Utility Cost Difference} = \text{Actual Utility Cost} - \text{Energy Strategy Utility Cost}$$

For the purposes of this Clause 23.29:

- 23.29.1 The Actual Utility Cost is the aggregate of the cost of Utilities for each heat and power source incurred for each day on which the relevant Performance Failure occurs and shall be calculated as:

$$\text{Actual Utility Cost} = \sum \text{Heat Cost} + \sum \text{Power Cost}$$

- 23.29.2 The Energy Strategy Utility Cost is the aggregate cost of Utilities for each heat and power source that would have been incurred for each day had the relevant Performance Failure not occurred and shall be calculated as:

$$\text{Energy Strategy Utility Cost} = \sum \text{Heat Cost} + \sum \text{Power Cost}$$

- 23.29.3 The Heat Cost in respect of heat source (n) shall be calculated as:

$$\text{Heat Cost}_n = \left( \frac{H_{DHn}}{E_{Hn}} \right) \times H_{nUc} - RHI_n$$

Where

$H_{DHn}$  = heat demand met by heat source n  
 $E_{Hn}$  = efficiency ratio for heat source n as provided for in the Energy Strategy  
 $H_{nUc}$  = average unit cost of fuel for heat source n  
 $RHI_n$  = renewable heat incentive savings available for heat source n

23.29.4 The Power Cost in respect of power source (n) shall be calculated as:

$$\text{Power Cost}_n = (P_{DPn} \times P_{nUc}) - FIT_n$$

Where

$P_{DPn}$  = power demand for power source n

$P_{nUc}$  = average unit cost of fuel for power source n

$FIT_n$  = feed in tariff savings available for power source n

## 24. MONITORING OF PERFORMANCE

### Monitoring

- 24.1 In carrying out the Services, Project Co shall, and shall procure that all Project Co Parties and any other persons for whom it is responsible shall, comply with the provisions of Schedule Part 12 (*Service Requirements*).
- 24.2 Project Co shall be responsible for monitoring its performance of this Agreement during the Operational Term, in the manner and at the frequencies set out in Schedule Part 12 (*Service Requirements*). Project Co shall provide the Board's Representative with relevant particulars of any aspects of its performance which fail to meet the requirements of this Agreement (unless otherwise notified in writing by the Board). The Board may at all reasonable times observe, inspect and satisfy itself as to the adequacy of the monitoring procedures (including without limitation carrying out sample checks).

### Grounds for Warning Notices

- 24.3 If at any time during the Operational Term (other than by reason of a Force Majeure Event, a Relief Event or an Emergency):
- 24.3.1 the total Deductions for any Contract Month amount to more than 0.207 per cent of the Annual Service Payment for the current Contract Year; or
- 24.3.2 the total Deductions in each of any three Contract Months in any six consecutive Contract Months amount to more than 0.097 per cent of the Annual Service Payment for the current Contract Year,

the Board's Representative may serve a Warning Notice on Project Co, provided always that, to give Project Co time to take appropriate rectification measures, the Board's Representative shall not be entitled:

- (a) to serve more than one (1) Warning Notice in any Contract Month;
- (b) to serve a Warning Notice in any two (2) consecutive Contract Months to the extent that the same event has contributed to the Board's right to serve the Warning Notice, but provided that Project Co demonstrates to the Board that it has taken all reasonable steps to remedy the cause of that event.

### Warning Notices Disputes

- 24.4 If Project Co disputes that the Board was or is entitled to serve a Warning Notice, Project Co may refer that dispute for determination under the Dispute Resolution Procedure for resolution. If, after the Board's Representative issues a Warning Notice, the parties subsequently agree, or it is determined under the Dispute Resolution Procedure that the Warning Notice was served without justification, that Warning Notice shall be recalled or shall be cancelled and deemed not to have been served.

### Board's remedial rights

- 24.5 The provisions of Clauses 24.6 to 24.9 (inclusive) shall apply if the Board, acting reasonably, considers that it needs to take action in connection with the Services:

24.5.1 because of an immediate and serious threat to the health or safety of any user of the Facilities and/or the Retained Estate; or

24.5.2 to prevent or address material interruption in the provision of one or more of the Services; or

24.5.3 because of a risk of the ability of the Board to provide the relevant Board Services being prejudiced to a material degree.

- 24.6 If any of the circumstances set out in Clause 24.5 arise (without prejudice to its rights under Clause 40 (*Project Co Event of Default*) or any other express rights under this Agreement) and the Board wishes to take action (either by itself or by engaging others), the Board shall notify Project Co in writing of the following:

24.6.1 the action it wishes to take;

24.6.2 the reason for such action;

24.6.3 the date it wishes to commence such action;

24.6.4 the time period which it believes will be necessary for such action; and

24.6.5 to the extent practicable, the effect on Project Co and its obligation to provide the Services during the period such action is being taken.

- 24.7 Following service of such notice, the Board shall take such action as has been notified under Clause 24.6 and any consequential additional action as it reasonably believes is necessary (together, the "**Required Action**") and Project Co shall give all reasonable assistance to the Board while it is taking the Required Action. To the extent that the Board performs any of the obligations of Project Co hereunder or undertakes tasks that would otherwise be undertaken by Project Co pursuant to this Agreement, the Board shall perform such obligations or undertake such tasks to the same standard as would be required of Project Co under the terms of this Agreement.



- 24.8 If the Required Action is taken other than as a result of a breach by Project Co of its obligations under this Agreement, then for so long as and to the extent that the Required Action is taken, and this prevents Project Co from providing any part of the Services:
- 24.8.1 Project Co shall be relieved from its obligations to provide such part of the Services; and
- 24.8.2 in respect of this period in which the Board is taking the Required Action and provided that Project Co provides the Board with reasonable assistance (such assistance to be at the expense of the Board to the extent that additional costs are incurred), the Monthly Service Payments due from the Board to Project Co shall equal the amounts that Project Co would receive if it were satisfying all of its obligations and providing the Services affected by the Required Action in full over that period and the Board shall indemnify Project Co against all Direct Losses sustained by Project Co as a result of the Board taking the Required Action.
- 24.9 If the Required Action is taken as a result of a breach by Project Co of its obligations under this Agreement, then for so long as and to the extent that the Required Action is taken, and this prevents Project Co from providing any part of the Services:
- 24.9.1 Project Co shall be relieved of its obligations to provide such part of the Services; and
- 24.9.2 in respect of the period in which the Board is taking the Required Action, the Monthly Service Payments due from the Board to Project Co shall equal the amounts Project Co would receive if it were satisfying all of its obligations and providing the Services affected by the Required Action in full over that period, less an amount equal to all of the costs incurred by the Board in taking the Required Action (including, without limitation, an appropriate sum in respect of general staff costs and overheads).

### **Emergencies**

- 24.10 If an Emergency arises during the Operational Term which cannot be dealt with by performance of the Services, the Board may instruct Project Co to procure that such additional or alternative services are undertaken by Project Co as and when required by the Board to ensure that the Emergency is dealt with and normal operation of the Facilities resumes as soon as is reasonably practicable.
- 24.11 The cost of any additional or alternative services provided by Project Co under Clause 24.10 shall be borne by the Board and paid in accordance with Clause 34 (*Payment*). The Board will not be entitled to levy Deductions in respect of any failure to provide the Services to the extent that such failure arises by reason of Project Co's compliance with Clause 24.10.

## 25 TUPE AND EMPLOYMENT MATTERS

### No Employee Transfer

- 25.1 The Board and Project Co agree that there are no individuals presently employed by the Board or any other sub-contractor of the Board whose contracts of employment will, by virtue of the transfer to Project Co of responsibility for provision of (or procuring the provision by Service Providers of) any of the Services in accordance with this Agreement and in accordance with the Transfer Regulations, have effect after the date or dates of such transfer as agreed by the parties (each a "**Relevant Service Transfer Date**") (or at any other time) as if originally made between those persons and the relevant Service Provider.
- 25.2 If it is subsequently agreed or determined that there are persons presently employed by the Board or any other sub-contractor of the Board whose contracts of employment do have effect after the Relevant Service Transfer Date as if originally made between those persons and the relevant Service Provider ("**Transferring Staff**") then:
- 25.2.1 the Board shall within ten (10) Business Days of the date on which it was so agreed or determined have the opportunity to offer or procure the offer of a position as an employee of the Board to some or all of the Transferring Staff;
- 25.2.2 Project Co shall procure that no person to whom the Board has offered a position in accordance with Clause 25.2.1 shall be dismissed by reason of redundancy until the period for acceptance of such offer has expired and the person in question has not accepted such offer; and
- 25.2.3 subject to Clauses 25.2.1 and 25.2.2 Project Co or any Service Provider shall be entitled to dismiss any or all of the Transferring Staff by reason of redundancy provided that Project Co shall and shall procure that any Service Provider shall carry out in the required manner any obligation to consult with the Transferring Staff or any of them, or their respective representatives, and shall use all reasonable endeavours to mitigate the amount of any costs payable in respect of the Transferring Staff or their dismissal.

The Board shall indemnify Project Co against any costs referred to in Clause 25.2.3 reasonably incurred by Project Co (or by a relevant Service Provider and for which Project Co is responsible) and shall reimburse any costs reasonably and properly incurred by Project Co or the Service Provider in employing any Transferring Staff prior to the expiry of the period referred to in Clause 25.2.2 including any protective award claims that arise as a result of the Board's failure or omission in relation to consultation required under the Transfer Regulations.

### Compliance with Legislation and Board Policies

- 25.3 Project Co shall comply and shall procure that each Service Provider and all persons employed or engaged by a Service Provider in connection with the provision of any Service shall comply at all times with the Law on health and safety at work and on anti-discrimination and equal opportunities.
- 25.4 Project Co shall procure that each Service Provider takes all reasonable steps to

procure that all persons including any employed or engaged by a Service Provider in connection with the provision of any Service shall, so far as applicable, comply with the Board Policies as regards health and safety at work (including the Board Policy regarding smoking) and with those relating to anti-discrimination and equal opportunities (including those relating to harassment). Project Co also shall take and shall procure that every Service Provider shall take all such steps as the Board may reasonably require, which shall include co-operation with action proposed or taken by the Board, to ensure that the Board complies with its duty under Section 3(1) Health and Safety at Work Act 1974 regarding the conduct of the undertaking of the Board.

### **Project Co Indemnities**

25.5 Project Co shall indemnify and keep indemnified in full the Board and, at the Board's request, each and every service provider who has or shall provide any service equivalent to any of the Services against:

25.5.1 claims in respect of all emoluments and all other contractual or statutory payments unpaid by Project Co or a Service Provider to any person entitled to such payments from Project Co or a Service Provider who is or has been employed or engaged by Project Co or any Service Provider on or after the Relevant Service Transfer Date but prior to the date of expiry or termination of this Agreement, and all income tax and pension and national insurance contributions payable thereon; and

25.5.2 insofar as Clause 25.5.1 does not apply, all Direct Losses incurred by the Board as a result of any claim against the Board in respect of any liability to any person who is or has been employed or engaged (whether as a consequence of the Transfer Regulations or of the provisions of this Clause 25) by Project Co or any Service Provider in connection with the provision of any of the Services, where such claim arises as a result of any act or omission of Project Co or the Service Provider occurring after the Relevant Service Transfer Date and before the expiry or termination of this Agreement;

BUT the indemnities in Clauses 25.5.1 and 25.5.2 shall not apply to the extent that the claim arises from a wrongful act or omission of the Board or is in respect of sums for which the Board is liable pursuant to Clause 25.2.

25.6 Clause 49.3 (*Conduct of Claims*) of this Agreement shall apply where any claim is made in respect of the indemnities given by Project Co under Clause 49.1 (*Project Co Indemnities*).

### **Position on expiry or earlier termination of this Agreement**

25.7 On the expiry or earlier termination of this Agreement, the Board and Project Co agree that it is their intention that the Transfer Regulations shall apply in respect of the provision thereafter of any service equivalent to a Service but the position shall be determined in accordance with the Law at the date of expiry or termination as the case may be and this Clause is without prejudice to such determination.

25.8 Project Co shall not and shall procure that no Service Provider shall make any material change to the terms and conditions of employment of any person employed in the provision of any Service, transfer any person employed in the provision of any Service to another part of its business, or materially increase or

decrease the number of such persons:

25.8.1 within the period of twelve (12) months immediately preceding the expiry of this Agreement, or

25.8.2 within the period of twelve (12) months before the termination of this Agreement or, if shorter, during the period of notice of termination

without the Board's consent (which shall not be unreasonably withheld), except if such change is required by Law.

25.9 If the Transfer Regulations do not apply on the expiry or earlier termination of this Agreement, the Board shall ensure that each new provider of a service equivalent to a Service on or after the expiry or earlier termination of this Agreement (including the Board) shall offer employment to the persons employed by Project Co or a Service Provider in the provision of the Service immediately before the expiry or earlier termination of this Agreement and shall indemnify Project Co or a Service Provider for Direct Losses any of them may suffer or incur as a result of its failure to do so, and for any costs, claims or liabilities for redundancy payments (whether statutory or contractual).

25.10 If an offer of employment is made in accordance with Clause 25.9 the employment shall be on the same terms and conditions as applied immediately before the expiry or earlier termination of this Agreement including full continuity of employment, except that the Board or other new service provider may at its absolute discretion not offer such terms and conditions if there has been any change to the terms and conditions of the persons concerned in breach of Clause 25.8.

## **26. NOT USED**

## **27. SITE AND OFF-SITE SECURITY AND PERSONNEL ISSUES**

### **Access**

27.1 The Board shall have the right to refuse admittance to, or order the removal from, the Facilities and/or the Retained Estate of any person employed by (or acting on behalf of) Project Co, any Project Co Party or any sub-contractor whose presence, in the reasonable opinion of the Board, is likely to have a material adverse effect on the provision by the Board of the relevant Board Services at the Facilities and/or the Retained Estate or who is not a fit and proper person to be in the Facilities and/or the Retained Estate.

27.2 Action taken under Clause 27.1 shall forthwith be confirmed in writing by the Board to Project Co and, to avoid doubt, shall not relieve Project Co of any of its obligations under this Agreement.

27.3 If and when so directed in writing by the Board, Project Co shall within twenty (20) Business Days provide a list of the names and addresses of all persons it expects may require admission in connection with this Agreement, to any premises occupied by the Board, specifying the capacities in which those persons are concerned with this Agreement and giving such other particulars as the Board may

reasonably require.

- 27.4 The decision of the Board as to whether any person is to be refused admission shall be final and conclusive.

### **Board Policies**

- 27.5 Project Co shall, and shall procure that all Project Co Parties shall, comply at all times with the Board Policies.
- 27.6 The Board shall notify Project Co of any proposed change to the Board Policies as soon as practicable (and, in any event, prior to such change taking effect) and consult with Project Co. Subject to Clause 27.7, such change shall take effect as a Change in accordance with Schedule Part 16 (*Change Protocol*).
- 27.7 The Board may, at its sole option, notify Project Co that Project Co shall not be obliged to comply with any change to any Board Policy and that Project Co should continue to comply with the relevant Board Policy prior to any change in which case such change shall not take effect as a Change in accordance with Schedule Part 16 (*Change Protocol*).

### **Resources and training**

- 27.8 Project Co shall procure that:
- 27.8.1 there shall at all times be a sufficient number of staff (including all relevant grades of supervisory staff) engaged in the provision of the Services with the requisite level of skill and experience. To avoid doubt, this obligation shall include ensuring that there are sufficient staff to cover periods of holiday, sickness, other absence, and anticipated and actual peaks in demand for each of the Services; and
- 27.8.2 all staff receive such training and supervision as is necessary to ensure the proper performance of this Agreement and compliance with all health and safety rules, procedures and requirements.
- 27.9 Not Used.

### **Convictions and disciplinary action**

- 27.10 Subject to Clause 27.10A, Project Co (to the extent permitted by Law) shall procure that all potential staff or persons performing any of the Project Operations who may reasonably be expected in the course of their employment or engagement to have access to children, the elderly and/or vulnerable adults:
- 27.10.1 are questioned concerning their Convictions; and
- 27.10.2 are required to complete a Protecting Vulnerable Groups Scheme

form.

- 27.10A The completion of a Protecting Vulnerable Groups Scheme form in accordance with Clause 27.10 shall not be applicable to any person engaged by Project Co or a Service Provider during the course of the Project Operations (who is not a member of Project Co's or Service Provider's staff nor ordinarily at the Facilities and/or the Retained Estate) provided that any such person is always accompanied within the Facilities and/or Retained Estate by a member of Project Co's or a Service Provider's staff who has satisfactorily completed a Protecting Vulnerable Groups Scheme form and who (if found to have any Convictions) has been employed or engaged in the Project Operations with the Board's prior written consent pursuant to Clause 27.11.
- 27.11 Project Co shall procure that no person who discloses any Convictions, or who is found to have any Convictions following the completion of a Protecting Vulnerable Groups Scheme form, in either case of which Project Co or a Service Provider is aware or ought to be aware is employed or engaged in the provision of the Project Operations without the Board's prior written consent (such consent not to be unreasonably withheld or delayed).
- 27.12 Project Co shall procure that the Board is kept advised at all times of any person employed or engaged by Project Co or any Service Provider in the provision of any of the Project Operations who, subsequent to his/her commencement of such employment or engagement, receives a Conviction of which Project Co or a Service Provider becomes aware or whose previous Convictions become known to Project Co or a Service Provider.
- 27.13 The Board's Representative (acting reasonably) may instruct Project Co to procure that appropriate disciplinary action is taken against any employee of Project Co or any Sub-Contractor (in accordance with the terms and conditions of employment of the employee concerned) who misconducts himself or is incompetent or negligent in his duties or whose presence or conduct on the Site and/or Off-Site or at work is otherwise considered by the Board's Representative (acting reasonably) to be undesirable. The Board shall co-operate with any such disciplinary proceedings and shall be advised in writing by Project Co of the outcome.
- 27.14 Project Co shall procure that there are set up and maintained, by it and by all Service Providers, personnel policies and procedures covering all relevant matters (including discipline, grievance, equal opportunities and health and safety). Project Co shall procure that the terms and the implementation of such policies and procedures comply with Law and Good Industry Practice and that they are published in written form and that copies of them (and any revisions and amendments to them) are forthwith issued to the Board.

### **Management**

- 27.15 Project Co shall consult with the Board in relation to the selection procedure (which shall stipulate a professional qualification in respect of facilities management or equivalent qualification) for Project Co's Facility Manager and such person shall not be appointed (or replaced) without the prior written consent of the Board (such consent not to be unreasonably withheld or delayed).
- 27.16 Project Co shall provide, and shall procure that all Service Providers provide, to the Board upon request details of their respective management organisations.



**Lists and Records**

27.17 Project Co shall procure that the Board's Representative shall at all reasonable times have access to all material details in respect of all employees of Project Co or any Service Provider engaged in the provision of the Services including numbers and categories of staff employed to perform the Services and including in respect of each such employee:

27.17.1 details of qualifications; and

27.17.2 details of training undertaken by the employee.

**Health Requirements**

27.18 Not Used.

27.19 Not Used.

27.20 Not Used.

27.21 The Board's Representative may (acting reasonably) refuse admittance to or order the removal from the Board's premises of any person employed or engaged in the provision of the Services whose presence poses or is reasonably believed to pose a risk to the health of Board staff, patients or visitors and such action, which shall forthwith be confirmed in writing by the Board, shall not relieve Project Co of any of its obligations under this Agreement.

**28. STOCKS CONSUMABLES, MATERIALS AND EQUIPMENT****Standards**

28.1 All goods, equipment, consumables and materials which are to be used in the provision of the Services shall be of satisfactory quality.

28.2 Project Co shall ensure that the goods, equipment, consumables and materials used by it or any Sub-Contractor in connection with the provision of any of the Services (each as a distinct and separate obligation) are:

28.2.1 maintained in a safe, serviceable and clean condition in accordance with Good Industry Practice;

28.2.2 of the type specified in the Service Level Specification and/or the Method Statements (where appropriate); and

28.2.3 in compliance with any relevant rules, regulations, codes of practice and/or British or European Standards,

and shall, as soon as practicable after receiving a request from the Board's Representative, supply to the Board's Representative evidence to demonstrate its compliance with this Clause 28.2.

- 28.3 Project Co shall procure that sufficient stocks of goods, consumables, equipment and materials are held in order to comply with its obligations under this Agreement.

#### **Hazardous substances and materials**

- 28.4 Project Co shall not install, keep or use in or on the Facilities any materials, equipment or apparatus the installation, keeping or use of which is likely to cause (or in fact causes):

28.4.1 material damage to the Facilities;

28.4.2 dust, noise or vibration constituting a nuisance to the owners and/or occupiers of any property adjoining or near to the Facilities; or

28.4.3 the generation, accumulation or migration of any hazardous substance in an unlawful manner whether within or outside the Facilities,

and shall use all reasonable endeavours to ensure (by directions to staff and otherwise) that all materials, equipment or apparatus in or on the Facilities is operated so as to minimise noise and vibration likely to cause annoyance or disturbance and the unlawful generation or migration of any hazardous substance.

- 28.5 Project Co shall not bring in or on to (or keep or maintain in or on) the Facilities, any hazardous materials or equipment without the prior written consent of the Board and unless Project Co has complied with all relevant Law.

- 28.6 Without prejudice to the generality of its obligations, Project Co shall:

28.6.1 procure that all hazardous materials and equipment used, by it or by a Sub-Contractor or used on behalf of any of them, or stored, by it or by a Sub-Contractor or stored on behalf of any of them, on the Site and/or Off-Site are kept in accordance with all relevant Law and Good Industry Practice, properly and securely labelled and stored, under appropriate supervision and used only by appropriately trained and competent staff; and

28.6.2 use all practicable and reasonable means to:

(a) prevent or counteract, to the satisfaction of the Board's Representative, the unlawful emission of any such hazardous substance;

(b) avoid the unlawful discharge into any conducting media serving the Facilities, of any hazardous substance;

- (c) prevent the unlawful generation, accumulation or migration of any hazardous substance at or from the Facilities; and
- (d) prevent any environmental claims arising or any circumstances arising likely to result in any environmental claims,

in so far as any such hazardous substance is, or should be, under the control of Project Co pursuant to this Agreement.

28.7 The Board shall:

28.7.1 procure that all hazardous materials and equipment used, by it or by any Board Party or used on behalf of any of them, or stored, by it or by any Board Party or stored on behalf of any of them, on the Site are kept in accordance with all relevant Law and Good Industry Practice, properly and securely labelled and stored, under appropriate supervision and used only by appropriately trained and competent staff; and

28.7.2 use all practicable and reasonable means to:

- (a) prevent or counteract the unlawful emission of any such hazardous substance;
- (b) avoid the unlawful discharge into any conducting media serving the Facilities of any hazardous substance;
- (c) prevent the unlawful generation, accumulation or migration of any hazardous substance at or from the Facilities; and
- (d) prevent any environmental claims arising or any circumstances arising likely to result in any environmental claims,

in so far as any such hazardous substance is, or should be, under the control of the Board.

28.8 The Board shall:

28.8.1 maintain a COSHH register for the Facilities, which shall be up-to-date at all times;

28.8.2 ensure that a copy of the COSHH register is kept at the Facilities; and

28.8.3 ensure that a further copy of the COSHH register is given to Project Co as often as it is changed.

28.9 Project Co shall:

- 28.9.1 provide or procure that the Service Provider provides all necessary information (in a form acceptable to the Board) in respect of items associated with the provision of the Services at the Facilities in order to allow the Board to comply with its obligations set out at Clause 28.8; and
  - 28.9.2 carry out or procure that the Service Provider carries out all relevant COSHH risk assessments, the training and the display and provision of risk assessments thereto at the Facilities in respect of the Services.
- 28.10 The Board shall have no liability for any information provided by Project Co and/or the Service Provider pursuant to Clause 28.9 and for the avoidance of doubt the Board shall not be responsible for carrying out any assessments, providing training and displaying information relative to COSHH in respect of the Services.

## PART 7: DELAY EVENTS, RELIEF EVENTS AND FORCE MAJEURE

### 29. DELAY EVENTS

- 29.1 If, at any time, Project Co becomes aware that there will be (or is likely to be) a delay in completion of the Works, Project Co shall forthwith give notice to the Board's Representative to that effect specifying the relevant delay or impediment. In relation to any such delay or impediment if the Board's Representative is satisfied, or it is determined in accordance with Schedule Part 20 (*Dispute Resolution Procedure*), that such delay or impediment has arisen as a result of the occurrence of a Delay Event, then, subject to Clause 29.2, the Board's Representative shall allow Project Co an extension of time equal to the delay or impediment caused by such Delay Event (taking into account reasonably foreseeable consequences of the Delay Event) and shall revise the Completion Date accordingly but to avoid doubt, there shall be no extension to the Project Term as a result of any such delay or impediment.
- 29.2 If Project Co is (or claims to be) affected by a Delay Event:
- 29.2.1 it shall (and shall procure that the Project Co Parties shall) take and continue to take all reasonable steps to eliminate or mitigate the consequences of such an event upon the performance of its obligations under this Agreement and, where relevant, resume performance of its obligations affected by the Delay Event as soon as practicable; and
- 29.2.2 it shall neither be relieved from liability under this Agreement nor entitled to any extension of time for the purpose of Clause 29 (*Delay Events*) to the extent that it is delayed or impeded due to its failure (if any) to comply with its obligations under Clause 29.2.1 above.
- 29.3 For the purposes of this Agreement, a Delay Event means any of the following to the extent in each case that there will be (or is likely to be) a delay in completion of the Facilities and/or the Retained Estate Handback Infrastructure:
- 29.3.1 the occurrence of a Qualifying Change in relation to which it has been agreed or determined that the implementation of the Board Change would delay the completion of the Facilities and/or the Retained Estate Handback Infrastructure;
- 29.3.2 any breach by the Board and/or any Board Party of any of the Board's express obligations under this Agreement to the extent in each case that any such breach is not caused, or contributed to, by Project Co or any Project Co Party;
- 29.3.3 the execution of works on the Site not forming part of this Agreement by the Board or any contractors employed by the Board;
- 29.3.4 opening up of the Works pursuant to Clauses 13.3 to 13.7 (inclusive) where such Works are not subsequently found to be defective (unless it is agreed or determined in accordance with Schedule Part 20

(*Dispute Resolution Procedure*) that the opening up of the Works was reasonable in the light of other defects previously discovered by the Board);

- 29.3.5 Force Majeure;
  - 29.3.6 a Relief Event; or
  - 29.3.7 a Relevant Change in Law referred to in Clause 32.3.1 (*Discriminatory Change in Law*) and Clause 32.3.2 (*Specific Change in Law*);
  - 29.3.8 the occurrence or circumstances deemed to be a Compensation Event pursuant to Clause 10.4;
  - 29.3.9 an instruction by the Board's Representative to Project Co to stop the relevant part or parts of the Project Operations pursuant to Clause 13A.1.1 (*Board's right to stop Project Operations during the Project Term*) where it is subsequently agreed or determined in accordance with Schedule Part 20 (*Dispute Resolution Procedure*) that the breach which the Board considered had given rise to a Stop Incident(s) had not occurred);
  - 29.3.10 an instruction by the Board's Representative to Project Co to stop the relevant part or parts of the Project Operations pursuant to Clause 13A.1.2 (*Board's right to stop Project Operations during the Project Term*);
  - 29.3.11 an instruction by the Board's Representative to Project Co to stop the relevant part or parts of the Project Operations pursuant to Clause 13A.1.3 (*Board's right to stop Project Operations during the Project Term*); or
  - 29.3.12 subject to Project Co complying with the mitigation measures set out within Section 4.3 (*Construction Methodology*) of Project Co's Proposals, the exercise of any of the Reserved Rights set out in paragraphs 12 and/or 13 and/or 14 of Section 2 (*Reserved Rights*) of Schedule Part 5 (*Land Matters*).
- 29.4 Without prejudice to the generality of Clause 29 (*Delay Events*), Project Co shall give notice in writing to the Board's Representative as soon as it (or the Contractor) can reasonably foresee a Delay Event occurring or, if the same is not reasonably foreseeable, as soon as it (or the Contractor) shall become aware of a Delay Event. Project Co shall within ten (10) Business Days after such notification, give further written details to the Board's Representative which shall include:
- 29.4.1 a statement of which Delay Event the claim is based upon;
  - 29.4.2 details of the circumstances from which the Delay Event arises;
  - 29.4.3 details of the contemporary records which Project Co will maintain to



substantiate its claim for extra time;

- 29.4.4 details of the consequences (whether direct or indirect, financial or non-financial) which such Delay Event may have upon completion of the Facilities and the Retained Estate Handback Infrastructure; and
- 29.4.5 details of any measures which Project Co proposes to adopt to mitigate the consequences of such Delay Event.
- 29.5 As soon as possible but in any event within (five (5) Business Days of Project Co (or the Contractor) receiving, or becoming aware of, any supplemental information which may further substantiate or support Project Co's claim then, provided that the Completion Date has not otherwise already been revised pursuant to Clause 29.7, Project Co shall submit further particulars based on such information to the Board's Representative.
- 29.6 The Board's Representative shall, after receipt of written details under Clause 29.4, or of further particulars under Clause 29.5, be entitled by notice in writing to require Project Co to provide such further supporting particulars as he may reasonably consider necessary. Project Co shall afford the Board's Representative reasonable facilities for investigating the validity of Project Co's claim including, without limitation, onsite inspection.
- 29.7 Subject to the provisions of this Clause, the Board's Representative shall revise the Completion Date in accordance with Clause 29.1 (*Delay Events*) as soon as reasonably practicable and in any event within ten (10) Business Days of the later of:
- 29.7.1 the date of receipt by the Board's Representative of Project Co's notice given in accordance with Clause 29.4 and the date of receipt of any further particulars (if such are required under Clause 29.6), whichever is the later; and
- 29.7.2 the date of receipt by the Board's Representative of any supplemental information supplied by Project Co in accordance with Clause 29.5 and the date of receipt of any further particulars (if such are required under Clause 29.6), whichever is the later.
- If Project Co has failed to comply with the requirements as to the giving of notice under Clause 29.4, or has failed to maintain records or afford facilities for inspection to the Board's Representative, then Project Co shall not be entitled to any extension of time (and the Completion Date shall not be revised) in respect of any period of delay by Project Co in giving notice or providing information under Clause 29.4 and/or to the extent that its failure to maintain records or afford facilities for inspection to the Board's Representative has prevented the Board's Representative from assessing the consequences of the Delay Event.
- 29.8 If:
- 29.8.1 the Board's Representative declines to fix a revised Completion Date;

or

29.8.2 Project Co considers that a different Completion Date should be fixed;  
or

29.8.3 there is a disagreement as to whether a Delay Event has occurred,

then Project Co shall be entitled to refer the matter for determination in accordance with Schedule Part 20 (*Dispute Resolution Procedure*).

### Compensation

29.9 If the Delay Event is a Compensation Event Project Co's sole right to compensation shall be as provided for in Clauses 29.11 to 29.13 inclusive. To avoid doubt, no other Delay Event shall entitle Project Co to receive any compensation save as otherwise expressly provided in:

29.9.1 Schedule Part 16 (*Change Protocol*) in the case of a Delay Event referred to in Clause 29.3.1 (subject always to the provisions of Clause 32 (*Changes in Law*)); or

29.9.2 Clause 32 (*Changes in Law*) in the case of a Delay Event referred to in Clause 29.3.7.

29.10 For the purposes of Clause 29.9, a Compensation Event means:

29.10.1 any Delay Event referred to in Clause 29.3.2, Clause 29.3.3 or Clauses 29.3.4, 29.3.9, 29.3.10, 29.3.11 and 29.3.12 for which, in each case, it has been agreed or determined pursuant to this Clause 29 (*Delay Events*) that Project Co is entitled to an extension of time;

29.10.2 in the period prior to the Actual Completion Date, in circumstances where there is no delay in completion of the Facilities and the Retained Estate Handback Infrastructure any breach by the Board and/or any Board Party of any of the Board's express obligations under this Agreement to the extent that such breach is not caused, or contributed to, by Project Co or any Project Co Party;

29.10.3 the occurrence or circumstances deemed to be a Compensation Event pursuant to Clause 10.4; or

29.10.4 subject to Project Co complying with the mitigation measures set out within Section 4.3 (*Construction Methodology*) of Project Co's Proposals, the exercise of any of the Reserved Rights set out in paragraphs 12 and/or 13 and/or 14 of Section 2 (*Reserved Rights*) of Schedule Part 5 (*Land Matters*).

29.11 Subject to Clause 29.12, if it is agreed, or determined, that there has been a Compensation Event, and Project Co has incurred loss (including loss of revenue)

and/or expense as a direct result of such Compensation Event, Project Co shall be entitled to such compensation as would place Project Co in no better or worse position than it would have been in had the relevant Compensation Event not occurred. Project Co shall promptly provide the Board's Representative with any additional information he may require in order to determine the amount of such compensation.

29.12 Project Co shall take all reasonable steps so as to minimise the loss and/or expense referred to in Clause 29.11 (and shall in the event that the Board is in breach of Clause 5.7 (*Board Works*) include the rearranging of programmed activities pursuant to the Programme but only to the extent that this causes Project Co minimal disruption and no critical delay to the Programme) in relation to any Compensation Event and any compensation payable shall:

29.12.1 exclude any amounts incurred or to be incurred as a result of any failure of Project Co (or any Project Co Party) to comply with this Clause 29.12; and

29.12.2 be reduced by any amount which Project Co has recovered or will recover under any insurance policy (or would have recovered if it had complied with the requirements of this Agreement or of any policy of insurance required under this Agreement) which amount, to avoid doubt, shall not include any excess or deductibles or any amount over the maximum amount insured applicable to any such insurance policy.

29.13 The amount of any compensation due to Project Co under Clause 29.11 shall be agreed between the parties or, failing agreement, determined pursuant to Schedule Part 20 (*Dispute Resolution Procedure*) and such compensation shall be payable:

29.13.1 in respect of compensation for a Compensation Event to the extent resulting in Capital Expenditure being incurred the Board shall compensate Project Co for the actual Capital Expenditure incurred by Project Co within twenty (20) Business Days of its receipt of a written demand accompanied by a valid VAT invoice for the same by Project Co supported by all relevant information; and

29.13.2 in all other cases in accordance with Section 6 (*Changing the Financial Model*) of Schedule Part 16 (*Change Protocol*) as if a Relevant Event had taken place.

### **30. RELIEF EVENTS**

30.1 For the purposes of this Agreement, subject to Clause 30.4, Relief Events mean any of the following events:

30.1.1 fire, explosion, lightning, storm, tempest, flood, bursting or overflowing of water tanks, apparatus or pipes, ionising radiation (to the extent it does not constitute Force Majeure), earthquake, riot or civil commotion;

30.1.2 failure by any statutory undertaker, utility company, local authority or

other like body to carry out works or provide services;

- 30.1.3 accidental loss or damage to the Works and/or Facilities or any roads servicing the same;
- 30.1.4 without prejudice to any obligation of Project Co to provide stand-by power facilities in accordance with the Board's Construction Requirements, the Service Level Specification, failure or shortage of power, fuel or transport;
- 30.1.5 blockade or embargo falling short of Force Majeure;
- 30.1.6 the discovery of fossils, antiquities and human remains requiring action in accordance with Clause 19 (*Fossils and Antiquities*); or
- 30.1.7 official or unofficial strike, lockout, go slow or other dispute in each case generally affecting the construction, building maintenance or facilities management industry (or a significant sector of that industry),

provided in each case that such event does not arise (directly or indirectly) as a result of any wilful act or default of the party claiming relief and/or (i) in the case of Project Co claiming relief, any Project Co Party and (ii) in the case of the Board claiming relief, any Board Party.

- 30.2 Subject to Clauses 30.3 and 30.4, no right of termination shall arise under this Agreement by reason of any failure by a party to perform any of its obligations under this Agreement to the extent that such failure to perform occurs because of the occurrence of a Relief Event (and, to avoid doubt, and without prejudice to Clause 30.9, unless expressly stated to the contrary in this Agreement, it is acknowledged that all other rights and obligations of the parties under this Agreement remain unaffected by the occurrence of a Relief Event).
- 30.3 Without prejudice to Project Co's rights under Clause 29 (Delay Events), Project Co shall only be relieved of its obligations under Clauses 12 (*The Design, Construction and Commissioning Process*), 13 (*Right of Access of Board's Representative*), 14 (*Programme and Dates for Completion*), 17 (*Pre-Completion Commissioning and Completion*) and 29 (*Delay Events*) by Delay Events in accordance with Clause 29 (*Delay Events*).

### **Mitigation**

- 30.4 Where a party is (or claims to be) affected by a Relief Event:
  - 30.4.1 it shall take all reasonable steps to mitigate the consequences of such an event upon the performance of its obligations under this Agreement, resume performance of its obligations affected by the Relief Event as soon as practicable and use all reasonable endeavours to remedy its failure to perform; and
  - 30.4.2 it shall not be entitled to rely upon the relief afforded to it pursuant to

Clause 30.2 of this Agreement to the extent that it is not able to perform, or has not in fact performed, its obligations under this Agreement due to its failure (if any) to comply with its obligations under Clause 30.4.1 above.

- 30.5 The party claiming relief shall serve written notice on the other party within five (5) Business Days of it becoming aware of the relevant Relief Event. Such initial notice shall give sufficient details to identify the particular event claimed to be a Relief Event.
- 30.6 A subsequent written notice shall be served by the party claiming relief on the other party within a further five (5) Business Days of the notice referred to in Clause 30.5 which shall contain such relevant information relating to the failure to perform (or delay in performing) as is available, including (without limitation) the effect of the Relief Event on the ability of the party to perform, the action being taken in accordance with Clause 30.4, the date of the occurrence of the Relief Event and an estimate of the period of time required to overcome it (and/or its effects).
- 30.7 The party claiming relief shall notify the other as soon as the consequences of the Relief Event have ceased and of when performance of its affected obligations can be resumed.
- 30.8 If, following the issue of any notice referred to in Clause 30.6, the party claiming relief receives or becomes aware of any further information relating to the Relief Event (and/or any failure to perform), it shall submit such further information to the other party as soon as reasonably possible.
- 30.9 To avoid doubt, the occurrence of a Relief Event shall not entitle Project Co to any compensation.

## **31. FORCE MAJEURE**

- 31.1 For the purposes of this Agreement, Force Majeure means any of the following events or circumstances:
- 31.1.1 war, civil war, armed conflict or terrorism; or
- 31.1.12 nuclear contamination unless in any case Project Co and/or any Project Co Party is the source or the cause of the contamination; or
- 31.1.3 chemical or biological contamination of the Works and/or the Facilities and/or the Site from any of the events referred to in Clause 31.1.1 above; or
- 31.1.4 pressure waves caused by devices travelling at supersonic speeds,

which directly causes either party to be unable to comply with all or a material part of its obligations under this Agreement.

- 31.2 Subject to Clauses 31.3 and 31.4 the party claiming relief shall be relieved from liability under this Agreement to the extent that by reason of the Force Majeure it is not able to perform its obligations under this Agreement. For the avoidance of doubt (but without prejudice to Clause 41 (*Termination Resulting from Force Majeure*)) the Board shall not be entitled to terminate this Agreement for a Project Co Event of Default if such Project Co Event of Default arises from a Force Majeure Event.
- 31.3 Where a party is (or claims to be) affected by an event of Force Majeure:
- 31.3.1 it shall take all reasonable steps to mitigate the consequences of such an event upon the performance of its obligations under this Agreement, resume performance of its obligations affected by the event of Force Majeure as soon as practicable and use all reasonable endeavours to remedy its failure to perform; and
- 31.3.2 it shall not be relieved from liability under this Agreement to the extent that it is not able to perform, or has not in fact performed, its obligations under this Agreement due to its failure (if any) to comply with its obligations under Clause 31.3.1.
- 31.4 Without prejudice to Project Co's rights under Clause 29 (*Delay Events*), Project Co shall only be relieved from its obligations under Clauses 12 (*The Design, Construction and Commissioning Process*), 13 (*Right of Access of Board's Representative*), 14 (*Programme and Dates for Completion*) and 29 (*Delay Events*) by Delay Events in accordance with Clause 29 (*Delay Events*).
- 31.5 The party claiming relief shall serve written notice on the other party within five (5) Business Days of it becoming aware of the relevant event of Force Majeure. Such initial notice shall give sufficient details to identify the particular event claimed to be an event of Force Majeure.
- 31.6 A subsequent written notice shall be served by the party claiming relief on the other party within a further five (5) Business Days which shall contain such relevant information relating to the failure to perform (or delay in performing) as is available, including (without limitation) the effect of the event of Force Majeure on the ability of the party to perform, the action being taken in accordance with Clause 31.3, the date of the occurrence of the event of Force Majeure and an estimate of the period of time required to overcome it (and/or its effects).
- 31.7 The party claiming relief shall notify the other as soon as the consequences of the event of Force Majeure have ceased and of when performance of its affected obligations can be resumed.
- 31.8 If, following the issue of any notice referred to in Clause 31.6, the party claiming relief receives or becomes aware of any further information relating to the event of Force Majeure (and/or any failure to perform), it shall submit such further information to the other party as soon as reasonably possible.
- 31.9 Nothing in this Clause 31 shall affect the Board's entitlement to make Deductions in the period during which any event of Force Majeure is subsisting.

- 31.10 The parties shall endeavour to agree any modifications to this Agreement which may be equitable having regard to the nature of an event or events of Force Majeure. Schedule Part 20 (*Dispute Resolution Procedure*) shall not apply to a failure of the Board and Project Co to reach agreement pursuant to this Clause 31.10.



## PART 8: CHANGES IN LAW & CHANGES

### 32. CHANGES IN LAW

#### General

32.1 Project Co shall take all steps necessary to ensure that the Project Operations are performed in accordance with the terms of this Agreement (including, without limitation, Clause 5.2.1 (*General Standards*)) following any Change in Law.

#### Relevant Changes in Law

32.2 Subject to Clause 32.4.3(e) and Clause 32.4.3(f) and on the occurrence of any Relevant Change in Law, the parties shall be entitled to seek adjustments to the Annual Service Payments to compensate for any increase or decrease (as the case may be) in the net cost to Project Co of performing the Project Operations. Such adjustments (if any) will be calculated in accordance with and subject to Clause 32.4.

32.3 Relevant Change in Law means any of the following:

- 32.3.1 the occurrence of any Discriminatory Change in Law having an impact on the cost of performance of the Project Operations;
- 32.3.2 the occurrence of any Specific Change in Law having an impact on the cost of performance of the Project Operations; or
- 32.3.3 the occurrence, after the relevant date, of any Change in Law which requires any work of alteration, addition, demolition or extension or variation in the quality or function of the Facilities which is not Maintenance Work, Lifecycle Replacement or other work which, in each case, Project Co would (had such Change in Law not taken effect) otherwise be required to undertake to comply with its obligations under this Agreement. For the purposes of this Clause 32.3.3, the relevant date shall be the later to occur of the Completion Date and the Actual Completion Date, save where the Actual Completion Date is delayed by a Compensation Event, a Delay Event referred to in Clause 29.3.1 or by a Delay Event referred to in Clause 29.3.7, in which case the relevant date shall be the later to occur of the Completion Date and the date on which the Works would have been completed in accordance with this Agreement had the relevant Compensation Event or Delay Event not occurred,

provided that:

- (a) such Change in Law (or, in the case of a Specific Change in Law, change to a NHS Requirement, as the case may be) was not reasonably foreseeable at the date of this Agreement by an experienced contractor performing operations similar to the relevant the Project Operations, on the basis of draft bills published in Government green or white papers or other Government departmental

consultation papers, bills, draft statutory instruments or draft instruments or proposals published in the Official Journal of the European Union, in each case published:

- (i) prior to the date of this Agreement; and
  - (ii) in substantially the same form or having substantially the same effect as the Relevant Change in Law; and
- (b) a Change in Law relating to the application for, coming into effect, terms, implementation, repeal, revocation or otherwise of any Planning Permission shall not constitute a Relevant Change in Law.

32.4 On the occurrence of a Relevant Change in Law:

32.4.1 either party may give notice to the other of the occurrence of the Relevant Change in Law;

32.4.2 the parties shall meet within fifteen (15) Business Days of the notice referred to in Clause 32.4.1 to consult and seek to agree the effect of the Relevant Change in Law. If the parties, within ten (10) Business Days of this meeting, have not agreed the occurrence or the effect of the Relevant Change in Law, either party may refer the question of whether a Relevant Change in Law has occurred or the effect of any Relevant Change in Law for resolution in accordance with Schedule Part 20 (*Dispute Resolution Procedure*); and

32.4.3 within five (5) Business Days of the agreement or determination referred to in Clause 32.4.2 above, the Board's Representative shall issue a Board Change Notice and the relevant provisions of Schedule Part 16 (*Change Protocol*) shall apply except that:

- (a) Project Co may give notice to the Board's Representative that it objects to such a Board Change Notice only on the grounds that the implementation of the Change would not give effect to or comply with the Relevant Change in Law;
- (b) the Board shall (i) agree the implementation of the Low Value Change, or (ii) confirm the estimate for the Medium Value Change, or (iii) approve the High Value Change Stage 2 Submission, (as appropriate) in respect of the Change in accordance with the relevant provisions of Schedule Part 16 (*Change Protocol*);
- (c) the provisions of Clause 11 (*Consents and Planning Approval*) shall apply;
- (d) the Board shall not be entitled to withdraw any Board Change Notice or its agreement as to the implementation of

the Low Value Change, confirmation of an estimate for the Medium Value Change or approval of a High Value Change Stage 2 Submission (as appropriate), issued in accordance with this Clause 32.4;

- (e) Project Co shall, without prejudice to its general obligation to comply with the terms of this Agreement:
  - (i) use all reasonable endeavours to mitigate the adverse effects of any Relevant Change in Law and take all reasonable steps to minimise any increase in costs arising from such Relevant Change in Law; and
  - (ii) use all reasonable endeavours to take advantage of any positive or beneficial effects of any Relevant Change in Law and take all reasonable steps to maximise any reduction in costs arising from such Relevant Change in Law; and
- (f) any compensation payable, or reduction to the Annual Service Payments, shall be calculated in accordance with the relevant provisions of Schedule Part 16 (*Change Protocol*) provided that:
  - (i) the amount of any compensation payable; or
  - (ii) the amount by which the Annual Service Payment is to be reduced,

shall not take into account any amounts incurred or to be incurred as a result of Project Co's failure to comply with Clause 32.4.3(e) above.

### **General Change in Law**

32.5 Either party may give notice to the other of the need for a Change which is necessary in order to enable Project Co to comply with any Change in Law which is not a Relevant Change in Law, in which event:

32.5.1 the parties shall meet within fifteen (15) Business Days to consult and seek to agree the effect of the Change in Law and any Change required as a consequence. If the parties, within ten (10) Business Days of this meeting, have not agreed the occurrence or the effect of the relevant Change in Law, either party may refer the question of whether a Change in Law has occurred or the effect of the Change in Law for resolution in accordance with Schedule Part 20 (*Dispute Resolution Procedure*); and

32.5.2 within twenty (20) Business Days of the agreement or determination referred to in Clause 32.5.1 above the Board's Representative shall, if

it is agreed or determined that a Change is required in order to comply with the Change in Law, issue a Board Change Notice and the relevant provisions of Schedule Part 16 (*Change Protocol*) shall apply except that:

- (a) Project Co may give notice to the Board's Representative that it objects to such a Board Change Notice only on the grounds that the implementation of the Change would not give effect to or comply with the Change in Law;
- (b) the Board shall (i) agree the implementation of the Low Value Change; or (ii) confirm the estimate for the Medium Value Change; or (iii) approve the High Value Change Stage 2 Submission, (as appropriate) in respect of the Change in accordance with the relevant provisions of Schedule Part 16 (*Change Protocol*);
- (c) the provisions of Clause 11 (*Consents and Planning Approval*) shall apply;
- (d) the Board shall not be entitled to withdraw any Board Change Notice or its (i) agreement as to the implementation of the Low Value Change; or (ii) confirmation of an estimate for the Medium Value Change; or (iii) approval of a High Value Change Stage 2 Submission (as appropriate), issued in accordance with this Clause 32.5 (*General Changes in Law*); and
- (e) Project Co shall not be entitled to any payment or other compensation or relief from any performance of its obligations under this Agreement in respect of such Change in Law or associated Change (or the consequences of either).

### **33. CHANGE PROTOCOL**

The provisions of Schedule Part 16 (*Change Protocol*) shall have effect in respect of Changes except as otherwise expressly provided in this Agreement.

## PART 9: FINANCIAL

## 34. PAYMENT

**Service Payments**

34.1 Project Co shall not be entitled to receive any Monthly Service Payments until the Payment Commencement Date. Subject to the provisions of this Agreement, the Board shall pay Project Co the Monthly Service Payments in respect of each Contract Month following the Payment Commencement Date in accordance with the provisions of Schedule Part 14 (*Payment Mechanism*).

**Invoicing and payment arrangements**

34.2 The provisions of this Clause 34.2 apply to the issue of invoices in respect of the Monthly Service Payment by Project Co under this Agreement:

34.2.1 On or before the first day of each Contract Month Project Co shall submit to the Board an invoice ("**Monthly Invoice**") aggregating the following:

- (a) the Monthly Service Payment for that Contract Month, calculated in accordance with Section 2 (*Calculation of Service Payments*) of Schedule Part 14 (*Payment Mechanism*);
- (b) adjustments to reflect previous over-payments and/or under-payments (each adjusted stated separately);
- (c) any other amounts due by one party to the other (and where owed by Project Co showing as a negative figure);
- (d) any VAT payable in respect of the above amounts;
- (e) Not Used;
- (f) as a negative figure, in respect of the Monthly Invoice issued during the final Contract Month only, an amount equivalent to twice the monthly average of the Deductions incurred in the previous six (6) Contract Months ("**Estimated Deductions**"),

and setting out the date of the invoice, the due date for payment of the invoice and the account to which payment is to be made together with supporting information that clearly sets out the derivation and calculation of amounts referred to in the Monthly Invoice.

34.2.2 Subject to Clauses 34.2.3 and 34.3 and the submission of the

supporting information referred to in Clause 34.2.1, where a Monthly Invoice shows a net amount owed by the Board to Project Co, the Board shall pay the amount of the Monthly Invoice within ten (10) Business Days of its submission and delivery of a valid VAT invoice in respect thereof. Where a Monthly Invoice shows a net amount owed by Project Co to the Board, Project Co shall pay that amount to the Board within ten (10) Business Days of the Monthly Invoice or, at the option of the Board, carry forward that amount to the next Monthly Invoice to reduce amounts which would otherwise be owed by the Board to Project Co.

- 34.2.3 Within ten (10) Business Days of the Expiry Date, Project Co shall provide to the Board a Performance Monitoring Report in respect of the final two Contract Months. If the Deductions incurred in the final two Contract Months exceed the Estimated Deductions, Project Co shall pay to the Board an amount equal to the excess within ten (10) Business Days of receipt of an invoice therefor. If the Estimated Deductions exceed the Deductions incurred in the final two Contract Months the Board shall pay to Project Co an amount equal to the excess within ten (10) Business Days of receipt of an invoice therefor.
- 34.2.4 On or before the tenth (10<sup>th</sup>) day of each Contract Month Project Co shall submit to the Board a Monthly Service Report in respect of the immediately preceding Contract Month. The Monthly Service Report shall set out, in respect of the immediately preceding Contract Month:
- (a) details of each and the aggregate amount of all Deductions incurred in relation to Performance Failures;
  - (b) details of each and the aggregate amount of all Deductions incurred in relation to Availability Failures;
  - (c) other information detailed in Schedule Part 12 (*Service Requirements*).
- 34.2.5 The parties shall endeavour to agree the contents of a Monthly Service Report within ten (10) Business Days of its submission in accordance with Clause 34.2.4, failing which either party may refer the matter to the Dispute Resolution Procedure.

### **Manner of payment**

- 34.3 All invoices under this Agreement shall be raised in Pounds Sterling and the money of account and money of payment in respect of all payments, liabilities and claims (including any accrued rights) under this Agreement at any time shall remain denominated in Pounds Sterling. All payments under this Agreement shall be made in Pounds Sterling by electronic transfer of funds for value on the day in question to the bank account of the recipient (located in the United Kingdom) specified in the relevant invoice, quoting the invoice number against which payment is made.

### **Disputes**

- 34.4 If the Board (acting in good faith) disputes all or any part of the Monthly Service Payments calculated in accordance with Clause 34.2 (*Invoicing and Payment Arrangements*), the undisputed amount of the Monthly Service Payment shall be paid by the Board in accordance with Clause 34.2 (*Invoicing and Payment Arrangements*) and the provisions of this Clause 34.4 shall apply. The parties shall use all reasonable endeavours to resolve the dispute in question within ten (10) Business Days of the dispute arising. If they fail so to resolve it, either party may refer the matter to the Dispute Resolution Procedure. Following resolution of the dispute, any amount agreed or determined to have been payable shall be paid forthwith by the Board to Project Co, together with interest on such amount calculated in accordance with Clause 34.5 (*Late Payments*).

#### **Late Payments**

- 34.5 Each party shall be entitled, without prejudice to any other right or remedy, to receive interest on any payment not duly made pursuant to the terms of this Agreement on the due date calculated from day to day at a rate per annum equal to the Default Interest Rate and including from the day after the date on which payment was due up to and including the date of payment.

#### **Set-Off**

- 34.6 Subject to Clause 46.12 (*Rights of Set-Off*), whenever any sum of money shall be agreed, or determined, as due and payable by Project Co to the Board, such sum may at the Board's discretion be deducted from or applied to reduce the amount of any sum then due, or which at any time afterwards may become due, to Project Co from the Board under this Agreement provided that the Board has given Project Co not less than five (5) Business Days' notice of its intention to deduct or apply such sum.
- 34.7 Whenever any sum of money shall be agreed, or determined, as due and payable by the Board to Project Co, such sum may at Project Co's discretion be deducted from or applied to reduce the amount of any sum then due, or which at any time afterwards may become due, from Project Co to the Board under this Agreement provided that Project Co has given the Board not less than five (5) Business Days' notice of its intention to deduct or apply such sum.

### **35. VAT AND CONSTRUCTION INDUSTRY TAX DEDUCTION SCHEME**

#### **VAT**

- 35.1 All amounts stated to be payable by either party under this Agreement shall be exclusive of any VAT properly chargeable on any amount.
- 35.2 Each party shall pay to the other party any VAT properly chargeable on any supply made to it under this Agreement provided that it shall first have received from the other party a valid tax invoice in respect of that supply which complies with the requirements of Part III VAT Regulations 1995.
- 35.3 If either party (referred to in this Clause as the "**First Party**") shall consider that any VAT which the other party (referred to in this Clause as the "**Second Party**") claims to be properly chargeable to the First Party in connection with this



Agreement is not in fact properly so chargeable, the First Party shall be entitled to require the Second Party to obtain a ruling from the Commissioners for Customs and Excise (or, if relevant, such other body as is charged at the time with the collection and management of VAT) (referred to in this Clause as the "**Commissioners**") as to the VAT (if any) properly so chargeable. The Second Party shall forthwith request the Commissioners for such a ruling.

- 35.4 The following further provisions shall apply in respect of the application for a ruling in accordance with Clause 35.3:
- 35.4.1 prior to submitting its request for such a ruling and any further communication to the Commissioners in connection with the obtaining of the ruling, the Second Party shall first obtain the agreement of the First Party to the contents of such request and any such further communication, such agreement not to be unreasonably withheld or delayed;
- 35.4.2 the Second Party shall provide to the First Party copies of all communications received from the Commissioners in connection with the application for a ruling as soon as practicable after receipt; and
- 35.4.3 the Second Party shall use all reasonable endeavours (including without limitation the provision of such additional information as the Commissioners may require) to obtain such a ruling as soon as reasonably practicable following the initial request.
- 35.5 If a ruling is required by the First Party under Clause 35.3, the First Party shall not be obliged to pay the VAT so claimed by the Second Party unless and until a ruling is received from the Commissioners which states that a sum of VAT (the "**VAT Sum**") is properly so chargeable or the Commissioners state that they are not prepared to give any ruling on the matter. In this case, then subject to Clauses 35.6 and 35.7 and provided that the First Party shall first have received a valid tax invoice which complies with the requirements of Part III VAT Regulations 1995 and which states the VAT Sum to be the amount of VAT chargeable to the First Party, the First Party shall pay the VAT Sum (and any interest or penalties attributable to the VAT Sum) to the Second Party.
- 35.6 If the First Party disagrees with any ruling obtained pursuant to Clause 35.3 by the Second Party from the Commissioners, then the Second Party (provided that it is indemnified to its reasonable satisfaction against all costs and expenses including interest and penalties which it may incur in relation thereto) shall take such action and give such information and assistance to the First Party as the First Party may require to challenge such ruling or otherwise to resist or avoid the imposition of VAT on the relevant supply.
- 35.7 The following further provisions shall apply if the First Party shall exercise its rights under Clause 35.6:
- 35.7.1 the action which the First Party shall be entitled to require the Second Party to take shall include (without limitation) contesting any assessment to VAT or other relevant determination of the Commissioners before any VAT tribunal or court of competent jurisdiction and appealing any judgement or decision of any such tribunal or court;

- 35.7.2 if the Second Party shall be required to pay to or deposit with the Commissioners a sum equal to the VAT assessed as a condition precedent to its pursuing any appeal, the First Party shall, at its election, either pay such sum to the Commissioners on behalf of the Second Party or on receipt of proof in a form reasonably satisfactory to the First Party that the Second Party has paid such sum to or deposited such sum with the Commissioners the First Party shall pay such sum to the Second Party;
- 35.7.3 save as specifically provided in Clause 35.5, the First Party shall not be obliged to pay to the Second Party any sum in respect of the VAT in dispute to the Second Party or in respect of VAT on any further supplies made by the Second Party to the First Party which are of the same type and raise the same issues as the supplies which are the subject of the relevant dispute unless and until the final outcome of the relevant dispute is that it is either determined or agreed that VAT is properly chargeable on the relevant supply or supplies; and
- 35.7.4 the Second Party shall account to the First Party for any costs awarded to the Second Party on any appeal, for any sum paid to or deposited with the Commissioners in accordance with Clause 35.7.2 which is repayable to the Second Party and for any interest to which the Second Party is entitled in respect of such sums.

#### **Changes in recoverability of VAT**

- 35.8 Subject to Clause 35.9, if, following a Change in Law, Project Co becomes unable to recover VAT attributable to supplies to be made to the Board by Project Co pursuant to this Agreement, the Board shall ensure that Project Co is left in no better and no worse position than it would have been had such Change in Law not occurred (including but not limited to making such amendments to this Agreement as Project Co and the Board shall agree acting reasonably), provided that Project Co shall use all reasonable endeavours to mitigate the adverse effects of any such Change in Law.
- 35.9 The provisions of Clause 35.8 shall apply only if (and to the extent that) the Change in Law was not reasonably foreseeable at the date of this Agreement by an experienced contractor performing operations similar to the relevant Works on the basis of draft bills published in Government green or white papers or other Government departmental consultation papers, bills, draft statutory instruments or draft instruments or proposals published in the Official Journal of the European Union, in each case published:
- 35.9.1 prior to the date of this Agreement; and
- 35.9.2 in substantially the same form as the Change in Law.

#### **Construction Industry Tax Deduction Scheme**

- 35.10 This Clause 35.10 (*Construction Industry Tax Deduction Scheme*) relates to the Construction Industry Tax Deduction Scheme:

- 35.10.1 In this Clause 35.10 (*Construction Industry Tax Deduction Scheme*) (but not otherwise):
- (a) "**the Act**" means the Finance Act 2004;
  - (b) "**the Regulations**" means the Income Tax (Construction Industry Scheme) Regulations 2005 (SI 2005/2045);
  - (c) "**the Legislation**" means Chapter 3 Part 3 of the Act and the Regulations, taken together;
  - (d) "**Contractor**" means a person who is a contractor for the purposes of Chapter 3 Part 3 of the Act; and
  - (e) "**sub-contractor**" means a person who is a sub-contractor for the purposes of Chapter 3 Part 3 of the Act.
- 35.10.2 Each of the Board and Project Co shall comply with the Legislation.
- 35.10.3 If any payment due from the Board to Project Co under this Agreement is a contract payment under section 60(1) of the Act, then the Board, as Contractor, shall (not later than fifteen (15) Business days before the first such payment is due to be made) verify, in accordance with paragraph 6 of the Regulations, whether the sub-contractor is registered for gross payment or for payment under deduction or is not registered under Chapter 3 Part 3 of the Act.
- 35.10.4 If any payment due from the Board to Project Co under this Agreement is a contract payment under section 60(1) of the Act, then:
- (a) if Project Co is registered for gross payment under section 63(2) of the Act, the Board shall make a payment to Project Co without any deduction;
  - (b) if Project Co is not registered for gross payments under section 63(2) of the Act, the Board shall make a payment to Project Co, subject to the deduction of the relevant percentage in accordance with section 61(1) of the Act, and thereupon Clause 35.10.6 below shall apply.
- 35.10.5 If any dispute arises between the Board and Project Co as to whether any payment due by the Board to Project Co under this Agreement is or is not a contract payment by virtue of the exemption in Regulation 23 of the Regulations, the parties will jointly apply to HM Revenue and Customs for a written ruling and until such ruling is received it shall be assumed that such payment is a contract payment and the provisions of Clause 35.10 (*Construction Industry Tax Deduction Scheme*) shall apply accordingly.
- 35.10.6 The Board shall be entitled to make a deduction at the rate specified in

section 61(1) of the Act or at such other rate as may be in force from time to time from the whole of any payment to Project Co (and not just that part of such payment which does not represent the direct cost to Project Co or any other person of materials used or to be used in carrying out the construction operations to which the relevant payment relates) unless prior to making such payment the Board shall have received written confirmation from HM Revenue and Customs (obtained by and at the expense of Project Co) in a form which is reasonably satisfactory to the Board directing the Board to make the deduction against only a specified amount or proportion of any such payment to Project Co.

35.10.7 Where any error or omission has occurred in calculating or making any payment under this Clause 35.10 (*Construction Industry Tax Deduction Scheme*) then:

- (a) in the case of an over deduction, the Board shall correct that error by repayment of the sum over deducted to Project Co; and
- (b) in the case of an under deduction, Project Co shall correct that error or omission by repayment of the sum under deducted to the Board.

35.10.8 The Board shall send promptly to H M Revenue & Customs any returns required by the Legislation, and shall provide to Project Co a payment statement (where appropriate) and/or such other information as may be required by the Legislation in relation to any contract payment.

35.10.9 If compliance with this Clause 35.10 involves the Board or Project Co in not complying with any other of the terms of this Agreement, then the provisions of this Clause shall prevail.

## **36. PAYMENT OF SURPLUSES AND COMPLIANCE WITH NPD REQUIREMENTS**

Project Co shall:

36.1 subject to the provisos, obligations and restrictions contained in its Articles of Association, pay the Surplus available as at each Surplus Payment Date to the Board (as a rebate of the Monthly Service Payments for the Contract Year most recently ended prior to the relevant Surplus Date) or to such other party as the Board may in its absolute discretion direct, in either case within thirty (30) Business Days of the relevant Surplus Payment Date; and

36.2 comply with the NPD Requirements at all times throughout the Project Term.

## **37. FINANCIAL MODEL**

37.1 Unless otherwise agreed between the parties, any amendments to the Financial Model shall reflect, be consistent with and be made only in accordance with the

provisions of this Agreement, and shall in all cases be subject to the prior written approval of the Board (such approval not to be unreasonably withheld or delayed). In the event that the parties fail to agree any proposed amendments to the Financial Model, the matter shall be referred for resolution in accordance with Schedule Part 20 (*Dispute Resolution Procedure*).

- 37.2 Following any amendment of the Financial Model in accordance with this Agreement, Project Co shall promptly deliver a copy of the revised Financial Model to the Board in the same form as the original form (or such other form as may be agreed by the parties from time to time).

## 38. RECORDS AND OPEN BOOK ACCOUNTING

### Records and Reports

The provisions of Schedule Part 19 (*Record Provisions*) shall apply to the keeping of records and the making of reports.

## PART 10: TERMINATION

## 39. BOARD EVENTS OF DEFAULT

- 39.1 For the purposes of this Agreement, Board Events of Default means any of the following events or circumstances:
- 39.1.1 the Board is in material breach of its obligations under Clause 9 (*Nature of Land Interests*) (other than as a consequence of a breach by Project Co of its obligations under this Agreement) and such breach materially adversely affects the ability of Project Co to perform its material obligations under this Agreement for a continuous period of not less than thirty (30) Business Days; or
  - 39.1.2 the Board fails to pay any sum or sums due to Project Co under this Agreement (which sums are not in dispute) which, either singly or in aggregate, exceed(s) the amount of the Monthly Service Payment from time to time and such failure continues for thirty (30) Business Days from receipt by the Board of a notice of non payment from Project Co;
  - 39.1.3 the Board is in breach of its obligations under Clause 57.4 (*Assignment*); or
  - 39.1.4 an Adverse Law or a Proposal for an Adverse Law being made.
  - 39.1.5 an expropriation, sequestration or requisition of a material part of the Assets and/or shares of Project Co or Hold Co by the Board or a Relevant Authority.

### Project Co's options

- 39.2 On the occurrence of a Board Event of Default, or within a reasonable time after Project Co becomes aware of the same, and while the same is still subsisting, Project Co may, at its option:
- 39.2.1 in respect of execution of the Works, suspend performance by it of its obligations under this Agreement until such time as the Board shall have demonstrated to the reasonable satisfaction of Project Co that it is capable of performing, and will perform, its obligations under this Agreement; or
- 39.2.2 serve notice on the Board (or such other party as may be notified in advance in writing by the Board to Project Co) of the occurrence (and specifying details) of such Board Event of Default. If the relevant matter or circumstance has not been rectified or remedied by the Board (or otherwise) in respect of Clause 39.1.1, Clause 39.1.3 or Clause 39.1.5 within sixty (60) Business Days of such notice, and in respect of Clause 39.1.2 within thirty (30) Business Days of such notice, Project Co may serve a further notice on the Board (or its substitute notified in accordance with this Clause 39.2.2) terminating this Agreement with immediate effect.
- 39.3 Project Co shall not exercise or purport to exercise any right to terminate this Agreement (or accept any repudiation of this Agreement) except as expressly set out in this Agreement.

#### **40. PROJECT CO EVENT OF DEFAULT**

##### **Project Co Event of Default**

- 40.1 For the purposes of this Agreement, Project Co Event of Default means any of the following events or circumstances:

##### **Insolvency**

- 40.1.1 the occurrence of any of the following events in respect of Project Co, namely:
- (a) any arrangement or composition with or for the benefit of creditors (including any voluntary arrangement as defined in the Insolvency Act 1986) being entered into by or in relation to Project Co;
  - (b) a receiver, administrator, administrative receiver or other encumbrancer taking possession of or being appointed over, or any distress, execution or other process being levied or enforced (and not being discharged within ten (10) Business Days) upon, the whole or any material part of the assets of Project Co;
  - (c) Project Co ceasing to carry on business;

- (d) a petition being presented (and not being discharged within twenty (20) Business Days), or a resolution being passed or an order being made for the administration or the winding up, bankruptcy or dissolution of Project Co; or
- (e) if Project Co shall suffer any event analogous to the events set out in Clauses 40.1.1(a) to (d) in any jurisdiction in which it is incorporated or resident.

### Long stop

- 40.1.2 Project Co failing to achieve the Actual Completion Date within a period of eighteen (18) months after the Completion Date;

### Default

#### 40.1.3

- (a) Project Co committing a material breach of its obligations under this Agreement which has a material and adverse effect on the delivery of the Board Services (other than as a consequence of a breach by the Board of its obligations under this Agreement);
- (b) Project Co wilfully breaches Schedule Part 23 (*Refinancing*);

- 40.1.4 Project Co abandoning this Agreement;

### Health and safety

- 40.1.5 at any time after the Actual Completion Date Project Co committing a material breach of its obligations under this Agreement (other than as a consequence of a breach by the Board of its obligations under this Agreement) which results in the criminal investigation, prosecution and conviction of Project Co or any Project Co Party or the Board under the Health and Safety Regime (a "**H&S Conviction**") provided that an H&S Conviction of a Project Co Party or the Board shall not constitute a Project Co Event of Default if, within ninety (90) Business Days from the date of the H&S Conviction (whether or not the H&S Conviction is subject to an appeal or any further judicial process), the involvement in the Project Operations of each relevant Project Co Party (which in the case of an individual director, officer or employee shall be deemed to include the Project Co Party of which that person is a director, officer or employee) is terminated and a replacement is appointed by Project Co in accordance with Clause 57.5 (*Sub contracting*);

In determining whether to exercise any right of termination or right to require the termination of the engagement of a Project Co Party pursuant to this Clause 40.1.5, the Board shall:



- (a) act in a reasonable and proportionate manner having regard to such matters as the gravity of any offence and the identity of the person committing it; and
- (b) give all due consideration, where appropriate, to action other than termination of this Agreement;

### **Change in Control**

- 40.1.6 the occurrence of any Change in Control which is prohibited by Clause 58 (*Ownership Information and Changes in Control*);

### **Assignment**

- 40.1.7 Project Co failing to comply with the provisions of Clauses 57.2 or 57.5 (*Assignment*);

### **Deductions**

- 40.1.8 in each of any three Contract Months in any six (6) consecutive Contract Months Project Co has suffered Deductions equal to or greater than 0.411 percent of the Annual Service Payment for the current Contract Year; or

### **Warning Notices**

- 40.1.9 Project Co is awarded a total of five (5) or more Warning Notices in any period of twelve (12) consecutive months; or

### **Payment**

- 40.1.10 Project Co failing to pay any sum or sums due to the Board under this Agreement (which sums are not in dispute) which, either singly or in aggregate, exceed(s) one hundred and fifty thousand pounds (£150,000) (index linked) and such failure continues for sixty (60) Business Days from receipt by Project Co of a notice of non payment from the Board; or

### **Insurance**

- 40.1.11 a breach by Project Co of its obligation to take out and maintain the insurances required by Clauses 53.1 and 53.2 (*Project Co Insurances*).

### **Notification**

- 40.2 Project Co shall notify the Board of the occurrence, and details, of any Project Co

Event of Default and of any event or circumstance which is likely, with the passage of time or otherwise, to constitute or give rise to a Project Co Event of Default, in either case promptly on Project Co becoming aware of its occurrence.

### Board's options

- 40.3 On the occurrence of a Project Co Event of Default, or within a reasonable time after the Board becomes aware of the same, and while the same is subsisting, the Board may:
- 40.3.1 in the case of the Project Co Events of Default referred to in Clauses 40.1.1 (*Insolvency*), 40.1.2 (*Long Stop*), 40.1.3(b) (*Default*), 40.1.5 (*Health and Safety*), 40.1.6 (*Change in Control*), 40.1.7 (*Assignment*), 40.1.8 (*Deductions*) 40.1.9 (*Warning Notices*) or 40.1.10 (*Payment*), terminate this Agreement in its entirety by notice in writing having immediate effect;
- 40.3.2 in the case of any Project Co Event of Default referred to in Clause 40.1.3(a) (*Default*) and 40.1.4 (*Default*), serve notice of default on Project Co requiring Project Co at Project Co's option either:
- (a) to remedy the Project Co Event of Default referred to in such notice of default (if the same is continuing) within twenty (20) Business Days of such notice of default; or
- (b) to put forward within twenty (20) Business Days of such notice of default a reasonable programme (set out, if appropriate, in stages) for remedying the Project Co Event of Default. The programme shall specify in reasonable detail the manner in, and the latest date by, which such Project Co Event of Default is proposed to be remedied (Project Co shall only have the option of putting forward a programme in accordance with this Clause 40.3.2(b) if it first notifies the Board within ten (10) Business Days of such notice of default that it proposes to do so); and
- 40.3.3 in the case of any Project Co Event of Default referred to in Clause 40.1.11 (*Insurance*) serve notice of default on Project Co requiring Project Co to remedy the Project Co Event of Default (if the same is continuing) within twenty (20) Business Days of such notice of default.

### Remedy provisions

- 40.4 Where Project Co puts forward a programme in accordance with Clause 40.3.2(b), the Board shall have twenty (20) Business Days from receipt of the same within which to notify Project Co (acting reasonably) that it does not accept the programme, failing which the Board shall be deemed to have accepted the programme. Where the Board notifies Project Co that it does not accept the programme as being reasonable, the parties shall endeavour within the following five (5) Business Days to agree any necessary amendments to the programme put forward. In the absence of agreement within five (5) Business Days, the question of whether the programme (as the same may have been amended by agreement) will remedy the Project Co Event of Default in a reasonable manner and within a

reasonable time period (and, if not, what would be a reasonable programme) may be referred by either party for resolution in accordance with Schedule Part 20 (*Dispute Resolution Procedure*).

- 40.5 If:
- 40.5.1 the Project Co Event of Default notified in a notice of default served under Clause 40.3.2 or Clause 40.3.3 (as the case may be) is not remedied before the expiry of the period referred to in Clause 40.3.2(a) or Clause 40.3.3 (as appropriate); or
  - 40.5.2 where Project Co puts forward a programme pursuant to Clause 40.3.2(b) which has been accepted by the Board or has been determined to be reasonable and Project Co fails to achieve any element of the programme or the end date for the programme (as the case may be); or
  - 40.5.3 any programme put forward by Project Co pursuant to Clause 40.3.2(b) is rejected by the Board as not being reasonable, and the Dispute Resolution Procedure does not find against that rejection,

then the Board may terminate this Agreement in its entirety by written notice to Project Co with immediate effect. Provided that for the purposes of Clause 40.5.2 if Project Co's performance of the programme is adversely affected by the occurrence of Force Majeure, a Relief Event or an Excusing Cause then, subject to Project Co complying with the mitigation and other requirements in this Agreement concerning Force Majeure, a Relief Event or an Excusing Cause (as the case may be), the time for performance of the programme or any relevant element of it shall be deemed to be extended by a period equal to the delay caused by Force Majeure, the Relief Event or the Excusing Cause (as the case may be) which is agreed by the parties or determined in accordance with Schedule Part 20 (*Dispute Resolution Procedure*).

#### **Board's costs**

- 40.6 Project Co shall reimburse the Board for all reasonable costs incurred by the Board in exercising any of its rights pursuant to this Clause 40 (*Project Co Event of Default*) (including, without limitation, any relevant increased administrative expenses). The Board shall take reasonable steps to mitigate such costs.
- 40.7 The Board shall not exercise, or purport to exercise, any right to terminate this Agreement except as expressly set out in this Agreement. The rights of the Board (to terminate or otherwise) under this Clause are in addition (and without prejudice) to any right which the Board may have to claim the amount of loss or damage suffered by the Board on account of the acts or omissions of Project Co (or to take any action other than termination of this Agreement).

#### **41. TERMINATION RESULTING FROM FORCE MAJEURE**

If, in the circumstances referred to in Clause 31 (*Force Majeure*), the parties have failed to reach agreement on any modification to this Agreement pursuant to Clause 31 (*Force Majeure*) within six (6) calendar months of the date on which the party affected serves notice

on the other party in accordance with Clause 31 (*Force Majeure*) either party may at any time afterwards terminate this Agreement by written notice to the other party having immediate effect provided always that the effects of the relevant event of Force Majeure continues to prevent either party from performing any material obligation under this Agreement.

#### 42. BOARD VOLUNTARY TERMINATION

42.1 The Board shall be entitled to terminate this Agreement at any time on six (6) months' written notice to Project Co. In the event of notice being given by the Board in accordance with this Clause, the Board shall, at any time before the expiration of such notice, be entitled to direct Project Co, where the Works (or any part or parts of the Works) or any Service (or any elements of any Service) have not been commenced, to refrain from commencing any such Works or Services (or to procure the same).

#### 43. EXPIRY

This Agreement shall terminate automatically on the Expiry Date unless it shall have been terminated earlier in accordance with the provisions of this Agreement. To avoid doubt, Project Co shall not be entitled to any compensation for termination of this Agreement on the Expiry Date.

#### 44. CORRUPT GIFTS AND PAYMENTS

##### Prohibition on corruption

44.1 The term "**Prohibited Act**" means:

44.1.1 offering, giving or agreeing to give to the Board or any other public body or to any person employed by or on behalf of the Board or any other public body any gift or consideration of any kind as an inducement or reward:

(a) for doing or not doing (or for having done or not having done) any act in relation to the obtaining or performance of this Agreement or any other agreement with the Board or any other public body; or

(b) for showing or not showing favour or disfavour to any person in relation to this Agreement or any other agreement with the Board or any other public body;

44.1.2 entering into this Agreement or any other agreement with the Board or any other public body in connection with which commission has been paid or has been agreed to be paid by Project Co or on its behalf, or to its knowledge, unless before the relevant agreement is entered into particulars of any such commission and of the terms and conditions of any such agreement for the payment of such commission have been disclosed in writing to the Board;

- 44.1.3 committing any offence:
- (a) under the Bribery Act 2010;
  - (b) under any Law creating offences in respect of fraudulent acts; or
  - (c) at common law, in respect of fraudulent acts in relation to this Agreement or any other agreement with the Board or any other public body; or
- 44.1.4 defrauding or attempting to defraud or conspiring to defraud the Board or any other public body.

### Warranty

- 44.2 Project Co warrants that in entering into this Agreement it has not committed any Prohibited Act.

### Remedies

- 44.3 If Project Co or any Project Co Party (or anyone employed by or acting on behalf of them) commits any Prohibited Act, then the Board shall be entitled to act in accordance with Clauses 44.3.1 to 44.3.6 below:
- 44.3.1 if a Prohibited Act is committed by Project Co or by an employee not acting independently of Project Co, then the Board may terminate this Agreement with immediate effect by giving written notice to Project Co;
  - 44.3.2 if the Prohibited Act is committed by an employee of Project Co acting independently of Project Co, then the Board may give written notice to Project Co of termination and this Agreement will terminate, unless within twenty (20) Business Days of receipt of such notice Project Co terminates the employee's employment and (if necessary) procures the performance of the relevant part of the Works and/or Services by another person;
  - 44.3.3 if the Prohibited Act is committed by a Contracting Associate or by an employee of that Contracting Associate not acting independently of that Contracting Associate then the Board may give written notice to Project Co of termination and this Agreement will terminate, unless within twenty (20) Business Days of receipt of such notice Project Co terminates the relevant Sub-Contract and procures the performance of the relevant part of the Works and/or Services by another person, where relevant, in accordance with Clause 57 (*Assignment and Sub-Contracting*);
  - 44.3.4 if the Prohibited Act is committed by an employee of a Contracting Associate acting independently of that Contracting Associate, then the Board may give notice to Project Co of termination and this Agreement

will terminate, unless within twenty (20) Business Days of receipt of such notice Project Co procures the termination of the employee's employment and (if necessary) procures the performance of the relevant part of the Works and/or Services by another person;

44.3.5 if the Prohibited Act is committed by any other person not specified in Clauses 44.3.1 to 44.3.4 above, then the Board may give notice to Project Co of termination and this Agreement will terminate unless within twenty (20) Business Days Project Co procures the termination of such person's employment and of the appointment of their employer (where the employer is not the Board and where such person is not employed by Project Co or the Contracting Associate) and (if necessary) procures the performance of the relevant part of the Works and/or Services by another person; and

44.3.6 any notice of termination under this Clause shall specify:

- (a) the nature of the Prohibited Act;
- (b) the identity of the party who the Board believes has committed the Prohibited Act; and
- (c) the date on which this Agreement will terminate in accordance with the applicable provisions of this Clause.

44.4 Without prejudice to its other rights or remedies under this Clause, the Board shall be entitled to recover from Project Co:

44.4.1 the amount or value of any such gift, consideration or commission; and

44.4.2 any other loss sustained in consequence of any breach of this Clause.

#### **Permitted payments**

44.5 Nothing contained in this Clause shall prevent Project Co from paying any proper commission or bonus to its employees within the agreed terms of their employment.

#### **Notification**

44.6 Project Co shall notify the Board of the occurrence (and details) of any Prohibited Act promptly on Project Co becoming aware of its occurrence.

#### **Interim Management**

44.7 Where Project Co is required to replace any Sub Contractor pursuant to this Clause, the provisions of Clause 57.9 shall apply and be construed accordingly.

## 45. BREACH OF THE NPD REQUIREMENTS

### Breach by Project Co

- 45.1 If Project Co breaches Clause 36 (*Payment of Surpluses and Compliance with NPD Requirements*) then the Board may terminate this Agreement, at any time within eighteen (18) months of becoming aware of such breach, in accordance with Clause 45.2 (*Notice of Termination*) below. The Board shall inform Project Co of the occurrence of any such breach as soon as reasonably practicable after becoming aware of the breach, provided that failure by the Board to so inform Project Co shall not constitute a breach of this Agreement by the Board and shall not prejudice the exercise of its rights under Clause 45.2 (*Notice of Termination*).

### Notice of Termination

- 45.2 If the Board wishes to terminate this Agreement under this Clause 45 (*Breach of the NPD Requirements*), it must first give Project Co notice stating:

45.2.1 that the Board is terminating this Agreement under this Clause 45 (*Breach of the NPD Requirements*); and

45.2.3 that this Agreement will terminate on the date falling thirty (30) Business Days after the date of receipt of the notice.

and this Agreement will terminate on the day falling 30 Business Days after Project Co receives the notice unless Project Co demonstrates to the satisfaction of the Board (acting reasonably) that such breach was caused by an administrative error of Project Co and Project Co rectifies such breach within ten (10) Business Days of receipt of such notice, in which the notice shall be deemed not to have been served.

## 46. COMPENSATION ON TERMINATION

- 46.1 If this Agreement is terminated pursuant to Clause 41 (*Termination Resulting from Force Majeure*), then the Board shall pay compensation to Project Co in accordance with Section 3 (*Consequence of Termination for Force Majeure*) of Schedule Part 17 (*Compensation on Termination*).

- 46.2 If this Agreement is terminated pursuant to Clause 40 (*Project Co Events of Default*) other than pursuant to Clause 40.1.3(b) (*Default*), then the Board shall pay compensation to Project Co in accordance with Section 2 (*Compensation on Project Co Default*) of Schedule Part 17 (*Compensation on Termination*).

- 46.3 If this Agreement is terminated pursuant to Clause 39 (*Board Events of Default*), then the Board shall pay compensation to Project Co in accordance with Section 1 (*Compensation on Termination for Board Default and Voluntary Termination*) of Schedule Part 17 (*Compensation on Termination*).

- 46.4 If this Agreement is terminated pursuant to Clause 42 (*Voluntary Termination*), then the Board shall pay compensation to Project Co in accordance with Section 1



(*Compensation on Termination for Board Default and Voluntary Termination*) of Schedule Part 17 (*Compensation on Termination*).

- 46.5 If this Agreement is terminated pursuant to Clause 40.1.3(b) (*Default*), Clause 44.3 (*Remedies*) or Clause 45 (*Breach of the NPD Requirements*) then the Board shall pay compensation to Project Co in accordance with Section 4 (*Corrupt Gifts and Fraud or Breach of Refinancing or Breach of NPD Requirements*) of Schedule Part 17 (*Compensation on Termination*).

#### **Tax equalisation**

- 46.6 Where a payment is to be made to Project Co pursuant to Clause 46.1 (*Compensation on Termination*), Clause 46.3 (*Compensation on Termination*), Clause 46.4 (*Compensation on Termination*) or Clause 46.5 (*Compensation on Termination*) (a "**Compensation Payment**") and Project Co has a Relevant Tax Liability in respect of such payment, then the amount of the Compensation Payment to be made by the Board to Project Co shall be increased so as to ensure that Project Co is in the same position (after account is taken of the Relevant Tax Liability) as it would have been in had it not been for such Relevant Tax Liability.

- 46.7 For the purposes of this Clause 46 (*Compensation on Termination*):

46.7.1 "**Relief**" shall mean any relief, allowance or deduction in computing profits or tax or a credit against, or right to repayment of, tax granted by or pursuant to any legislation for tax purposes;

46.7.2 a "**Relief derived from the Project**" is a Relief which arises in connection with the Project and includes any Relief arising as a consequence of the distribution of any amount obtained in respect of the Project (other than a Compensation Payment) by Project Co (whether by way of interest, dividend or other distribution, repayment, reduction or redemption of capital or indebtedness or return of assets or otherwise); and

46.7.3 Project Co shall be regarded as having a "**Relevant Tax Liability**" in respect of a Compensation Payment to the extent that:

- (a) it has a liability for tax in consequence of or in respect of a Compensation Payment ("**Actual Liability**"); or
- (b) it would have had a liability for tax within paragraph (a) above but for the utilisation of a Relief other than a Relief derived from the Project ("**Deemed Liability**").

- 46.8 In determining whether Project Co has a Relevant Tax Liability by reason of a Compensation Payment, it should be assumed that any Reliefs derived from the Project which are available to Project Co (or would have been so available but for a surrender by Project Co of such Reliefs by way of group or consortium relief) for offset against the Compensation Payment, or against tax in relation to the same, have been so offset to the maximum extent possible.

- 46.9 Project Co shall keep the Board fully informed of all negotiations with the HM Revenue and Customs in relation to any Relevant Tax Liability in respect of a Compensation Payment. Project Co shall not agree, accept or compromise any claim, issue or dispute relating to such Relevant Tax Liability without the prior written consent of the Board, which shall not be unreasonably withheld or delayed. The Board may, if it considers in good faith that such action is justified having regard to the likely costs and benefits, direct Project Co to resist, appeal, defend or otherwise dispute the Relevant Tax Liability in respect of the Compensation Payment, provided that the cost of any such dispute (including any interest or penalties incurred) shall be at the Board's expense. However, if Project Co obtains professional advice from an independent person with relevant expertise that any resistance, appeal, defence or other mode of dispute is not likely to result in any more beneficial position in relation to the Relevant Tax Liability, Project Co shall be entitled not to continue with such resistance, appeal, defence or other mode of dispute. Where any resistance, appeal, defence or other mode of dispute results in a more beneficial position in relation to the Relevant Tax Liability, an adjustment will be made to the amount payable under Clause 46.6 to reflect such outcome.
- 46.10 Any increase in the amount of a Compensation Payment which is payable under Clause 46.6 shall be paid on the later of five (5) Business Days after a demand therefore (together with evidence in sufficient detail for the Board to satisfy itself of the Relevant Tax Liability and its calculation) is made by Project Co and:
- 46.10.1 in the case of an Actual Liability, five (5) Business Days before the date on which the relevant tax must be paid to the tax Board in order to avoid incurring interest and penalties; and
- 46.10.2 in the case of a Deemed Liability, five (5) Business Days before the date on which tax which would not have been payable but for the utilisation of the relevant Relief must be paid in order to avoid incurring interest or penalties (whether by Project Co or otherwise) and, for the purposes of determining when the Relief would otherwise have been utilised, Reliefs shall be regarded as utilised in the order in which they arise.
- 46.11 The Board shall have the right to pay the amount payable under Clause 46.6 direct to HM Revenue and Customs in satisfaction of the relevant tax due by Project Co.

#### **Rights of Set-Off**

- 46.12 To avoid doubt, the Board's obligations to make any payment of compensation to Project Co pursuant to this Clause are subject to the Board's rights under Clause 34.6 (*Set – Off*), save that the Board agrees not to set-off any amount agreed or determined as due and payable by Project Co to the Board against any payment of termination compensation (whether payable as a lump sum or in instalments) under Clauses 46.1, 46.3, 46.4 or 46.5, except to the extent that such termination payment exceeds the Base Senior Debt Termination Amount or the Revised Senior Debt Termination Amount (as the case may be) at that time.

#### **Full and final settlement**

- 46.13 Subject to the provisions of paragraph 2.1 of Section 5 (*General*) of Schedule Part 17 (*Compensation on Termination*):

- 46.13.1 any compensation paid pursuant to this Clause shall be in full and final settlement of any claim, demand and/or proceedings of Project Co in relation to any termination of this Agreement and/or any Project Document (and the circumstances leading to such termination) and Project Co shall be excluded from all other rights and remedies in respect of any such termination; and
- 46.13.2 the compensation payable (if any) pursuant to this Clause 46 (*Compensation on Termination*) above shall be the sole remedy of Project Co and Project Co shall not have any other right or remedy in respect of such termination.

## 47. CONSEQUENCES OF TERMINATION

### Continued performance

- 47.1 Subject to any exercise by the Board of its rights to perform, or to procure a third party to perform, the obligations of Project Co, the parties shall continue to perform their obligations under this Agreement, notwithstanding the giving of any notice of default or notice of termination, until the Termination Date.

### Transfer to Board of Assets, Contracts etc.

- 47.2 On the service of a notice of termination in accordance with this Agreement for any reason:
- 47.2.1 if prior to the Actual Completion Date, in so far as any transfer shall be necessary fully and effectively to transfer property to the Board, Project Co shall transfer to, and there shall vest in, the Board, such part of the Works and/or the Facilities as shall have been constructed and such items of the Plant and Equipment as shall have been procured by Project Co if the Board so elects:
- 47.2.2 all goods and all materials on or near to the Site and/or Off-Site not yet incorporated in the Works shall remain available to the Board for the purposes of completing the Works and if the cost of such goods and materials has not been reflected in the payment of any compensation pursuant to Schedule Part 17 (*Compensation on Termination*), subject to the payment by the Board (determined as between a willing vendor and willing purchaser with any disputes determined pursuant to Clause 56 (*Dispute Resolution Procedure*));
- 47.2.3 the construction plant shall remain available to the Board for the purposes of completing the Works, subject to payment of the Contractor's reasonable charges;
- 47.2.4 Project Co shall hand over to, and there shall vest in, the Board, free from any Encumbrances (other than any created on or by or against the Board):

- (a) the Facilities and Equipment (which in the case of the termination

of this Agreement in accordance with Clause 43 (*Expiry*) shall be in the state required in accordance with Schedule Part 18 (*Handback Procedure*); and

- (b) the Retained Estate Handback Infrastructure (if relevant prior to the Actual Completion Date);

47.2.5 if the Board so elects, Project Co shall procure that any of the Construction Contract, the Service Contracts and/or the Independent Tester Contract shall be novated or assigned to the Board, provided that where termination occurs under Clause 39 (*Board Events of Default*) the consent of the Contractor, the Service Provider or the Independent Tester (as the case may be) shall be required;

47.2.6 Project Co shall, or shall procure that any Contracting Associate shall (as the case may be), offer to sell to the Board at a fair value (determined as between a willing vendor and willing purchaser, with any disputes as to such fair value being determined pursuant to Schedule Part 20 (*Dispute Resolution Procedure*), free from any Encumbrance all or any part of the stocks of material and other assets, road vehicles, spare parts and other moveable property owned by Project Co or any of its Contracting Associates and reasonably required by the Board in connection with the operation of the Facilities or the provision of the Services;

47.2.7 Project Co shall deliver to the Board (as far as not already delivered to the Board) three (3) hard copies and one (1) electronic copy of complete sets of:

- (a) "as built drawings" showing all alterations made to the Facilities since the commencement of operation of the Facilities; and
- (b) maintenance, operation and training manuals for the Facilities and the Retained Estate Handback Infrastructure;

47.2.8 Project Co shall use all reasonable endeavours to procure that the benefit of all manufacturer's warranties in respect of mechanical and electrical plant and equipment used or made available by Project Co under this Agreement and included in the Facilities and the Retained Estate Handback Infrastructure are assigned, or otherwise transferred, to the Board with full title guarantee; and

47.2.9 Project Co shall deliver to the Board in relation to the employees employed by Project Co and/or Service Providers the records referred to in Clause 38 (*Records and Open Book Accounting*) except where such documents are required by Law to be retained by Project Co or its Contracting Associates (in which case complete copies shall be delivered to the Board).

47.3 Project Co shall ensure that provision is made in all contracts of any description whatsoever to ensure that the Board will be in a position to exercise its rights, and Project Co will be in a position to comply with its obligations, under Clause 47.2.

**Transitional arrangements**

- 47.4 On the termination of this Agreement for any reason, for a reasonable period both before and after any such termination, Project Co shall have the following duties:
- 47.4.1 Project Co shall co-operate fully with the Board and any successor providing to the Board services in the nature of any of the Services or any part of the Services in order to achieve a smooth transfer of the manner in which the Board obtains services in the nature of the Services and to avoid or mitigate in so far as reasonably practicable any inconvenience or any risk to the health and safety of the employees of the Board and members of the public;
- 47.4.2 Project Co shall as soon as practicable remove from the Site and/or Off-Site, all property not acquired by the Board pursuant to Clause 47.2 (or not belonging to the Board or any Board Party) and if it has not done so within forty (40) Business Days after any notice from the Board requiring it to do so the Board may (without being responsible for any loss, damage, costs or expenses) remove and sell any such property and shall hold any proceeds less all costs incurred to the credit of Project Co;
- 47.4.3 Project Co shall forthwith deliver to the Board's Representative:
- (a) any security passwords, access codes and other keys to the Facilities and the Retained Estate Handback Infrastructure (if relevant prior to the Actual Completion Date) and the equipment; and
- (b) without prejudice to Clause 55 (*Intellectual Property*), any copyright licences for any computer programmes (or licences to use the same) necessary for the operation of the Facilities and the Retained Estate Handback Infrastructure (if relevant prior to the Actual Completion Date) (but excluding computer programmes, which have been developed or acquired by a Service Provider for its own use and not solely for the purposes of provision of any of the Services at the Facilities or the assignment or transfer of which is otherwise restricted); and
- 47.4.5 Project Co shall as soon as practicable vacate the Site and Off-Site , and (without prejudice to Schedule Part 18 (*Handback Procedure*)) shall leave the Site and Off-Site and the Facilities and the Retained Estate Handback Infrastructure (if relevant prior to the Actual Completion Date), in a safe, clean and orderly condition.
- 47.5 If the Board wishes to conduct a competition prior to the Expiry Date with a view to entering into an agreement for the provision of services (which may or may not be the same as, or similar to, the Services or any of them) following the expiry of this Agreement, Project Co shall co-operate with the Board fully in such competition process including (without limitation) by:
- 47.5.1 providing any information which the Board may reasonably require to conduct such competition but, to avoid doubt, information which is

commercially sensitive to Project Co shall not be provided (and, for the purpose of this Clause 47.5.1 commercially sensitive shall mean information which would if disclosed to a competitor of Project Co give that competitor a competitive advantage over Project Co and thereby prejudice the business of Project Co but shall, to avoid doubt, exclude any information to be disclosed in terms of Clause 25 (*TUPE and Employment matters*)); and

- 47.5.2 assisting the Board by providing all (or any) participants in such competition process with access to the Site, Off-Site and the Facilities and the Retained Estate Handback Infrastructure (if relevant prior to the Actual Completion Date).

### **Continuing Obligations**

- 47.6 Save as otherwise expressly provided in this Agreement or as already taken into account in the calculation of any termination sum or other payment of compensation on termination pursuant to this Agreement:

- 47.6.1 termination of this Agreement shall be without prejudice to any accrued rights and obligations under this Agreement as at the date of termination; and

- 47.6.2 termination of this Agreement shall not affect the continuing rights and obligations of Project Co and the Board under Clauses 10 (*The Site*), 25 (*TUPE and Employment Matters*), 31 (*Force Majeure*), 34 (*Payment*), 35 (*Taxation*), 36 (*Payment of Surpluses and compliance with NPD Requirements*), 37 (*Custody of Financial Model*), 38 (*Records and Reports*), 41 (*Termination Resulting from Force Majeure*), 42 (*Board Voluntary Termination*), 44 (*Corrupt Gifts and Payments*), 46 (*Compensation on Termination*), 47.2 (*Transfer of Board Assets, Contracts etc*), 47.4 and 47.5 (*Transitional Arrangements*), 49 (*Indemnities and Liability*), 53 (*Insurance*), 54 (*Exclusions and Limits on Liability*), 55 (*Intellectual Property*), 56 (*Dispute Resolution Procedure*), 59 (*Mitigation*), 61 (*Confidentiality*), 64 (*Notices*) and Clause 74 (*Governing Law and Jurisdiction*) or under any other provision of this Agreement which is expressed to survive termination or which is required to give effect to such termination or the consequences of such termination.

### **48. HANDBACK PROCEDURE**

The provisions of Schedule Part 18 (*Handback Procedure*) shall apply to the handback of the Facilities to the Board on expiry of this Agreement.

## PART 11: INDEMNITIES, WARRANTIES & INSURANCE

### 49. INDEMNITIES

#### Project Co indemnities to Board

- 49.1 Project Co shall indemnify and keep the Board indemnified at all times from and against all Direct Losses sustained by the Board (which Project Co acknowledges may include any Direct Losses sustained by the Board as a result of (i) any Direct Losses sustained by the Campus Parties and/or (ii) any Direct Losses sustained by the Board pursuant to the RIE Project Agreement) in consequence of:
- 49.1.1 any claim for, or in respect of, the death and/or personal injury of any employee of, or person engaged by, Project Co or any Project Co Party notwithstanding any act or omission of the Board or any Board Party;
  - 49.1.2 any claim for, or in respect of, the death and/or personal injury of any third party (other than a person referred to in Clause 49.2.1) arising out of, or in the course of, the Project Operations, save to the extent caused (or contributed to) by any Unreasonable Act by the Board or any Board Party, breach of any express provision of this Agreement by the Board or any Board Party or any deliberate or negligent act or omission of the Board or any Board Party;
  - 49.1.3 any physical loss of or damage to Board Assets arising by reason of any act or omission of Project Co or any Project Co Party, save to the extent that such loss or damage arises out of the breach of any express provision of this Agreement by the Board or any Board Party or any deliberate or negligent act or omission of the Board or any Board Party;
  - 49.1.4 any loss of or damage to property or assets of any third party arising by reason of any act or omission of Project Co or any Project Co Party, save to the extent that such loss or damage arises out of the breach of any express provision of this Agreement by the Board or any Board Party or any deliberate or negligent act or omission of the Board or any Board Party;
  - 49.1.5 any breach of and/or any negligent act in complying with the terms of the Interface Proposals and/or paragraphs 4.4.3(b), 4.4.3(e), 4.5.1A, 4.5.12, 6.1.1, 6.1.2 and/or 7.6(j) of Sub-Section C of the Board's Construction Requirements and/or Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*), by Project Co or any Project Co Party save to the extent such breach arises due to the breach of any express provision of this Agreement by the Board or any Board Party or any deliberate or negligent act or omission of the Board, any Board Party; and
  - 49.1.6 any breach of Clause 9.5.1 (Extent of Rights) insofar as relates to the Reserved Rights set out in paragraphs 9, 10 and 16 of Section 2 (Reserved Rights) of Schedule Part 5 (Land Matters),



by Project Co or any Project Co Party.

### **Board indemnities to Project Co**

49.2 The Board shall indemnify and keep Project Co indemnified at all times from and against all Direct Losses sustained by Project Co in consequence of:

49.2.1 any claim for, or in respect of, the death and/or personal injury of any employee of, or person engaged by, the Board or any Board Party notwithstanding any act or omission of Project Co or any Project Co Party;

49.2.2 any claim for, or in respect of, the death and/or personal injury of any third party (other than a person referred to in Clause 49.1.1) arising by reason of any act or omission of the Board or any Board Party in the course of provision of the Board Services, any Unreasonable Act by the Board or any Board Party, breach of any express provision of this Agreement by the Board or any Board Party or any deliberate act or omission of the Board or any Board Party, save to the extent caused (or contributed to) by any act or omission of Project Co or any Project Co Party;

49.2.3 any physical damage to any part of the Facilities or any assets or other property of Project Co or any Project Co Party arising by reason of any breach of any express provision of this Agreement by the Board or any Board Party or any deliberate act or omission of the Board or any Board Party, save to the extent caused (or contributed to) by any act or omission of Project Co or any Project Co Party; and

49.2.4 any loss of or damage to property or assets of any third party arising by reason of any breach of any express provision of this Agreement by the Board or any Board Party or any deliberate act or omission of the Board or any Board Party, save to the extent caused (or contributed to) by any act or omission of Project Co or any Project Co Party;

provided that in the case of Clauses 49.2.3 and 49.2.4 there shall be excluded from the indemnity given by the Board any liability:

- (a) for the occurrence of risks against which and to the extent to which Project Co is obliged to insure under this Agreement (but for the avoidance of doubt, not such liability to the extent within any applicable excess or deductible or over the maximum amount insured or to be insured under such insurance); or
- (b) in respect of a matter which is a Compensation Event; or
- (c) in respect of malicious damage.

### **Conduct of claims**

- 49.3 This Clause 49.3 (*Conduct of Claims*) shall apply to the conduct, by a party from whom an indemnity is sought under this Agreement, of claims made by a third person against a party having (or claiming to have) the benefit of the indemnity. The party having, or claiming to have, the benefit of the indemnity is referred to as the "**Beneficiary**" and the party giving the indemnity is referred to as the "**Indemnifier**". Accordingly:
- 49.3.1 if the Beneficiary receives any notice, demand, letter or other document concerning any claim for which it appears that the Beneficiary is, or may become, entitled to indemnification under this Agreement, the Beneficiary shall give notice in writing to the Indemnifier as soon as reasonably practicable and in any event within twenty (20) Business Days of receipt of the same;
- 49.3.2 subject to Clauses 49.3.3, 49.3.4 and 49.3.5 below, on the giving of a notice by the Beneficiary pursuant to Clause 49.3.1 above, where it appears that the Beneficiary is or may be entitled to indemnification from the Indemnifier in respect of all (but not part only) of the liability arising out of the claim, the Indemnifier shall (subject to providing the Beneficiary with an indemnity to its reasonable satisfaction against all costs and expenses that it may incur by reason of such action) be entitled to dispute the claim in the name of the Beneficiary at the Indemnifier's own expense and take conduct of any defence, dispute, compromise, or appeal of the claim and of any incidental negotiations. The Beneficiary shall give the Indemnifier all reasonable co operation, access and assistance for the purposes of considering and resisting such claim;
- 49.3.3 with respect to any claim conducted by the Indemnifier pursuant to Clause 49.3.2 above:
- (a) the Indemnifier shall keep the Beneficiary fully informed and consult with it about material elements of the conduct of the claim;
  - (b) the Indemnifier shall not bring the name of the Beneficiary into disrepute; and
  - (c) the Indemnifier shall not pay or settle such claims without the prior consent of the Beneficiary, such consent not to be unreasonably withheld or delayed;
- 49.3.4 the Beneficiary shall be free to pay or settle any claim on such terms as it thinks fit and without prejudice to its rights and remedies under this Agreement if:
- (a) the Indemnifier is not entitled to take conduct of the claim in accordance with Clause 49.3.2 above; or
  - (b) the Indemnifier fails to notify the Beneficiary of its intention to take conduct of the relevant claim within twenty (20) Business Days of the notice from the Beneficiary under Clause 49.3.1 above or notifies the Beneficiary that it does not intend to take

conduct of the claim; or

- (c) the Indemnifier fails to comply in any material respect with the provisions of Clause 49.3.3 above;

49.3.5 the Beneficiary shall be free at any time to give notice to the Indemnifier that it is retaining or taking over (as the case may be) the conduct of any defence, dispute, compromise or appeal of any claim (or of any incidental negotiations) to which Clause 49.3.2 above applies. On receipt of such notice the Indemnifier shall promptly take all steps necessary to transfer the conduct of such claim to the Beneficiary, and shall provide to the Beneficiary all reasonable co-operation, access and assistance for the purposes of considering and resisting such claim. If the Beneficiary gives any notice pursuant to this Clause 49.3.5, then the Indemnifier shall be released from any liability under its indemnity under Clause 49.1 (*Project Co Indemnities to Board*) or Clause 49.2 (*Board Indemnities to Project Co*) (as the case may be) and, without prejudice to any accrued liabilities, any liability under its indemnity given pursuant to Clause 49.3.2 in respect of such claim;

49.3.6 if the Indemnifier pays to the Beneficiary an amount in respect of an indemnity and the Beneficiary subsequently recovers (whether by payment, discount, credit, saving, relief or other benefit or otherwise) a sum which is directly referable to the fact, matter, event or circumstances giving rise to the claim under the indemnity, the Beneficiary shall forthwith repay to the Indemnifier whichever is the lesser of:

- (a) an amount equal to the sum recovered (or the value of the saving or benefit obtained) less any out of pocket costs and expenses properly incurred by the Beneficiary in recovering the same; and
- (b) the amount paid to the Beneficiary by the Indemnifier in respect of the claim under the relevant indemnity,

49.3.7 provided that there shall be no obligation on the Beneficiary to pursue such recovery and that the Indemnifier is repaid only to the extent that the amount of such recovery aggregated with any sum recovered from the Indemnifier exceeds any loss sustained by the Beneficiary (including for this purpose indirect or consequential losses or claims for loss of profits which are excluded by this Agreement from being recovered from the Indemnifier); and

49.3.8 any person taking any of the steps contemplated by Clauses 49.3.1 to 49.3.5 shall comply with the requirements of any insurer who may have an obligation to provide an indemnity in respect of any liability arising under this Agreement.

#### **Mitigation – indemnity claims**

49.4 To avoid doubt the provisions of Clause 59 (*Mitigation*) apply to any indemnity

given under this Agreement and any such indemnity shall not apply to the extent that such part or parts of Direct Losses could have been reduced or avoided by the Beneficiary complying with the provisions of such Clause 59 (*Mitigation*).

## 49A MALICIOUS DAMAGE

### 49A.1 Remit of Clause

This Clause 49A specifies the respective obligations of the parties in relation to malicious damage to the Facilities during the Operational Term.

### 49A.2 Notification

49A.2.1 As soon as possible after a Service Event has been notified to the Helpdesk or after Project Co has itself or by a Service Provider become aware of a Service Event, if it considers that the Service Event was caused by malicious damage by a person other than a Project Co Party, Project Co must verbally inform the Helpdesk and the Board's Representative (a "**Malicious Damage Report**"). Where it is reasonably practicable for it to do so without prejudicing its ability to achieve Rectification of the Service Event within the Rectification Period and subject to any immediate steps that it requires to take to make the Facilities safe, it must allow the Board's Representative an opportunity to inspect the evidence it relies on to support its claim that malicious damage caused the Service Event concerned before carrying out Rectification and, where this is not reasonably practicable, Project Co must take reasonable steps to preserve or record in a suitable manner any such evidence and forthwith make that record available to the Board.

49A.2.2 Provided Project Co has complied with the requirements of Clause 49A.2.1, unless within twelve (12) hours of receipt of a Malicious Damage Report the Board's Representative notifies Project Co that he agrees that the Service Event referred to in the relevant Malicious Damage Report was caused by malicious damage by a person other than a Project Co Party, the Board's Representative will be deemed to have disagreed that the Service Event concerned was caused by malicious damage by a person other than a Project Co Party.

### 49A.3 Rectification of Malicious Damage

49A.3.1 In relation to any Service Event referred to in a Malicious Damage Report, Project Co shall always take such steps as are necessary in accordance with its obligations under this Agreement to make the Facilities safe.

49A.3.2 If the Board's Representative agrees in accordance with Clause 49A.2 that a Service Event was caused by malicious damage by a person other than a Project Co Party, except when Clause 49A.3.3 applies, Project Co shall not Rectify the Service Event beyond what is required by Clause 49A.3.1 unless instructed by the Board to do so as a Board Change under Schedule Part 16 (*Change Protocol*).

49A.3.3 If, in the reasonable opinion of Project Co, the Service Event referred to in a Malicious Damage Report, if not Rectified, will or is likely to result in the costs of performing the Services and in particular the costs of Maintenance Works and Lifecycle Replacement being materially increased, it may notify the Board's Representative to that effect and shall be entitled to proceed with Rectification in accordance with its obligations under this Agreement.

49A.3.4 If the Board's Representative does not agree accordance with Clause 49A.2 that the Service Event referred to in a Malicious Damage Report was caused by malicious damage by a person other than a Project Co Party, Project Co shall be entitled to proceed with Rectification in accordance with its obligations under this Agreement.

#### 49A.4 **Costs of rectifying malicious damage**

Project Co will be entitled to include all reasonable costs incurred with any Service Provider or third party:

49A.4.1 to make the Facilities safe pursuant to Clause 49A.3.1 if it is agreed by the Board or subsequently determined under the Dispute Resolution Procedure that the Service Event was caused by malicious damage by a person other than a Project Co Party; or

49A.4.2 to carry out Rectification pursuant to Clause 49A.3.3; or

49A.4.3 to carry out Rectification pursuant to Clause 49A.3.4 if it is subsequently determined under the Dispute Resolution Procedure that the Service Event was caused by malicious damage by a person other than a Project Co Party,

in a Monthly Invoice in accordance with Clause 34.2.1(c). In deciding what a reasonable cost is, regard may be had to prices and rates in the Catalogue (as defined in Schedule Part 16 (*Change Protocol*)).

#### 49A.5 **Project Co to Provide Information**

Project Co must provide the Board with such information as the Board reasonably requests for the purpose of making claims for losses due to malicious damage, under the Operational Insurances.

#### 49A.6 **Disputes**

Any dispute under this Clause 49A shall be determined under the Dispute Resolution Procedure.

### 50. **TAX ON INDEMNITY PAYMENTS**

If any payment by one party under an indemnity in this Agreement is subject to income tax or

corporation tax (or any tax replacing them) in the hands of the recipient, the recipient may demand in writing to the party making the payment that the payment shall be increased by such amount as would ensure that, after taking into account any such tax payable in respect of such additional amount, the recipient receives and retains a net sum equal to the amount it would have otherwise received had the payment not been subject to such tax. In relation to any such additional amount payable to Project Co, Project Co and the Board shall have the same rights and obligations as would apply to a Relevant Tax Liability under Clause 46.7.3 (*Tax Equalisation*) and Clauses 46.6 to 46.11 (*Tax Equalisation*) (inclusive) shall apply mutatis mutandis to the payment of the additional amount. The party making the payment shall pay such additional amount within ten (10) Business Days of receipt of such demand.

## 51. EXCUSING CAUSES

51.1 If an Excusing Cause interferes adversely with, or causes or contributes to a failure of, the performance of the Project Operations by Project Co and/or causes or contributes to the occurrence of an Availability Failure and/or a Performance Failure and provided that the effect of such Excusing Cause is claimed within ten (10) Business Days of the date on which Project Co became aware (or ought reasonably to have become so aware) of the occurrence of the Excusing Cause, then (subject to Clauses 51.3 (*Insured Exposure*) and 51.4 (*Mitigation of Excusing Cause*)) to the extent such failure or interference or occurrence of an Availability Failure and/or a Performance Failure arises as a result of such Excusing Cause:

51.1.1 such failure by Project Co to perform or interference or occurrence, and any poor performance of, any affected Service shall not constitute a breach of the provisions of this Agreement by Project Co;

51.1.2 such failure by Project Co to perform or interference or occurrence shall be taken account of in measuring the performance of any affected Service in accordance with the Service Level Specification, which shall be operated as though the relevant Service had been performed free from such adverse interference; and

51.1.3 any such Availability Failure and/or Performance Failure shall be deemed not to have occurred,

so that Project Co shall be entitled to payment under this Agreement as if there had been no such interference with, or failure in the performance of, the Project Operations and no such occurrence of an Availability Failure and/or Performance Failure.

51.2 For the purpose of Clause 51 (*Excusing Causes*), an Excusing Cause means:

51.2.1 any breach of any express provision of this Agreement by the Board or any Board Party (unless, and to the extent, caused or contributed to by Project Co or any Project Co Party);

51.2.2 any deliberate act or omission of the Board or any Board Party or any failure by the Board or Board Party (having regard always to the interactive nature of the activities of the Board and of Project Co) to take reasonable steps to carry out its activities in a manner which minimises undue interference with Project Co's performance of the

Project Operations, save where (and to the extent):

- (a) caused or contributed to by Project Co or any Project Co Party;
  - (b) the Board or Board Party is acting in accordance with a recommendation or instruction of Project Co or any Project Co Party;
  - (c) any such act or omission giving rise to such failure was within the contemplation of the parties or was otherwise provided for in this Agreement;
  - (d) the consequences of any such deliberate act or omission or other acts or omissions giving rise to such failure would have been prevented by the proper performance of Project Co's obligations under this Agreement; or
  - (e) the same arises from an act of the Board or a Board Party compliant with the Contractor's Site Rules and other requirements of the Contractor as referred to in Clause 13.1 (*Access to Site*) or 17.9 (*Commissioning prior to Completion Date*); or
- 51.2.3 the outbreak or the effects of any outbreak of any Medical Contamination unless and to the extent that the effects of such outbreak are caused (or contributed to) by any failure of Project Co or any Project Co Party to comply with procedures (or Board instructions) relating to control of infection or to take all reasonable steps to mitigate the effect of such Medical Contamination;
- 51.2.4 the implementation of any action taken by the Board or any Board Party, or any suspension of Project Co's obligation to deliver any or any part of the Services or the compliance by Project Co with instructions given by the Board, in each case in the circumstances referred to in Clauses 24.6 to 24.9 (*Board's remedial rights*) (inclusive);
- 51.2.5 the carrying out of any Low Value Change in accordance with the terms of this Agreement during the period of time agreed between the Board and Project Co;
- 51.2.6 the carrying out of planned preventative maintenance in accordance with the Schedule of Programmed Maintenance and Schedule of Lifecycle Replacement;
- 51.2.7 the occurrence of a Service Event that the Board's Representative has agreed pursuant to Clause 49A.3.2 (*Malicious Damage*) or that it has been determined pursuant to the Dispute Resolution Procedure has been caused by malicious damage by a person other than a Project Co Party, but only until such time as either (i) the Board has instructed Project Co to Rectify the Service Event as a Board Change and the time period for implementation of such Board Change has expired or



(ii) Project Co has Rectified the Service Event pursuant to Clause 49A.3.3 (*Malicious Damage*);

51.2.8 the occurrence of a matter referred to in Clause 10.4 (*Responsibility for Contamination*) during the Operational Term; or

51.2.9 subject to Project Co complying with the mitigation measures set out within Section 4.3 (*Construction Methodology*) of the Project Co Proposals, the exercise of any of the Reserved Rights set out in paragraphs 13 and/or 14 of Section 2 (*Reserved Rights*) of Schedule Part 5 (*Land Matters*).

### **Insured exposure**

51.3 Without prejudice to Clause 53 (*Insurance*), Project Co shall not be entitled to any payment which would not have been due under this Agreement but for Clause 51 (*Excusing Causes*) to the extent that Project Co is or should be able to recover under any policy of insurance required to be maintained by Project Co or any Project Co Party in accordance with this Agreement (whether or not such insurance has in fact been effected or, if effected, has been vitiated as a result of any act or omission of Project Co (or any Project Co Party), including but not limited to non-disclosure or under insurance) or has any other policy of insurance which Project Co has taken out and maintained.

### **Mitigation of Excusing Cause**

51.4 Project Co shall take all reasonable steps to mitigate the consequences of an Excusing Cause on Project Co's ability to perform its obligations under this Agreement. To the extent that Project Co does not take such steps, Project Co shall not be entitled to, and shall not receive, the relief specified in Clause 51.2.2

51.5 To avoid doubt, Clause 51.2.2 shall not impose a general obligation on the Board to take (or to procure that any Board Party takes) such steps and shall apply (and be construed) solely for the purpose of establishing whether an Excusing Cause has occurred.

**52. NOT USED**

**53. INSURANCE**

### **Project Co Insurances**

53.1 Project Co shall procure that the insurances, details of which are set out in Section 1 (*Policies to be taken out by Project Co and maintained during the Design and Construction Phase*) of Schedule Part 15 (*Insurance Requirements*), are taken out prior to the commencement of the Works and are maintained for the periods specified in Section 1 (*Policies to be taken out by Project Co and maintained during the Design and Construction Phase*) of Schedule Part 15 (*Insurance Requirements*).

- 53.2 Project Co shall procure that the insurances, details of which are set out in Section 2 (*Policies to be taken out by Project Co and maintained from the Actual Completion Date*) of Schedule Part 15 (*Insurance Requirements*), are taken out prior to the Actual Completion Date and are maintained for the periods specified in Section 2 (*Policies to be taken out by Project Co and maintained from the Actual Completion Date*) of Schedule Part 15 (*Insurance Requirements*).
- 53.3 Without prejudice to the other provisions of this Clause 53 (*Insurance*), Project Co shall, at all relevant times, at its own cost, effect and maintain in full force those insurances which it is required to effect by any applicable Law.
- 53.4 All Insurances referred to in Clauses 53.1 and 53.2 shall:
- 53.4.1 be maintained in the names of the parties specified in Schedule Part 15 (*Insurance Requirements*) and shall be composite policies of insurance (and not joint) unless stated otherwise in Schedule Part 15 (*Insurance Requirements*);
  - 53.4.2 be placed with insurers who are acceptable to the Board (such acceptance not to be unreasonably withheld or delayed);
  - 53.4.3 in so far as they relate to damage to assets (including the Facilities), cover the same for the full reinstatement value;
  - 53.4.4 comply with the relevant provisions of Section 1 (*Policies to be taken out by Project Co and maintained during the Design and Construction Phase*) and Section 2 (*Policies to be taken out by Project Co and maintained from the Actual Completion Date*) of Schedule Part 15 (*Insurance Requirements*).
  - 53.4.5 provide for thirty (30) days prior written notice of their cancellation, non-renewal or amendment to be given to the Board in accordance with Endorsement 1 in Section 3 (*Endorsement*) of Schedule Part 15 (*Insurance Requirements*);
  - 53.4.6 in respect of the Physical Damage Policies provide for payment of any proceeds received by Project Co to be applied in accordance with Clause 53.22 (*Reinstatement*);
  - 53.4.7 in the case of the Operational Insurances only, be taken out and maintained in accordance with Section 4 (*Insurance Arrangements*) of Schedule Part 15 (*Insurance Requirements*).
- 53.5 Project Co shall ensure that its brokers give the Board a letter of undertaking substantially in the form set out in Section 5 (*Broker's Letter of Undertaking*) of Schedule Part 15 (*Insurance Requirements*) at Financial Close and subsequently on the renewal of each of the Insurances.

**Subrogation and Vitiation**

- 53.6 Project Co shall in respect of the insurances referred to in Clauses 53.1 and 53.2:
- 53.6.1 procure that all policies of insurance to be effected by it pursuant to this Clause shall contain a provision to the effect that the insurers have agreed to waive all rights of subrogation against the Board (and all Board Parties other than contractors and sub-contractors in accordance with Endorsement 2 in Schedule 3 (*Endorsements*) of Schedule Part 15 (*Insurance Requirements*); and
- 53.6.2 provide for non-vitiation protection in respect of any claim made by the Board as co-insured in accordance with Endorsement 2 in Section 3 (*Endorsements*) of Schedule Part 15 (*Insurance Requirements*),
- provided that, to avoid doubt, this Clause 53.6 shall not by itself prevent Project Co from claiming against the Board (or any Board Party) under an express provision of this Agreement for any loss or damage not covered because of the level of deductibles under such insurance permitted by this Agreement or to the extent such loss or damage exceeds the maximum of such insurance required by this Agreement.
- 53.7 Neither party shall take any action or fail to take any reasonable action or (in so far as it is reasonably within its power) permit or allow others to take or fail to take any action (including failure to disclose any fact) as a result of which any of the Insurances may be rendered void, voidable, unenforceable or suspended or impaired in whole or in part or which may otherwise render any sum paid out under any relevant policy repayable in whole or in part.

**Evidence of Project Co Insurance**

- 53.8 Not less than twenty (20) Business Days prior to the amendment or expiry of any relevant insurance policy (other than the expiry of any of the Operational Insurances in respect of which Project Co must comply with the provisions of Section 4 of Schedule Part 15 (*Insurance Requirements*)), Project Co shall submit to the Board a request for approval from the Board of the insurer and the principal terms and conditions of such insurance policy (and any revision to such terms and conditions or change in identity of such insurer), such approval not to be unreasonably withheld or delayed.
- 53.9 Project Co shall provide to the Board:
- 53.9.1 copies on request of all insurance policies referred to in Clauses 53.1 to 53.3 (together with any other information reasonably requested by the Board relating to such insurance policies) and the Board shall be entitled to inspect them during ordinary business hours; and
- 53.9.2 evidence that the premiums payable under all insurance policies have been paid and that the Insurances are in full force and effect in accordance with the requirements of this Clause 53 (*Insurance*) and Schedule Part 15 (*Insurance Requirements*).

- 53.10 Renewal certificates or other such evidence of renewal in relation to the Insurances shall be obtained as and when necessary and copies (certified in a manner acceptable to the Board) shall be forwarded to the Board as soon as possible but in any event within twenty (20) Business Days of the renewal date.
- 53.11 If Project Co defaults in insuring or continuing to maintain the Insurances, the Board may insure against any risk in respect of which such default has occurred and recover any premiums from Project Co as a debt provided that if the default occurs during the Operational Term the amount recoverable from Project Co shall be the difference between the premiums had Project Co continued to maintain the Insurances and the premiums paid by the Board to take out and maintain the Insurances.

#### Acceptance and compliance

- 53.12 The supply to the Board of any draft insurance policy or certificate of insurance or other evidence of compliance with this Clause 53 (*Insurance*) shall not imply acceptance by the Board (or the Board's Representative) that:
- 53.12.1 the extent of insurance cover is sufficient and its terms are satisfactory; or
- 53.12.2 in respect of any risks not insured against, that the same were Uninsurable.
- 53.13 Neither failure to comply, nor full compliance, with the insurance provisions of this Agreement shall relieve Project Co of its liabilities and obligations under this Agreement.

#### Uninsurable Risks

- 53.14
- 53.14.1 If a risk usually covered by contractors' 'all risks' insurance, property damage insurance, third party liability insurance, delay in start up and business interruption insurance (but not loss of profits) or statutory insurances in each case required under this Agreement becomes Uninsurable then:
- (a) Project Co shall notify the Board of any risk becoming Uninsurable within five (5) Business Days of becoming aware of the same and in any event at least five (5) Business Days before expiry or cancellation of any existing insurance in respect of that risk; and
- (b) if both parties agree, or it is determined in accordance with the Dispute Resolution Procedure that the risk is Uninsurable and that:
- (i) the risk being Uninsurable is not caused by the

actions of Project Co or any sub-contractor of Project Co (of any tier); and

- (ii) Project Co has demonstrated to the Board that Project Co and a prudent board of directors of a company operating the same or substantially similar businesses in the United Kingdom to that operated by Project Co would in similar circumstances (in the absence of the type of relief envisaged by this Clause) be acting reasonably and in the best interests of the company if they resolved to cease to operate such businesses as a result of that risk becoming Uninsurable, taking into account inter alia (and without limitation) the likelihood of the Uninsurable risk occurring (if it has not already occurred), the financial consequences for such company if such Uninsurable risk did occur (or has occurred) and other mitigants against such consequences which may be available to such company,

the parties shall meet to discuss the means by which the risk should be managed or shared (including considering the issue of self-insurance by either party).

53.14.2 If the requirements of Clause 53.14.1 are satisfied, but the parties cannot agree as to how to manage or share the risk, then:

- (a) where such requirements are satisfied in respect of such third party liability insurance the Board shall (at the Board's option) either pay to Project Co an amount equal to the amount calculated in accordance with Section 3 (*Compensation on Termination for Force Majeure*) of Schedule Part 17 (*Compensation on Termination*) and this Agreement will terminate, or elect to allow this Agreement to continue and Clause 53.14.2(b) below shall thereafter apply in respect of such risk; and
- (b) where such requirements are satisfied in respect of contractors' 'all risks' insurance, property damage insurance, third party liability insurance (if the Board elects to allow this Agreement to continue in accordance with Clause 53.14.2(a)), delay in start up and business interruption insurance (but not loss of profits) or statutory insurances this Agreement shall continue and on the occurrence of the risk (but only for as long as such risk remains Uninsurable) the Board shall (at the Board's option) either pay to Project Co an amount equal to insurance proceeds that would have been payable had the relevant insurance continued to be available and this Agreement will continue, or an amount equal to the amount calculated in accordance with Section 3 (*Compensation on Termination for Force Majeure*) of Schedule Part 17 (*Compensation on Termination*) plus (in relation to third party liability insurance only) the amount of insurance proceeds that would have been payable whereupon this Agreement will terminate; and

- (c) where pursuant to Clauses 53.14.2(a) and/or 53.14.2(b) this Agreement continues then the Annual Service Payment shall be reduced in each year for which the relevant insurance is not maintained by an amount equal to the premium paid (or which would have been paid) by Project Co in respect of the relevant risk in the year prior to it becoming Uninsurable (index linked from the date that the risk becomes Uninsurable) save to the extent that such reduction is otherwise reflected in a reduction in the payments claimed by Project Co pursuant to paragraph 3.1 of Section 6 (*Pass Through Costs*) of Schedule Part 14 (*Payment Mechanism*). Where the risk is Uninsurable for part of a year only the reduction in the Annual Service Payment shall be pro rated to the number of months for which the risk is Uninsurable;
- (d) where pursuant to Clauses 53.14.2(a) and/or 53.14.2(b) this Agreement continues Project Co shall approach the insurance market at least every four (4) months to establish whether the risk remains Uninsurable. As soon as Project Co is aware (and the parties agree or it is determined pursuant to the Dispute Resolution Procedure) that the risk is no longer Uninsurable, Project Co shall take out and maintain or procure the taking out and maintenance of insurance (to be incepted as soon as is reasonably practicable) for such risk in accordance with this Agreement;
- (e) in respect of any period between the Board receiving notification in accordance with Clause 53.14.1(a) that a TPL Risk has become Uninsurable and the Board's notification to the Project Co in accordance with Clause 53.14.2(a) in respect of such risk then, provided it is ultimately agreed or determined that the requirements of Clause 53.14.1(b) are satisfied in respect of the Uninsurable TPL Risk and subject to Clause 53.14.2(f) below, Clause 53.14.2(b) shall apply in respect of occurrences of the Uninsurable TPL Risk during such period unless the parties otherwise agree how to manage the risk during this period; and
- (f) Clause 53.14.2(e) shall only apply provided Project Co does not unreasonably materially delay (a) agreement and/or determination in accordance with the Dispute Resolution Procedure as to whether the requirements of Clause 53.14.1(b) are satisfied in respect of the Uninsurable TPL Risk and/or (b) meeting with the Board to discuss the means by which the risk should be managed.

Where this Clause 53.14.2 applies and this Agreement continues, Project Co shall, subject to Clause 53.14.2(c), be relieved of its obligations to maintain insurance in respect of the relevant Uninsurable Risk.

- 53.14.3 If, pursuant to Clause 53.14.1(b), the Board elects to make payment of compensation to Project Co (such that this Agreement will terminate)(the "**Relevant Payment**"), Project Co shall have the option (exercisable in writing within twenty (20) Business Days of the date of such election by the Board (the "**Option Period**")) to pay to the Board on or before the end of the Option Period, an amount equal to the

insurance proceeds that would have been payable had the relevant risk not become Uninsurable, in which case this Agreement will continue (and the Relevant Payment will not be made by the Board), and Project Co's payment shall be applied for the same purpose and in the same manner as insurance proceeds would have been applied had the relevant risk not become Uninsurable.

53.14.4 During the Operational Term, the Board shall be entitled to notify Project Co that a risk has become Uninsurable under paragraph (b) of the definition of "Uninsurable". Following such notification Clauses 53.14.1(b) to 53.14.3 (except Clause 53.14.1(b)(ii)) shall apply as if Project Co has issued a notice under Clause 53.14.1(a).

### 53.15 Unavailability of terms

53.15.1 If, upon the renewal of any of the Insurances:

- (a) any Insurance Term is not available to Project Co in the worldwide insurance market with reputable insurers of good standing; and/or
- (b) the insurance premium payable for Insurance incorporating such Insurance Term is such that the Insurance Term is not generally being incorporated in insurance procured in the worldwide insurance market with reputable insurers of good standing by contractors in the United Kingdom,
- (c) other than, in each case by reason of one or more actions of Project Co and/or any sub-contractor of Project Co (of any tier) then Clause 53.15.2, shall apply.

53.15.2 If it is agreed or determined that Clause 53.15.1 applies then the Board shall waive Project Co's obligations in Clauses 53.1 to 53.3 (*Project Co Insurances*) and/or Schedule Part 15 (*Insurance Requirements*) in respect of that particular Insurance Term and Project Co shall not be considered in breach of its obligations regarding the maintenance of insurance pursuant to this Agreement as a result of the failure to maintain insurance incorporating such Insurance Term for so long as the relevant circumstances described in Clause 53.15.1 continue to apply to such Insurance Term.

53.15.3 To the extent that the parties agree (acting reasonably), or it is determined pursuant to the Dispute Resolution Procedure, that an alternative or replacement term and /or condition of insurance is available to Project Co in the worldwide insurance market with reputable insurers of good standing which if included in the relevant insurance policy would fully or partially address Project Co's inability to maintain or procure the maintenance of insurance with the relevant Insurance Term, at a cost which contractors in the UK are (at such time) generally prepared to pay, Project Co shall maintain or procure the maintenance of insurance including such alternative or replacement term and/or condition.



- 53.15.4 Project Co shall notify the Board as soon as reasonably practicable and in any event within five (5) days of becoming aware that Clause 53.15.1(a) and/or Clause 53.15.1(b) are likely to apply or (on expiry of the relevant insurance then in place) do apply in respect of an Insurance Term (irrespective of the reason for the same). During the Operational Term the Board shall be entitled to notify Project Co that Clause 53.15.1(b) is likely to apply or (on expiry of the relevant insurance then in place) does apply in respect of an Insurance Term (irrespective of the reason for the same). Project Co shall provide the Board with such information as the Board reasonably requests regarding the unavailability of the Insurance Term and the parties shall meet to discuss the means by which such unavailability should be managed as soon as is reasonably practicable.
- 53.15.5 In the event that Clause 53.15.1(a) and/or Clause 53.15.1(b) apply in respect of an Insurance Term, (irrespective of the reasons for the same) Project Co shall approach the insurance market at least every four months to establish whether Clause 53.15.1(a) and/or Clause 53.15.1(b) remain applicable to the Insurance Term. As soon as Project Co is aware that Clause 53.15.1(a) and/or Clause 53.15.1(b) has ceased to apply to the Insurance Term and the parties agree or it is determined pursuant to the Dispute Resolution Procedure, Project Co shall take out and maintain or procure the taking out and maintenance of insurance (to be incepted as soon as is reasonably practicable) incorporating such Insurance Term in accordance with this Agreement.

### **Risk Management**

- 53.16 With effect from the date of this Agreement, the Board and Project Co shall each designate or appoint an insurance and risk manager and notify details of the same to the other party. Such person shall:
- 53.16.1 be responsible for dealing with all risk management matters on behalf of its appointing or designating party including (without limitation) ensuring compliance by that party with this Clause 53.16;
- 53.16.2 advise and report to that party on such matters; and
- 53.16.3 ensure that any report or survey conducted by any insurer of any relevant procedures in relation to the Project is disclosed to the parties.
- 53.17 Without prejudice to the provisions of Clause 53.16, the parties shall notify one another, and in Project Co's case the relevant insurer, of any circumstances which may give rise to a claim of a value equal to or in excess of fifty thousand pounds (£50,000) (index linked) under the Insurances within five (5) Business Days of becoming aware of the same (or earlier, if so requested by the terms of the relevant insurance policy). If any insurer disputes any such claim, Project Co shall provide the Board with full details of any disputed claim and the parties shall liaise with one another to ensure that the relevant claim is preserved or pursued.

### **Application of Proceeds**

- 53.18 All insurance proceeds received by Project Co under the insurances referred to in paragraph 1 (*Contractor's "All Risk" Insurance*) of Section 1 (*Insurance Requirements*) and paragraph 1 (*Property Damage Insurance*) of Section 2 (*Policies to be taken out by Project Co and Maintained from the Actual Completion Date*) of Schedule Part 15 (*Insurance Requirements*) shall be paid into the Insurance Proceeds Account and shall be applied in accordance with this Agreement and in accordance with the Insurance Proceeds Accounts Agreement.
- 53.19 Subject to the provisions of the Funders' Direct Agreement and Clause 53.22 (*Reinstatement*), Project Co shall apply any proceeds of any policies of Insurance:
- 53.19.1 in the case of third party legal liability or employers' liability insurance, in satisfaction of the claim, demand, proceeding or liability in respect of which such proceeds are payable; and
- 53.19.2 in the case of any other insurance other than delay in start up or business interruption insurance, so as to ensure the performance by Project Co of its obligations under this Agreement, including where necessary the reinstatement, restoration or replacement of the Facilities, assets, materials or goods affected by the event giving rise to the insurance claim and consequent payment of proceeds.
- 53.20 Where reinstatement monies are required to be released from the Insurance Proceeds Account Project Co shall obtain the Board's consent in accordance with the Insurance Proceeds Account Agreement. The Board shall give its consent (or confirm that it is withholding its consent) to the release of monies from the Insurance Proceeds Account within one (1) Business Day of a request from Project Co (provided that such consent must not be unreasonably withheld).
- 53.21 If the proceeds of any insurance claim are insufficient to cover the settlement of such claims, Project Co will make good any deficiency forthwith.

#### 53.22 **Reinstatement**

- 53.22.1 All insurance proceeds received under any Physical Damage Policy shall be applied to repair, reinstate and replace each part or parts of the Facilities in respect of which the proceeds were received.
- 53.22.2 Where a claim is made or proceeds of insurance are received or are receivable under any Physical Damage Policy in respect of a single event (or a series of related events) (the "**Relevant Incident**") in an amount in excess of two hundred and fifty thousand pounds (£250,000) (Index linked) :
- (a) Project Co shall deliver as soon as practicable and in any event within twenty eight (28) days after the making of the claim a plan prepared by Project Co for the carrying out of the works necessary (the "**Reinstatement Works**") to repair, reinstate or replace (the "**Reinstatement Plan**") the assets which are the subject of the relevant claim or claims in accordance with Clause 53.22.2(b) below. The Reinstatement Plan shall set out:

- (i) if not the Contractor, the identity of the person proposed to effect the Reinstatement Works, which shall be subject to the prior written approval of the Board; and
  - (ii) the proposed terms and timetable or, if not then established, the reasonably anticipated terms and timetable upon which the Reinstatement Works are to be effected (including the date that the Project will become fully operational), the final terms of which shall be subject to the prior written approval of the Board, which approval shall not be unreasonably delayed;
- (b) provided that the Board is satisfied that the Reinstatement Plan will enable Project Co to comply with Clause 53.22.2(b)(iv) below within a reasonable timescale:
- (i) the Reinstatement Plan will be adopted and carried out by Project Co;
  - (ii) Project Co shall enter into contractual arrangements to effect the Reinstatement Works with the person identified in the Reinstatement Plan approved by the Board;
  - (iii) prior to the earlier to occur of the Termination Date or the Expiry Date, any amounts standing to the credit of the Insurance Proceeds Account (the "**Relevant Proceeds**") (together with any interest accrued) may be withdrawn by Project Co from the Insurance Proceeds Account as required to enable it to make payments in accordance with the terms of the contractual arrangements referred to in Clause 53.22.2(b)(ii) above, and to meet any other reasonable costs and expenses of Project Co for the sole purposes of funding the Reinstatement Works and the parties shall operate the signatory requirements of the Insurance Proceeds Account in order to give effect to such payments. Following the earlier to occur of the Termination Date and the Expiry Date, the Board may withdraw amounts standing to the credit of the Insurance Proceeds Account for the purposes of funding any Reinstatement Works;
  - (iv) the Board agrees and undertakes that, subject to compliance by Project Co with its obligations under this Clause, and provided that Project Co procures that the Reinstatement Works are carried out and completed in accordance with the contractual arrangements referred to in Clause 53.22.2(b)(ii), it shall not exercise any right which it might otherwise have to terminate this Agreement by virtue of the event which gave rise to the claim for the Relevant Proceeds;

- (v) the Board undertakes to use reasonable endeavours to assist Project Co in the carrying out of the Reinstatement Plan; and
- (vi) after the Reinstatement Plan has been implemented to the reasonable satisfaction of the Board and in accordance with Clause 53.22.3 below the Board shall permit withdrawal by Project Co of any Relevant Proceeds then held in the Insurance Proceeds Account that have not been paid under Clause 53.22.2(b)(iii) above, in respect of the Relevant Incident, together with any interest accrued.
- (vii) subject to the provisions of Clause 49.1 (*Project Co Indemnities to Board*) Project Co shall be solely responsible for the payment of any deficiency.

53.22.3 Where insurance proceeds are to be used, in accordance with this Agreement, to repair, reinstate or replace any Facilities, Project Co shall carry out the work in accordance with the Board's Construction Requirements so that on completion of the work, the provisions of this Agreement are complied with.

53.22.4 If and to the extent that a breach by Project Co of its obligations under Clause 53.22.2(b) leads to a delay in the completion of the Reinstatement Works, any entitlement that Project Co has to relief under Clause 30 (*Relief Events*) shall be suspended.

## 54. EXCLUSIONS AND LIMITATIONS ON LIABILITY

### Exclusions

54.1 The indemnities under this Agreement shall not apply and (without prejudice to the Board's rights under the Payment Mechanism and to the provisions of Schedule Part 17 (*Compensation on Termination*)) there shall be no right to claim damages for breach of this Agreement, in delict or on any other basis whatsoever to the extent that any loss claimed by either party is for loss of profits, loss of use, loss of production, loss of business or loss of business opportunity or is a claim for consequential loss or for indirect loss of any nature ("**Indirect Losses**") suffered or allegedly suffered by either party. The Board agrees that, notwithstanding the foregoing, any losses of Project Co arising under the Construction Contract and the Service Contracts as originally executed (or as amended in accordance with and subject to Clause 4.1 (*Ancillary Documents*)) which are not Indirect Losses shall not be excluded from such a claim solely by reason of this Clause 54.1.

54.2 The Board shall not be liable in delict to Project Co or any Project Co Party in respect of any negligent act or omission of the Board and/or any Board Party relating to or in connection with this Agreement and Project Co shall procure that no Project Co Party shall bring such a claim against the Board. Project Co has accepted this on the basis that it and each Project Co Party will cover the risk of negligent acts or omissions by insurance or in such other manner as it (or they) may think fit.

**No Double Recovery**

54.3 Subject to:

54.3.1 any other express right of the Board pursuant to this Agreement; and

54.3.2 the Board's right to claim, on or after termination of this Agreement, the amount of its reasonable costs, losses, damages and expenses suffered or incurred by it as a result of rectifying or mitigating the effects of any breach of this Agreement by Project Co save to the extent that the same has already been recovered by the Board pursuant to this Agreement or has been taken into account to reduce any compensation payable by the Board pursuant to Clause 46 (*Compensation on Termination*),

the sole remedy of the Board in respect of a failure to provide the Services in accordance with this Agreement shall be the operation of the Payment Mechanism.

54.4 Subject to Clause 29 (*Board Events of Default*) and any other express right of Project Co pursuant to this Agreement, Project Co's sole remedy in respect of any breach of this Agreement which is a Compensation Event shall be pursuant to Clause 29 (*Delay Events*).

54.5 Nothing in Clause 54.3 shall prevent or restrict the right of the Board to seek interdict or a decree of specific implement or other discretionary remedies of the court.

54.6 Notwithstanding any other provision of this Agreement, neither party shall be entitled to recover compensation or make a claim under this Agreement or any other agreement in relation to the Project in respect of any loss that it has incurred (or any failure of the other party) to the extent that it has already been compensated in respect of that loss or failure pursuant to this Agreement or otherwise.

54.7 Neither party shall have the right to terminate this Agreement for breach of contract save as expressly set out in this Agreement.

## PART 12: MISCELLANEOUS

### 55. INTELLECTUAL PROPERTY

#### Project Data

55.1 Project Co shall make available to the Board free of charge (and hereby irrevocably licences the Board to use) all Project Data that might reasonably be required by the Board and Project Co shall ensure that it can make the Project Data available to the Board on these terms, for the purposes of:

55.1.1 the Board carrying out the Board Services (and its operations relating to the performance of the Board Services), its duties under this Agreement and/or any statutory duties that the Board may have; and

55.1.2 following termination of this Agreement, the design or construction of the Facilities, the operation, maintenance or improvement of the Facilities and/or the carrying out of operations the same as, or similar to, the Project Operations,

(together the "**Approved Purposes**") and in this Clause "use" shall include the acts of copying, modifying, adapting and translating the material in question and/or incorporating them with other materials and the term "the right to use" shall be construed accordingly.

#### Intellectual Property Rights

55.2 Project Co:

55.2.1 hereby grants to the Board, free of charge, an irrevocable, non-exclusive and transferable (but only to any assignee or transferee of any rights or benefits under this Agreement or upon or at any time following termination of this Agreement) licence (carrying the right to grant sub-licences) to use the Intellectual Property Rights which are or become vested in Project Co; and

55.2.2 shall, where any Intellectual Property Rights are or become vested in a third party, use all reasonable endeavours to procure the grant of a like licence to that referred to in Clause 55.2.1 above to the Board,

in both cases, solely for the Approved Purposes.

Project Co shall use all reasonable endeavours to ensure that any Intellectual Property Rights created, brought into existence or acquired during the term of this Agreement vest, and remain vested throughout the term of this Agreement, in Project Co and Project Co shall enter into appropriate agreements with any Project Co Party (or other third parties) that may create or bring into existence, or from which it may acquire, any Intellectual Property Rights.

**Maintenance of data**

- 55.3 To the extent that any of the data, materials and documents referred to in this Clause are generated by or maintained on a computer or similar system, Project Co shall use all reasonable endeavours to procure for the benefit of the Board, at no charge or at the lowest reasonable fee, the grant of a licence or sub-licence for any relevant software to enable the Board or its nominee to access and otherwise use (subject to the payment by the Board of the relevant fee, if any) such data for such purposes as the Board may at its sole discretion require. As an alternative, Project Co may provide such data, materials or documents in a format which may be read by software generally available in the market at the relevant time or in hard copy format.
- 55.4 Project Co shall ensure the back-up and storage in safe custody of the data, materials and documents referred to in Clause 55.3 in accordance with Good Industry Practice. Without prejudice to this obligation, Project Co shall submit to the Board's Representative for approval its proposals for the back-up and storage in safe custody of such data, materials and documents and the Board shall be entitled to object if the same is not in accordance with Good Industry Practice. Project Co shall comply, and shall cause all Project Co Parties to comply, with all procedures to which the Board's Representative has given its approval. Project Co may vary its procedures for such back-up and storage subject to submitting its proposals for change to the Board's Representative, who shall be entitled to object on the basis set out above.

**Claims**

- 55.5 Where a claim or proceeding is made or brought against the Board which arises out of the infringement of any rights in or to any Intellectual Property (other than any Disclosed Data) or because the use of any materials, Plant, machinery or equipment in connection with the Project Operations infringes any rights in or to any Intellectual Property of a third party then, unless such infringement has arisen out of the use of any Intellectual Property by or on behalf of the Board otherwise than in accordance with the terms of this Agreement, Project Co shall indemnify the Board at all times from and against all such claims and proceedings and the provisions of Clause 49.3 (*Conduct of Claims*) shall apply.

**56. DISPUTE RESOLUTION PROCEDURE**

Except where expressly provided otherwise in this Agreement, any dispute arising out of or in connection with this Agreement shall be resolved in accordance with the procedure set out in Schedule Part 20 (*Dispute Resolution Procedure*).

**57. ASSIGNATION AND SUB-CONTRACTING****Assigation**

- 57.1 This Agreement and any other agreement in connection with the Project to which both the Board and Project Co are a party shall be binding on, and shall enure to the benefit of, Project Co and the Board and their respective statutory successors and permitted transferees and assignees. In the case of the Board, its successors shall include any person to whom the Scottish Ministers, in exercising their statutory powers to transfer property, rights and liabilities of the Board upon the



Board ceasing to exist, transfers the property, rights and obligations of the Board under this Agreement and such other agreements in connection with the Project to which the Board and Project Co are both a party.

57.2 Subject to Clause 57.3, Project Co shall not, without the prior written consent of the Board, assign, novate transfer, sub-contract or otherwise dispose of any interest in this Agreement, the Independent Tester Contract, the Construction Contract, the Service Contracts and any other contract entered into by Project Co for the purposes of performing its obligations under this Agreement.

57.3 To avoid doubt:

57.3.1 the provisions of Clause 57.2 do not apply to the grant of any security, in a form approved by the Board prior to its grant (such approval not to be unreasonably withheld or delayed) for any loan made to Project Co under the Initial Funding Agreements provided that any assignee shall enter into the Funders' Direct Agreement in relation to the exercise of its rights, if the Board so requires; and

57.3.2 the Board consents pursuant to Clause 57.2 to the subcontracting by Project Co of the agreed management activities to HCP Management Services Limited (company number 3819468), whose registered office is situated at 8 White Oak Square, London Road, Swanley, Kent BR8 7AG, under a management services agreement with Project Co dated on or about the date of this Agreement.

57.4 The Board shall be entitled to assign, transfer or dispose of the whole of this Agreement and/or of any agreement entered into in connection with this Agreement to which the Board and Project Co are both party to:

57.4.1 the Scottish Ministers, another Health Board or any other person or body replacing any of the foregoing (or to whom the Scottish Ministers exercising their statutory rights would be entitled to transfer such benefits) covered by the National Health Service (Residual Liabilities) Act 1996; or

57.4.2 any other person or body with the prior written consent of Project Co (not to be unreasonably withheld or delayed);

provided that nothing in this Clause shall restrict the rights of the Scottish Ministers to effect a statutory transfer.

### **Sub-contractors**

57.5 Project Co shall, without prejudice to Clause 57.1, procure that none of the persons listed below shall sub-contract all (or substantially all) of their obligations under or in the agreement set out next to its name:

<b>Person</b>	<b>Contract</b>
---------------	-----------------

Contractor                      Construction Contract

Service Provider              Service Contract

without, in each case, the prior written consent of the Board (such consent not to be unreasonably withheld or delayed). To avoid doubt, (i) any failure to comply with Clause 57.7 shall be a reasonable ground for withholding consent and (ii) consent shall, without prejudice to the other provisions of Clause 57.5, not be required in respect of the appointment of any party currently approved by the Board as a suitable replacement and (iii) the Board consents to the agreed packages of work being sub-contracted to the Design Team and the Key Sub-contractors.

- 57.6      If the contract set out next to the name of any person referred to in Clause 57.5 shall at any time lapse, terminate or otherwise cease to be in full force and effect (whether by reason of expiry or otherwise), with the effect that such person shall cease to act in relation to the Project, Project Co shall forthwith appoint a replacement (subject to compliance with Clause 57.5).
- 57.7      Project Co shall procure that any replacement for any person referred to in Clause 57.5 or any Key Sub-Contractor shall enter into a contract upon the same or substantially similar terms as the person so replaced and shall also enter into a collateral agreement on the same or substantially the same terms as the Collateral Agreement entered into by the person so replaced.
- 57.8      Where Project Co enters into a contract with a sub-contractor for the purposes of carrying out the Project Operations or any part of the Project Operations under this Agreement, Project Co shall cause a term to be included in such contract:
- 57.8.1      which requires payment to be made to the sub-contractor within a specified period not exceeding thirty (30) days from receipt of a valid invoice as defined by the contract requirements and in the case of the provision of Services provides that, for the purpose of payment alone, where the Board has made payment to Project Co and the sub-contractor's invoice includes Project Operations in relation to which payment has been made by the Board then, to the extent that it relates to such Project Operations, the invoice shall be treated as valid and payment shall be made to the sub-contractor without deduction (but without prejudice to any right to deduct or set off validly arising under the terms of the contract with the sub-contractor); and
- 57.8.2      which notifies the sub-contractor that the contract forms part of a larger contract for the benefit of the Board and that should the sub-contractor have any difficulty in securing the timely payment of an invoice that matter may be referred by the sub-contractor to the Board's Representative; and
- 57.8.3      in the same terms as this Clause 57.8 (including for the avoidance of doubt this Clause 57.8.3) subject only to modification to refer to the correct designation of the equivalent party as the supplier and recipient of the relevant Project Operations as the case may be.

- 57.8A Project Co shall procure that each Key Sub-Contractor:
- 57.8A.1 in the case of the Design Team, enters into an agreement in the applicable Agreed Form of the Collateral Agreement for the applicable Design Team member in favour of the Board;
  - 57.8A.2 in the case of the work packages set out in limbs (a), (h) and (i) of the definition of 'Key Sub-Contractor' enters into the applicable Agreed Form of Key Sub-Contractor Collateral Agreement in favour of the Board;
  - 57.8A.3 in the case of the work packages set out in limbs (b), (c), (d), (e), (f), (l), (j), (k) and (m) of the definition of 'Key Sub-Contractor' enters into an agreement substantially in the form of the Key Sub-Contractor Collateral Agreement set out in Section 3 of Schedule Part 9 (*Collateral Agreements*) in favour of the Board;
  - 57.8A.4 in the case of the work package set out in limb (g) of the definition of "Key Sub-Contractor" provides a product warranty consistent with Good Industry Practice in favour of the Board or as approved by the Board acting reasonably naming the Board as a beneficiary of such product warranty;

and that each such document is duly executed by the parties thereto (other than by the Board, where the Board is a signatory) and is delivered to the Board:

- 57.8A.5 by the date of this Agreement in the case of both (1) the Design Team referred to in Clause 57.8A.1 and (2) the work packages referred to in Clause 57.8A.2; and
- 57.8A.6 within twenty (20) Business Days after the appointment of the relevant Key Sub-Contractor by the Contractor and in any event not later than the Completion Date, in the case of the works packages referred to in Clause 57.8A.3; and
- 57.8A.7 not later than the Completion Date in the case of the work package referred to in Clause 57.8A.4;

together with a certified true copy of the relevant sub-contract between the Contractor and each member of the Design Team and/or Key Sub-contractor (save for pricing information which may be redacted) and evidence that the professional indemnity insurance (or product liability insurance, in the case of the work package referred to in Clause 57.8A.4), to be maintained by the Key Sub-Contractor in terms of the relevant sub-contract and Collateral Agreement as applicable is in place.

### **Replacement of a non-performing Sub-Contractor**

- 57.9 On the substitution or replacement of a Service Provider due to a breach or default under a Service Contract, Project Co may elect, subject to Clause 57.11 and provided that at the time of making such election no notice of termination has been served under this Agreement, that for the purposes of Clause 40.1.8 (*Deductions*) and Clause 40.1.9 (*Warning Notices*) only, all Deductions incurred and Warning Notices served prior to the date of such substitution or replacement shall be disregarded by virtue of Clause 57.10 below.
- 57.10 If Project Co makes an election pursuant to Clause 57.9 above then, with effect from the date of substitution or replacement of the Service Provider, all Deductions incurred and Warning Notices served prior to that date shall be disregarded for the purposes of Clause 40.1.8 (*Deductions*) and Clause 40.1.9 (*Warning Notices*). For

the avoidance of doubt, the Board shall retain the right to make Deductions in accordance with Schedule Part 14 (*Payment Mechanism*) in respect of the Availability Failures and/or Performance Failures to which the Deductions and/or Warning Notices are attributable.

- 57.11 Project Co shall be entitled to make an election pursuant to Clause 57.9 on a maximum of two occasions during the Project Term.

## 58. OWNERSHIP INFORMATION AND CHANGES IN CONTROL

- 58.1 Project Co represents and warrants to the Board that at the date of this Agreement the legal and beneficial ownership of Project Co is as set out in Schedule Part 21 (*Project Co Information*) and that, other than any Shareholder pre-emption rights, no arrangements are in place that have or may have or result in any sale, transfer or disposal of any legal, beneficial, equitable or other interest in any or all of the shares in Project Co.

- 58.2 Project Co shall inform the Board as soon as reasonably practicable (and in any event, within thirty (30) days) of any Change in Control occurring in respect of Project Co.

- 58.3 The Board may, not more than twelve (12) times in any Contract Year, or any time when a Project Co Event of Default is outstanding, require Project Co to inform it, as soon as reasonably practicable and in any event within thirty (30) days of receipt of the Board's request for details, of any Change in Control in respect of Project Co.

- 58.4 Project Co's obligations under Clauses 58.1 and 58.2 above shall, except where a legal transfer of shares has occurred be limited to the extent of Project Co's awareness having made all reasonable enquiry.

- 58.5 Subject to Clause 58.6, prior to the expiry of a period of twelve (12) months commencing on the Actual Completion Date, no Change in Control in any or all of the shares in Project Co, Hold Co, Top Co and/or Mac Co shall be permitted without the prior written approval of the Board. Any Change in Control arising as a consequence of either:

58.5.1 the grant or enforcement of security in favour of the Senior Funders over or in relation to any of the shares of the Project Co, provided that any document conferring security over any shares has been approved by the Board (such approval not to be unreasonably withheld or delayed); or

58.5.2 any sale, transfer or disposal of any legal, beneficial or equitable interest in any shares or other interests by any Shareholder or an Associate of such Shareholder (the "**Transferor**") to another Associate of the Transferor (the "**Transferee**");

58.5.3 any change in legal or beneficial ownership of any shares or other interests that are listed on a recognised investment exchange (as defined in section 285 of the Financial Services and Markets Act 2000);

shall be disregarded for the purpose of this Clause 58.5 above.

Where Clause 58.5.2 applies and subsequent to any such transfer (the “**Original Transfer**”) the Transferee ceases to be an Associate of the original Transferor, it shall be a breach of this Clause 58.5 if the shares or interests which were the subject of the Original Transfer are not within twenty (20) Business Days of the Transferee ceasing to be an Associate of the original Transferor, transferred to the original Transferor or any Associate of such Transferor, except where that Transferee is both (i) a unit trust, limited partnership or fund as set out in the definition of “Associated Company” and (ii) the relevant trustee, general partner, manager or co-manager has been terminated from its appointment for default or cause in accordance with the terms of that unit trust, limited partnership or fund or its contract of appointment.

- 58.6 No Change in Control (at any time) in any or all of the shares in Project Co (or any company (other than a public quoted company whose equity securities are listed on a recognised investment exchange, as defined in section 285 of the Financial Services and Markets Act 2000) holding shares in Hold Co, Project Co or in any company (or its shareholders) holding shares in such a company (or its shareholders)) shall be permitted without the prior written approval of the Board where the person acquiring control is a Restricted Person.

## 59. MITIGATION

Each of the Board and Project Co shall at all times take all reasonable steps to minimise and mitigate any loss for which the relevant party is entitled to bring a claim against the other party pursuant to this Agreement.

## 60. DATA PROTECTION

### Data Protection

- 60.1 For the purpose of the following Clauses, the term "personal data" shall have the meaning given to it in the Data Protection Act 1998.
- 60.2 Project Co undertakes to the Board that it shall comply with the obligations of a "data controller" under the provisions of the Seventh Data Protection Principle as set out in Schedule 1 of the Data Protection Act 1998. In addition, Project Co:
- 60.1.1 warrants that it has, or will have at all material times, (and it shall use best endeavours to procure that all Sub-Contractors (and their agents and sub contractors of any tier have or will have at all material times) the appropriate technical and organisational measures in place against unauthorised or unlawful processing of personal data and against accidental loss or destruction of, or damage to, personal data held or processed by it and that it has taken, or will take at all material times, all reasonable steps to ensure the reliability of any of its staff which will have access to personal data processed as part of the Project Operations;
- 60.2.2 undertakes that it will act only on the instructions of the Board in relation to the processing of any personal data made available by or

on behalf of the Board as part of the Project Operations;

- 60.2.3 undertakes that it will only obtain, hold, process, use, store and disclose personal data as is necessary to perform its obligations under this Agreement and (without prejudice to Clause 5.2 (*General standards*)) that such data will be held, processed, used, stored and disclosed only in accordance with the Data Protection Act 1998 and any other applicable Law; and
- 60.2.4 undertakes to allow the Board access to any relevant premises on reasonable notice to inspect its procedures described at Clause 60.2.1 above.

## 61. CONFIDENTIALITY

61.1 The Board shall, subject to Clause 61.2 be entitled to make the documents and information listed in this Clause 61.1 freely available to the public (which may include, without limitation, publication on the Board's website):

- 61.1.1 this Agreement;
- 61.1.2 the Independent Tester Contract;
- 61.1.3 the Collateral Agreements;
- 61.1.4 the payment and performance report;
- 61.1.5 the Financial Model (as updated from time to time in accordance with this Agreement); and
- 61.1.6 Schedule of Lifecycle Replacement; and
- 61.1.7 Not Used,

and Project Co acknowledges and agrees that, subject to the exclusion of information referred to in Clause 61.2.2, the provision or publication of the documents and information listed in this Clause 61.1 shall not give rise to any liability under the terms of this Agreement or otherwise. The Board shall notify Project Co in writing not less than ten (10) Business Days prior to any intended provision or publication of information pursuant to this Clause 61.1.

61.2

- 61.2.1 The parties agree that the provisions of this Agreement, the Financial Model and each Ancillary Document shall, subject to Clause 61.2.2 below, not be treated as Confidential Information and may be disclosed without restriction and Project Co acknowledges that the Board shall, subject to Clause 61.2.2 below, be entitled to make this

Agreement, the Financial Model and each Ancillary Document available in the public domain.

- 61.2.2 Clause 61.2.1 above shall not apply to provisions of this Agreement, the Financial Model or an Ancillary Document designated as Commercially Sensitive Information and listed in Schedule Part 26 (*Commercially Sensitive Information*) to this Agreement which shall, subject to Clause 61.3 be kept confidential for the periods specified in that Schedule Part 26 (*Commercially Sensitive Information*).
- 61.2.3 The parties shall keep confidential all Confidential Information received by one party from the other party relating to this Agreement and Ancillary Documents or the Project and shall use all reasonable endeavours to prevent their employees and agents from making any disclosure to any person of any such Confidential Information.

### Permitted Disclosure

61.3 Clauses 61.2.2 and 61.2.3 shall not apply to:

- 61.3.1 any disclosure of information that is reasonably required by any person engaged in the performance of their obligations under this Agreement for the performance of those obligations;
- 61.3.2 any matter which a party can demonstrate is already or becomes generally available and in the public domain otherwise than as a result of a breach of this Clause;
- 61.3.3 any disclosure to enable a determination to be made under Schedule Part 20 (*Dispute Resolution Procedure*) or in connection with a dispute between Project Co and any of its subcontractors;
- 61.3.4 any disclosure which is required pursuant to any Law or Parliamentary obligation placed upon the party making the disclosure or the rules of any stock exchange or governmental or regulatory authority having the force of law or, if not having the force of law, compliance with which is in accordance with the general practice of persons subject to the stock exchange or governmental or regulatory authority concerned;
- 61.3.5 any disclosure of information which is already lawfully in the possession of the receiving party, prior to its disclosure by the disclosing party;
- 61.3.6 any provision of information to the parties' own professional advisers or insurance advisers or to the Senior Funders or the Senior Funders' professional advisers or insurance advisers or, where it is proposed that a person should or may provide funds (whether directly or indirectly and whether by loan, equity participation or otherwise) to Project Co to enable it to carry out its obligations under this Agreement, or may wish to acquire shares in Project Co and/or Hold Co, Top Co and/or Mac Co in accordance with the provisions of this Agreement to that person or their respective professional advisers but

only to the extent reasonably necessary to enable a decision to be taken on the proposal;

- 61.3.7 any disclosure by the Board of information relating to the design, construction, operation and maintenance of the Project and such other information as may be reasonably required for the purpose of conducting a due diligence exercise, to any proposed new contractor, its advisers and lenders, should the Board decide to retender this Agreement; or
- 61.3.8 any registration or recording of the Consents and property registration required;
- 61.3.9 any disclosure of information by the Board to any other department, office or agency of the Government or their respective advisers or to the Scottish Futures Trust or to any person engaged in providing services to the Board for any purpose related to or ancillary to this Agreement;
- 61.3.10 any disclosure for the purpose of:
- (a) the examination and certification of the Board's or Project Co's accounts;
  - (b) any examination pursuant to section 6(1) of the National Audit Act 1983 of the economy, efficiency and effectiveness with which the Board has used its resources;
  - (c) complying with a proper request from either party's insurance adviser, or insurer on placing or renewing any insurance policies; or
  - (d) (without prejudice to the generality of Clause 61.3.4) compliance with the FOI(S)A and/or the Environmental Information (Scotland) Regulations;
- 61.3.11 disclosure pursuant to Clause 61.1; or
- 61.3.12 disclosure to the extent required pursuant to Clause 63.2;

provided that, to avoid doubt, neither Clause 61.3.10(d) nor Clause 61.3.4 above shall permit disclosure of Confidential Information otherwise prohibited by Clause 61.2.3 where that information is exempt from disclosure under section 36 of the FOI(S)A.

- 61.4 Where disclosure is permitted under Clause 61.3, other than under Clauses 61.3.2, 61.3.4, 61.3.5, 61.3.8 and 61.3.10, the party providing the information shall procure that the recipient of the information shall be subject to the same obligation of confidentiality as that contained in this Agreement.



- 61.5 Project Co shall not make use of this Agreement or any information issued or provided by or on behalf of the Board in connection with this Agreement otherwise than for the purpose of this Agreement, except with the written consent of the Board.
- 61.6 Where Project Co, in carrying out its obligations under this Agreement, is provided with information relating to any Board Party, Project Co shall not disclose or make use of any such information otherwise than for the purpose for which it was provided, unless Project Co has obtained the prior written consent of that person and has obtained the prior written consent of the Board.
- 61.7 On or before the Expiry Date, Project Co shall ensure that all documents or computer records in its possession, custody or control, which contain information relating to any patient or Board Party including any documents in the possession, custody or control of a Sub-Contractor, are delivered up to the Board.
- 61.8 The parties acknowledge that Audit Scotland has the right to publish details of this Agreement (including Commercially Sensitive Information) in its relevant reports to Parliament.
- 61.9 The provisions of this Clause 61 (*Confidentiality*) are without prejudice to the application of the Official Secrets Acts 1911 to 1989.

### **Announcements**

- 61.10 Unless otherwise required by any Law or any regulatory or governmental authority (but only to that extent), neither party shall make or permit or procure to be made any public announcement or disclosure (whether for publication in the press, the radio, television screen or any other medium) of any Confidential Information or in the case of Project Co of its (or any Project Co Party's) interest in the Project or, in any such case, any matters relating thereto, without the prior written consent of the other party (which shall not be unreasonably withheld or delayed).

## **62. FREEDOM OF INFORMATION**

- 62.1 Project Co acknowledges that the Board is subject to the requirements of the FOI(S)A and the Environmental Information (Scotland) Regulations and shall assist and cooperate with the Board to facilitate the Board's compliance with its Information disclosure requirements pursuant to the same in the manner provided for in Clauses 62.2 to 62.8.
- 62.2 Where the Board receives a Request for Information in relation to Information that Project Co is holding on its behalf and which the Board does not hold itself the Board shall refer to Project Co such Request for Information as soon as practicable and in any event within five (5) Business Days of receiving such Request for Information and Project Co shall:
- 62.2.1 provide the Board with a copy of all such Information in the form that the Board requires as soon as practicable and in any event within five (5) Business Days (or such other period as the Board acting reasonably may specify) of the Board's request; and

62.2.2 provide all necessary assistance as reasonably requested by the Board in connection with any such Information, to enable the Board to respond to the Request for Information within the time for compliance set out in section 10 of the FOI(S)A or Regulation 5 of the Environmental Information (Scotland) Regulations.

62.3 Following notification under Clause 62.2, and up until such time as Project Co has provided the Board with all the Information specified in Clause 62.2.1, Project Co may make representations to the Board as to whether or not or on what basis Information requested should be disclosed, and whether further information should reasonably be provided in order to identify and locate the information requested, provided always that the Board shall be responsible for determining at its absolute discretion:

62.3.1 whether Information is exempt from disclosure under the FOI(S)A and the Environmental Information (Scotland) Regulations;

62.3.2 whether Information is to be disclosed in response to a Request for Information, and

in no event shall Project Co respond directly, or allow its Sub-Contractors to respond directly, to a Request for Information unless expressly authorised to do so by the Board.

62.4 Project Co shall ensure that all Information held on behalf of the Board is retained for disclosure for the remainder of the Project Term plus an additional seven (7) years, and shall permit the Board to inspect such Information as requested from time to time.

62.5 Project Co shall transfer to the Board any Request for Information received by Project Co as soon as practicable and in any event within two (2) Business Days of receiving it.

62.6 Project Co acknowledges that any lists provided by it listing or outlining Confidential Information are of indicative value only and that the Board may nevertheless be obliged to disclose Confidential Information in accordance with the requirements of FOI(S)A and the Environmental (Scotland) Regulations.

62.7 In the event of a request from the Board pursuant to Clause 62.2 Project Co shall as soon as practicable, and in any event within five (5) Business Days of receipt of such request, inform the Board of Project Co's estimated costs of complying with the request to the extent these would be recoverable, if incurred by the Board, under section 13(1) of the FOI(S)A and the Fees Regulations. Where such costs (either on their own or in conjunction with the Board's own such costs in respect of such Request for Information) will exceed the appropriate limit referred to in section 12(1) of the FOI(S)A and as set out in the Fees Regulations (the "**Appropriate Limit**") the Board shall inform Project Co in writing whether or not it still requires Project Co to comply with the request and where it does require Project Co to comply with the request the ten (10) Business Days period for compliance shall be extended by such number of additional days for compliance as the Board is entitled to under section 10 of the FOI(S)A. In such case, the Board shall notify Project Co of such additional days as soon as practicable after becoming aware of them and shall reimburse Project Co for such costs as Project Co incurs in complying with the request to the extent it is itself entitled to

reimbursement of such costs in accordance with its own FOI(S)A policy from time to time.

- 62.8 Project Co acknowledges that (notwithstanding the provisions of Clause 61 (*Confidentiality*)) the Board may, acting in accordance with the Scottish Ministers Code of Practice on the Discharge of Functions of Public Authorities under Part 6 of the Freedom of Information (Scotland) Act 2002 (the "**Code**"), and/or having full regard to any guidance or briefings issued by the Scottish Information Commissioner or the Scottish Ministers, be obliged under the FOI(S)A, or the Environmental Information (Scotland) Regulations to disclose Information concerning Project Co or the Project:

62.8.1 in certain circumstances without consulting with Project Co; or

62.8.2 following consultation with Project Co and having taken their views into account,

provided always that where Clause 62.8.1 above applies the Board shall, in accordance with the recommendations of the Code, draw this to the attention of Project Co prior to any disclosure.

- 62.9 In the event that the Project Co is or becomes subject to Environmental Information (Scotland) Regulations or FOI(S)A it shall comply with its obligations under Environmental Information (Scotland) Regulations and FOI(S)A. In doing so, it will use reasonable endeavours to consult the Board before disclosing Information about them or any agreement entered into between the Board and Project Co.

### 63. INFORMATION AND AUDIT ACCESS

- 63.1 Project Co shall provide to the Board's Representative all information, documents, records and the like in the possession of, or available to, Project Co (and to this end Project Co shall use all reasonable endeavours to procure that all such items in the possession of the Contractor or any Service Providers shall be available to it and Project Co has included, or shall include, relevant terms in all contracts with the Contractor or any Service Providers to this effect) as may be reasonably requested by the Board's Representative for any purpose in connection with this Agreement.

63.2 For the purpose of:

63.2.1 the examination and certification of the Board's accounts; or

63.2.2 any examination pursuant to section 23 of the Public Finance and Accountability (Scotland) Act 2000 of the economy, efficiency and effectiveness with which the Board has used its resources,

the Auditor General for Scotland may examine such documents as he may reasonably require which are owned, held or otherwise within the control of Project Co (and Project Co shall procure that any person acting on its behalf who has such documents and/or other information shall also provide access) and may require

Project Co to produce such oral or written explanations as he considers necessary.

- 63.3. Project Co shall provide and shall procure that its Sub-Contractors shall provide such information as the Board may reasonably require from time to time to enable it to meet its obligations to provide reports and returns pursuant to regulations, directions or guidance applicable to the Board including, without limitation, reports and returns regarding the physical condition of buildings occupied by the Board, health and safety, under the firecode, relating to environmental health and to comply with requirements for the provision of information relating to achievement of customer service targets.

#### 64. NOTICES

- 64.1 All notices under this Agreement shall be in writing and all certificates, notices or written instructions to be given under the terms of this Agreement shall be served by sending the same by first class post, or by hand, leaving the same at:

If to Project Co	Address:	Chris Mackay Burness Paull LLP 50 Lothian Road Edinburgh EH3 9WJ
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If to the Board	Address:	The Chief Executive Lothian Health Board Waverley Gate 2-4 Waterloo Place Edinburgh EH1 3EG
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- 64.2 Where any information or documentation is to be provided or submitted to the Board's Representative or the Project Co Representative it shall be provided or submitted by sending the same by first class post, or by hand, leaving the same at:

If to Project Co's Representative	Address:	Wallace Weir c/o Chris Mackay Burness Paull LLP 50 Lothian Road Edinburgh EH3 9WJ
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If to the Board's Representative	Address:	Brian Currie Lothian Health Board Waverley Gate 2-4 Waterloo Place Edinburgh EH1 3EG
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(copied in each case to the Board)

- 64.3 Either party to this Agreement (and either Representative) may change its nominated address by prior notice to the other party.

- 64.4 Notices given by post shall be effective upon the earlier of (i) actual receipt, and (ii) five (5) Business Days after mailing. Notices delivered by hand shall be effective

upon delivery.

## 65. NO WAIVER

65.1 Any relaxation, forbearance, indulgence or delay (together "**indulgence**") of any party in exercising any right shall not be construed as a waiver of the right and shall not affect the ability of that party subsequently to exercise that right or to pursue any remedy, nor shall any indulgence constitute a waiver of any other right (whether against that party or any other person).

### Continued effect – no waiver

65.2 Notwithstanding any breach of this Agreement by either party, and without prejudice to any other rights which the other party may have in relation to it, the other party may elect to continue to treat this Agreement as being in full force and effect and to enforce its rights under this Agreement. The failure of either party to exercise any right under this Agreement, including any right to terminate this Agreement and any right to claim damages, shall not be deemed a waiver of such right for any continuing or subsequent breach.

## 66. NO AGENCY

66.1 Nothing in this Agreement shall be construed as creating a partnership or as a contract of employment between the Board and Project Co.

66.2 Save as expressly provided otherwise in this Agreement, Project Co shall not be, or be deemed to be, an agent of the Board and Project Co shall not hold itself out as having authority or power to bind the Board in any way.

66.3 Without limitation to its actual knowledge, Project Co shall for all purposes of this Agreement, be deemed to have such knowledge in respect of the Project as is held (or ought reasonably to be held) by any Project Co Party.

## 67. ENTIRE AGREEMENT

67.1 Except where expressly provided otherwise in this Agreement, this Agreement constitutes the entire agreement between the parties in connection with its subject matter and supersedes all prior representations, communications, negotiations and understandings concerning the subject matter of this Agreement.

67.2 Each of the parties acknowledges that:

67.2.1 it does not enter into this Agreement on the basis of and does not rely, and has not relied, upon any statement or representation (whether negligent or innocent) or warranty or other provision (in any case whether oral, written, express or implied) made or agreed to by any person (whether a party to this Agreement or not) except those expressly repeated or referred to in this Agreement and the only remedy or remedies available in respect of any misrepresentation or untrue statement made to it shall be any remedy available under this

Agreement; and

67.2.2 this Clause shall not apply to any statement, representation or warranty made fraudulently, or to any provision of this Agreement which was induced by fraud, for which the remedies available shall be all those available under the law governing this Agreement.

## **68. THIRD PARTY RIGHTS**

Save to the extent expressly provided in this Agreement and, to avoid doubt, without prejudice to the terms of the Funders' Direct Agreement or the rights of any permitted successor to the rights of Project Co or of any permitted assignee, it is expressly declared that no rights shall be conferred under and arising out of this Agreement upon any person other than the Board and Project Co and without prejudice to the generality of the foregoing, there shall not be created by this Agreement a *jus quaesitum tertio* in favour of any person whatsoever.

## **69. SEVERABILITY**

If any provision of this Agreement shall be declared invalid, unenforceable or illegal by the courts of any jurisdiction to which it is subject, such provision may be severed and such invalidity, unenforceability or illegality shall not prejudice or affect the validity, enforceability and legality of the remaining provisions of this Agreement.

## **70. CONFLICTS OF AGREEMENTS**

In the event of any conflict between this Agreement and the Project Documents, the provisions of this Agreement shall prevail.

## **71. COSTS AND EXPENSES**

Each party shall be responsible for paying its own costs and expenses incurred in connection with the negotiation, preparation and execution of this Agreement.

## **72. FURTHER ASSURANCE**

Each party shall do all things and execute all further documents necessary to give full effect to this Agreement.

## **73. COMMUNITY BENEFITS**

73.1 Project Co shall comply with the Board's Community Benefits Requirements in accordance with Project Co's Community Benefits Method Statements.

73.2 If, in relation to the Works, Project Co does not:

73.2.1 in respect of educational support, provide twenty five (25) work

placements for 16 to 19 year olds and nine (9) work placements for 14 to 16 year olds and undertake twenty (20) curriculum support activities in accordance with Project Co's Community Benefits Method Statement then for each work placement and/or curriculum support activity not provided Project Co shall pay to the Board the relevant amount, as detailed in rows 1 to 3 of the table set out in Section 3 of Schedule Part 32 (*Community Benefits*), under declaration that the total amount payable pursuant to this Clause 73.2.1 shall not exceed the sum of twenty five thousand pounds (£25,000) in the aggregate over the whole of the Project Term;

- 73.2.2 in respect of jobs, provide a total of seventy three (73) new jobs comprising of fifty three (53) new entrant jobs, three (3) graduate jobs and seventeen (17) new apprenticeships jobs from a range of disciplines including electrical, plumbing, joinery, construction trades, administration and welfare operatives, then for each new entrants job, new graduate job and/or new apprenticeship job not provided Project Co shall pay to the Board the relevant amount, as detailed in rows 4 to 6 of the table set out in Section 3 of Schedule Part 32 (*Community Benefits*), under declaration that the total amount payable pursuant to Clause 73.2.2 shall not exceed the sum of twenty five thousand pounds (£25,000), in the aggregate over the whole of the Project Term;
- 73.2.3 in respect of training, provide thirty four (34) NVQ starts, thirty six (36) NVQ completions from a range of disciplines including electrical, plumbing, joinery, construction trades, administration and welfare operatives and provide fourteen (14) training plans, twenty five (25) supervisor training sessions, twenty one (21) leadership training sessions and twenty four (24) advanced health and safety sessions, then for each NVQ start, NVQ completion, training plan, supervisor training session, leadership training session and advanced health and safety session not provided Project Co shall pay to the Board the relevant amount , as detailed in rows 7 to 12 of the table set out in Section 3 of Schedule Part 32 (*Community Benefits*), under declaration that the total amount payable pursuant to this Clause 73.2.3 shall not exceed the sum of twenty five thousand pounds (£25,000), in the aggregate over the whole of the Project Term;
- 73.2.4 in respect of local supply chain opportunities for SMEs and Social Enterprises advertise fifty per cent (50%) of available work packages required via the Capital City Partnership and project portal or any other similar media, and host two (2) 'meet the buyer' events and four (4) 'capacity building workshops' then for each work package not advertised and each meet the buyer event and "capacity building workshop" not provided Project Co shall pay to the Board the relevant amount, as detailed in rows 13 to 15 of the table set out in Section 3 of Schedule Part 32 (*Community Benefits*), under declaration that the total amount payable pursuant to this Clause 73.2.4 shall not exceed the sum of twenty five thousand pounds (£25,000), in the aggregate over the whole of the Project Term;
- 73.2.5 provide the quarterly information in accordance with Project Co's Community Benefits Method Statement then on the occurrence of each such failure Project Co shall pay to the Board the amount , as detailed in row 16 of the table set out in Section 3 of Schedule Part 32 (*Community Benefits*), under declaration that the total amount payable pursuant to this Clause 73.2.5 shall not exceed the sum of five thousand pounds (£5,000) in the aggregate over the whole of the Project Term,

provided that in each case the Board has first served notice on Project Co notifying it of its non-compliance and Project Co has failed to rectify such non-compliance within twenty (20) Business Days of such notice.

73.3 The Board's sole and exclusive remedy in respect of a breach of Clause 73.2 above shall be the payments provided for in Clause 73.2 and Project Co's maximum liability in this respect shall be fifty thousand pounds (£50,000) in the aggregate over the whole of the Project Term.

73.4 If, in relation to the Services, Project Co does not for a Contract Year:

73.4.1 maintain at all times a minimum of three (3) positions to graduates and/or apprentices from a range of disciplines including electrical, mechanical, building and administration and use reasonable endeavours to fill such positions at all times or as soon as reasonably practicable following any vacancy being made available for any reason then Project Co shall pay to the Board the sum of one thousand pounds (£1,000) (index linked) for that Contract Year;

73.4.2 advertise jobs through local employment vehicles for at least eighty-five per cent (85%) of the vacancies then Project Co shall pay to the Board the sum of one thousand pounds (£1,000) (index linked) for that Contract Year;

73.4.3 make available to the local supply chain opportunities for Small to Medium Sized Enterprises and Social Enterprises by advertising fifty per cent (50%) of available sub-contracted works packages required via the Capital City Partnership and project portal or any other similar media, then Project Co shall pay to the Board the sum of one thousand pounds (£1,000) (index linked) for that Contract Year;

73.4.4 provide the annual information in accordance with the agreed community benefit report format as set out in the annual report in accordance with Schedule Part 12 (Service Requirements), then on the occurrence of a failure, the total amount for that Contract Year that Project Co shall pay to the Board the sum of one thousand pounds (£1,000) (index linked) for that Contract Year,

provided that in each case the Board has first served notice on Project Co notifying it of its non-compliance and Project Co has failed to rectify such non-compliance within twenty (20) Business Days of such notice.

73.5 The Board's sole and exclusive remedy in respect of a breach of Clause 73.4 shall be the payments provided for in Clause 73.4 and Project Co's maximum liability in this respect shall be thirty thousand pounds (£30,000) in the aggregate over the whole of the Project Term (index linked). For the avoidance of doubt such payments are not and shall not be treated as Deductions.

73.6 Payments due by Project Co to the Board under this Clause 73 shall be payable:

73.6.1 within twenty (20) Business Days of a written demand in respect of each non-provision of the quarterly information pursuant to Clause 73.2.5 and



any sums due pursuant to Clause 73.4; and

73.6.2 in respect of such sums as are agreed as due pursuant to Clauses 73.2.1 to 73.2.4, within sixty (60) Business Days of the Actual Completion Date, and

if the parties are unable to agree the sums due by the date upon which they are due and payable pursuant to this Clause 73.6, either party may refer the matter to the Dispute Resolution Procedure.

**74. GOVERNING LAW AND JURISDICTION**

74.1 This Agreement shall be considered as a contract made in Scotland and shall be subject to the laws of Scotland.

74.2 Subject to the provisions of the Dispute Resolution Procedure, both parties agree that the courts of Scotland shall have exclusive jurisdiction to hear and settle any action, suit, proceeding or dispute in connection with this Agreement and irrevocably submit to the jurisdiction of those courts.

**IN WITNESS WHEREOF** these presents typewritten on this and the preceding 131 pages together with the Schedule in 32 Parts and the Attachment are executed by the parties hereto as follows:

**SIGNED** for and on behalf of  
**LOTHIAN HEALTH BOARD**  
At LONDON  
on the 12<sup>TH</sup> day  
of FEBRUARY 2015  
by

..... Authorised Signatory

SUSAN ANNE GOLDSMITH Full Name

before this witness

.....Witness

MARGARET WHITE KINNES Full Name

C/O MACROBERTS LLP Address

30 SEMPLE STREET, EDINBURGH, EH3 8BL

**SIGNED** for and on behalf of  
the said **IHS LOTHIAN LIMITED** acting  
under a power of attorney

at LONDON

on 13<sup>TH</sup> FEBRUARY 2015

by MARK BRADSHAW

Print Full Name Attorney

and

JUAN MIGUEL CUSTODIO

Print Full Name Attorney

This is the Schedule referred to in the foregoing Agreement between Lothian Health Board and IHS Lothian Limited in relation to the re-provision of the RHSC and DCN at Little France

## SCHEDULE

### SCHEDULE PART 1

#### DEFINITIONS AND INTERPRETATION

##### SECTION 1

In this Agreement unless the context otherwise requires:

<b>"217 Old Dalkeith Road"</b>	means that area forming 217 Old Dalkeith Road shown outlined in red on Plan 9;
<b>"5 Year Maintenance Plan"</b>	means the plan, to be prepared by or on behalf of Project Co, for any works for the maintenance or repair of the Facilities, including the renewal or replacement of plant or equipment as necessary, during each rolling five (5) year period for the duration of the Project Term;
<b>"Access Areas"</b>	means the Orange Area and the Yellow Area;
<b>"Access Roads"</b>	means the access roads and footpaths shown coloured pink and yellow on Plan 8;
<b>"Access Strategy"</b>	means the agreed Interface Proposal for access to the Access Areas, as set out in Appendix 4 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) and/or any proposal for access to the Access Areas agreed or determined pursuant to paragraph 1 of Section 2 ( <i>Access Areas and Amended Supplemental Drainage Proposals</i> ) of Part 2 ( <i>Interface Proposals Procedure</i> ) of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> );
<b>"Account Bank Agreement"</b>	has the meaning given to it in the Common Terms Agreement;
<b>"Actual Commissioning End Date"</b>	means the date specified in the Commissioning Completion Certificate issued by the Independent Tester pursuant to Clause 18.4 ( <i>Information</i> );
<b>"Actual Completion Date"</b>	means the later of: <ul style="list-style-type: none"> <li>(a) the date stated in the Certificate of Practical Completion issued by the Independent Tester pursuant to Clause 17.12 (<i>Completion Certificate</i>); and</li> <li>(b) subject to Clause 14.5 (<i>Early Completion</i>), the Completion Date;</li> </ul>
<b>"Actual Liability"</b>	has the meaning given in Clause 46.7.3;
<b>"Additional Oversail Strategy"</b>	has the meaning given in paragraph 1 of Section 1 ( <i>Oversail</i> ) of Part 2 ( <i>Interface Proposals</i> )

*Procedure*) of Schedule Part 31 (Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*);

**“Additional Permitted Borrowing”**

means on any date, the amount equal to any amount of principal outstanding under the Senior Funding Agreements (as the same may from time to time be amended, whether or not with the approval of the Board) in excess of the amount of principal scheduled under the Senior Funding Agreements at Financial Close to be outstanding at that date,

but only to the extent that:

- (a) this amount is less than or equal to the Additional Permitted Borrowings Limit; and
- (b) in respect of any Additional Permitted Borrowing the Agent is not in material breach of its obligations under clause 9.4.3 of the Funders' Direct Agreement as it applies to such Additional Permitted Borrowing,

and provided further that any such excess amount of principal which is:

- (i) invested as part of any Qualifying Change; or
- (ii) outstanding from time to time as a result of any drawing under the Senior Funding Agreements as entered into at the date of this Agreement, disregarding any subsequent amendment; or
- (iii) outstanding from time to time as a result of any amendment to the Senior Funding Agreements in respect of which the Board has agreed that its liabilities on a termination may be increased pursuant to Clause 4.3 shall not be counted as Additional Permitted Borrowing;

**“Additional Permitted Borrowings Limit”**

means an amount equal to:

- (a) 10% of the Original Senior Commitment, for any Additional Permitted Borrowing subsisting in the period from the date of Financial Close to the date on which the amount outstanding under the Senior Funding Agreements is reduced to 50% or less of the Original Senior Commitment; and thereafter
- (b) the higher of:
  - (i) 5% of the Original Senior

Commitment; and

- (ii) the amount of any Additional Permitted Borrowing outstanding on the last day of the period referred to in paragraph (a);

**“Adjudicator”**

has the meaning given in paragraph 4.1 of Schedule Part 20 (*Dispute Resolution Procedure*);

**"Adverse Law"**

means any Change in Law which would if passed into Law have the following effects, and any administrative act of the Government or any minister of the Crown, department, agency, regulator or other public body or official not amounting to a Change in Law but which has (or would, if made, have) the following effects:

- (a) remove, transfer to another party or otherwise have a material adverse effect upon the Board's legal capacity (or obligation) to perform any of its material obligations in relation to the Project which are material to the interests of Project Co and/or its Funders; or
- (b) amend or repeal (without re-enactment, consolidation or replacement by Law having an equivalent effect) the National Health Service (Residual Liabilities) Act 1996 or the National Health Service (Private Finance) Act 1997;

provided that,

- (i) in the circumstances referred to in paragraph (a), where a Change in Law would have the effect of transferring the legal capacity or obligation of the Board in relation to such material obligations to a new entity (a "**Board Substitute**"), the relevant Law shall not be an Adverse Law if:

(aa) either:

- (i) the provisions of the National Health Service (Residual Liabilities) Act 1996 and the National Health Service (Private Finance) Act 1997 (together the "**Protective Legislation**") apply to such Board Substitute in full (as applied to the Board as at the date of this Agreement); or

(ii) the relevant Law has the same effect in relation to the Board Substitute as the Protective Legislation; and

(bb) the relevant Law does not otherwise have any adverse material effect on the legal capacity or obligation of the Board Substitute which affects (or could reasonably be expected to affect) the Board Substitute's ability to perform any material obligations owed to Project Co and/or the Funders in relation to the Project which are material to the interests of Project Co and/or its Funders, when compared to the material obligations of the Board under this Agreement;

<b>“Agent”</b>	has the meaning given in the Funders' Direct Agreement;
<b>"Amended Service Proposal"</b>	has the meaning given in paragraph 1.1 of Section 3 (Amended Service Proposal) of Part 2 (Interface Proposals Procedure) of Schedule Part 31 (Consort Interface with Campus Site and/or Campus Facilities);
<b>"Amended Supplemental Drainage Proposal"</b>	has the meaning given in paragraph 2.1 of Section 2 ( <i>Access Areas and Amended Supplemental Drainage Proposal</i> ) of Part 2 ( <i>Interface Proposals Procedure</i> ) of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> );
<b>“Ancillary Documents”</b>	means the Construction Contract, the Service Contracts and the Performance Guarantees, the appointments of the Design Team, the appointments of the Key Sub-contractors, Interface Agreement, the Management Services Agreement (only in relation to an increase in fees relating to Schedule 2 ( <i>Fees</i> ) of such agreement) all as the same may be amended or replaced from time to time;
<b>“Ancillary Rights”</b>	means such rights as set out in Section 3 ( <i>Ancillary Rights</i> ) of Schedule Part 5 ( <i>Land Matters</i> );
<b>“Annual Service Payment”</b>	has the meaning given in Schedule Part 14 ( <i>Payment Mechanism</i> );
<b>“Appendix A”</b>	means Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> );
<b>“Approved RDD Item”</b>	means an item of Reviewable Design Data which has been returned or has been deemed to have

been returned endorsed either "Level A – no comment" or "Level B – proceed subject to amendment as noted" by the Board's Representative pursuant to the provisions of Clause 12 (*Design, Construction and Commissioning Process*) and Schedule Part 8 (*Review Procedure*) (provided that in the case of any item of Reviewable Design Data which has been returned or has been deemed to have been returned endorsed "Level B – proceed subject to amendment as noted" Project Co has taken account of the Board's Representative's comments), as such item of Reviewable Design Data may be varied or amended from time to time in accordance with Schedule Part 16 (*Change Protocol*);

**“Articles of Association”**

means Project Co's articles of association, and the term **“Articles”** shall be construed accordingly;

**"As Built Energy Model"**

means Project Co's Financial Close Energy Model updated to incorporate all as built construction, commissioning and testing information and any Board agreed design amendments, as agreed with the Board prior to the Commissioning End Date;

**"As Built Facilities Energy Performance"**

means the Energy Performance of the Facilities, as determined by Project Co's As Built Energy Model;

**“Associated Companies”**

means, in relation to any person:

- (a) a company which is a Subsidiary, a Holding Company or a company that is a Subsidiary of the ultimate Holding Company of that relevant company, and in the case of Project Co shall include Hold Co, Top Co and Mac Co and each of the Shareholders; or
- (b) any unit trust, limited partnership or fund in which that person or any Holding Company or Subsidiary of that person or any Subsidiary of such Holding Company of that person is a trustee, general partner, principal, manager, co-manager or adviser,

save that for the purposes of determining whether one entity is an Associated Company of another any transfer of shares by way of security or to a nominee of the transferor shall be disregarded, and the term **"Associate"** shall be interpreted accordingly;

**“Availability Failure”**

has the meaning given in Schedule Part 14 (*Payment Mechanism*);

**“Base Date”**

has the meaning given in paragraph 16 of Section 2 (*Interpretation*) of Schedule Part 1 (*Definitions and Interpretation*);

<b>“Base Senior Debt Termination Amount”</b>	has the meaning given in Section 6 ( <i>Definitions</i> ) of Schedule Part 17 ( <i>Compensation on Termination</i> );
<b>“Beneficiary”</b>	has the meaning given in Clause 49.3 ( <i>Conduct of Claims</i> );
<b>“Board Assets”</b>	means the Retained Estate, Retained Site and any other assets and equipment or other property used by, or on behalf of, the Board or any Board Party, other than the Facilities;
<b>“Board Change”</b>	has the meaning given in Schedule Part 16 ( <i>Change Protocol</i> );
<b>“Board Change Notice”</b>	has the meaning given in Schedule Part 16 ( <i>Change Protocol</i> );
<b>“Board Events of Default”</b>	has the meaning given in Clause 39.1 ( <i>Board Events of Default</i> );
<b>“Board Observer”</b>	means, from time to time, the individual designated as such by the Board;
<b>“Board Party”</b>	<p>means any:</p> <ul style="list-style-type: none"> <li>(a) of the Board's agents, contractors (including Consort and/or any Consort Party) and sub-contractors of any tier and its or their directors, officers and employees; and/or</li> <li>(b) University Party performing Clinical Services,</li> </ul> <p>each at the Facilities, with the authority of the Board but excluding Project Co, any Project Co Party and statutory undertakers and utilities and <b>“Board Parties”</b> shall be construed accordingly;</p>
<b>“Board Policies”</b>	means, subject to Clause 27.7 ( <i>Board Policies</i> ), the policies of the Board set out in Schedule Part 28 ( <i>Board Policies</i> ) as amended from time to time;
<b>“Board Services”</b>	<p>means:</p> <ul style="list-style-type: none"> <li>(a) the Clinical Services;</li> <li>(b) the Non-Clinical Services;</li> <li>(c) a catering service comprising a restaurant, grab and go kiosks, vending machines and trolley services,</li> <li>(d) retail premises for the sale of goods which are ordinarily sold in hospitals;</li> <li>(e) display of works of art for exhibition and/or sale within the Site;</li> </ul>



	(f) any Volunteer Services;
	(f) the holding of an occasional fete, tombola and raffle for charitable fund raising purposes within the Site;
	(e) Teenager Cancer Trust Activities,
	and such other services as may be notified to Project Co by the Board from time to time which are not services to be carried out by Project Co under this Agreement;
<b>"Board Specified Group 1 Equipment"</b>	means the Group 1 Equipment to be specified by the Board as listed in Appendix 3 ( <i>Board Specified Group 1 Equipment</i> ) in Schedule Part 11 ( <i>Equipment</i> );
<b>"Board Specified Group 1 Equipment Specifications"</b>	means the specifications for the Board Specified Group 1 Equipment as set out in Appendix 4 ( <i>Board Specified Group 1 Equipment Specifications</i> ) of Schedule Part 11 ( <i>Equipment</i> );
<b>"Board's Commissioning"</b>	means the Board's pre-completion commissioning activities to be carried out by the Board in accordance with Clause 17 ( <i>Pre-Completion Commissioning and Completion</i> );
<b>"Board's Community Benefits Requirements"</b>	means those requirements set out in Section 1 of Schedule Part 32 ( <i>Community Benefits</i> );
<b>"Board's Construction Requirements"</b>	means the requirements of the Board set out or identified in Section 3 ( <i>Board's Construction Requirements</i> ) of Schedule Part 6 ( <i>Construction Matters</i> ) as amended from time to time in accordance with the terms of this Agreement;
<b>"Board's Maintenance Obligations"</b>	has the meaning given in Clause 23.13 ( <i>Board's Maintenance Obligations</i> );
<b>"Board's Post Completion Commissioning"</b>	means the Board's post-completion commissioning activities to be carried out by the Board in accordance with Clause 18.1 ( <i>Post Completion Commissioning</i> );
<b>"Board's Representative"</b>	means the person so appointed by the Board pursuant to Clause 8 ( <i>Representatives</i> );
<b>"Borrower Loan Note"</b>	has the meaning given to it in the Common Terms Agreement;
<b>"Bus Stop Infrastructure"</b>	means the infrastructure resulting from the Bus Stop Works;
<b>"Bus Stop Works"</b>	means the design (including preparation of all Design Data), construction, testing and commissioning and completion of the bus stop works to be undertaken in accordance with paragraph 4.5.10(e)(i) of the Board's Construction Requirements;

<b>“Business Day”</b>	means a day other than a Saturday, Sunday or a bank holiday in Edinburgh;
<b>"Campus Facilities"</b>	means the Facilities and Retained Estate;
<b>"Campus Parties"</b>	means the Board and/or Board Parties and/or Consort and/or Consort Parties and/or the University and/or the University Parties, and each of their tenants or any party authorised by the same;
<b>"Campus Site"</b>	means the land shown outlined in red on Plan 7 including for the avoidance of doubt the Site and the University Site;
<b>“Capital Expenditure”</b>	means capital expenditure (as such term is interpreted in accordance with generally accepted accounting principles in the United Kingdom from time to time);
<b>"Car Park E"</b>	means the area of land the extent of which is shown delineated in a broken red line on Plan 3 and the location of which within the Campus Site is shown on Plan 5;
<b>“CDM Regulations”</b>	has the meaning given in Section 2 ( <i>Safety During Construction</i> ) of Schedule Part 6 ( <i>Construction Matters</i> );
<b>“Certificate of Practical Completion”</b>	means a certificate in the relevant form set out in Schedule Part 22 ( <i>Certificates</i> );
<b>“Change”</b>	has the meaning given in Schedule Part 16 ( <i>Change Protocol</i> );
<b>“Change in Control”</b>	means: <ul style="list-style-type: none"> <li>(a) any sale or other disposal of any legal, beneficial or equitable interest in any or all of the equity share capital of a corporation (including the control over the exercise of voting rights conferred on that equity share capital, control over the right to appoint or remove directors or the rights to dividends); and/or</li> <li>(b) any other arrangements that have or may have or which result in the same effect as paragraph (a) above;</li> </ul>
<b>"Change in Law"</b>	means the coming into effect or repeal (without re-enactment or consolidation) in Scotland of any Law, or any amendment or variation to any Law, or any judgement of a relevant court of law which changes binding precedent in Scotland in each case after the date of this Agreement;
<b>"Clinical Clean"</b>	has the meaning given to it in paragraph 4 ( <i>Clinical Clean</i> ) of Appendix B ( <i>Completion Criteria</i> ) of Schedule Part 10 ( <i>Outline</i> );

*Commissioning Programme*);

**"Clinical Services"**

means:

- (a) the management, responsibility, administration and carrying out of the clinical and medical services provided at the Facilities by or on behalf of the Board from time to time;
- (b) the provision of training and education required to deliver the services referred to in paragraph (a) above,

and which are not services to be provided by Project Co to the Board under this Agreement;

**"Collateral Agreements"**

means the Contractor's Collateral Agreement, the Service Providers' Collateral Agreements and the Key Sub-Contractor Collateral Agreements;

**"Commencement Date"**

means the last day of execution of this Agreement;

**"Commercially Sensitive Information"**

means the sub set of Confidential Information listed in column 1 of Part 1 (*Commercially Sensitive Contractual Provisions*) and column 1 of Part 2 (*Commercially Sensitive Material*) of Schedule Part 26 (*Commercially Sensitive Information*) in each case for the period specified in column 2 of Parts 1 and 2 of Schedule Part 26 (*Commercially Sensitive Information*);

**"Commissioners"**

has the meaning given in Clause 35.3 (*VAT*);

**"Commissioning Completion Certificate"**

means a certificate in the relevant form set out in Schedule Part 22 (*Certificates*);

**"Commissioning End Date"**

means the date by which the parties' commissioning activities are programmed to be completed in accordance with the Final Commissioning Programme;

**"Common Terms Agreement"**

means the common terms agreement dated on or about the date of this Agreement between, amongst others, Project Co, the Senior Funders, the Senior-Subordinated On-Loan Lenders, the Intercreditor Agent and the Security Trustee;

**"Compensation Event"**

has the meaning given in Clause 29.10 (*Compensation*);

**"Compensation Payment"**

has the meaning given in Clause 46.10 (*Compensation on Termination*);

**"Completion Criteria"**

means the Completion Tests as defined in Appendix B of Schedule Part 10 (*Outline Commissioning Programme*);

<b>“Completion Date”</b>	means 3 <sup>rd</sup> July 2017 or such revised date as may be specified by the Board’s Representative pursuant to Clause 29 ( <i>Delay Events</i> ) or such other date as may be agreed by the parties;
<b>"Completion Process"</b>	has the meaning given to it in Schedule Part 10 ( <i>Outline Commissioning Programme</i> );
<b>“Confidential Information”</b>	means: <ul style="list-style-type: none"> <li>(a) information that ought to be considered as confidential (however it is conveyed or on whatever media it is stored) and may include information whose disclosure would, or would be likely to, prejudice the commercial interests of any person, trade secrets, Intellectual Property Rights and know-how of either party and all personal data and sensitive personal data within the meaning of the Data Protection Act 1988 and</li> <li>(b) Commercially Sensitive Information;</li> </ul>
<b>"Connection Area"</b>	means the area of land shown shaded blue on Plan 2;
<b>"Connection Proposal"</b>	means the agreed Interface Proposal for connection information relating to the connection from the Facilities to the Link Building, as set out in Appendix 8 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> );
<b>“Consents”</b>	means all permissions, consents, approvals, certificates, permits, licences, statutory agreements and authorisations required by Law, and all necessary consents and agreements from any third parties (including, without limitation, any Planning Permission), needed to carry out the Project Operations in accordance with this Agreement;
<b>"Consort"</b>	means Consort Healthcare (Edinburgh Royal Infirmary) Limited a company incorporated in Scotland under the Companies Acts (company number SC187449) and having its registered office at Edinburgh Quay, 133 Fountainbridge, Edinburgh EH3 9AG and/or any successor and/or assignee or party acquiring an interest in the Retained Estate and/or Retained Site and/or the RIE Project Agreement;
<b>"Consort Party"</b>	means Consort's agents and contractors of any tier and its or their directors, officers, employees and/or workmen in relation to the Retained Site and/or the Retained Estate and any relevant successors of the same;
<b>"Construction Access"</b>	as defined in paragraph 1.1 of Section 1 ( <i>Construction Access</i> ) of Part 1 ( <i>Interface</i> )

*Construction Issues and Interface Proposals*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*);

**"Construction Access Proposal"**

means the agreed Interface Proposal for construction access to the Site over the Yellow Area and/or Petrol Station Site, as set out in Appendix 1 of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*);

**"Construction Contract"**

means the design and build contract dated the same date as this Agreement between Project Co and the Contractor (which, as at the date of this Agreement, is in the Agreed Form) as amended or replaced from time to time in accordance with this Agreement;

**"Construction Phase"**

means the period from and including the date of execution of this Agreement to and including the Actual Completion Date;

**"Construction Quality Plan"**

means the document at Section 8 (*Quality Plans (Design and Construction)*) of Schedule Part 6 (*Construction Matters*);

**"Construction Skills Certification Scheme"**

means the scheme operated by Construction Skills Certification Scheme Limited (registered under number 03024675) to evidence the identity and skills and competence of persons employed on construction sites;

**"Contamination"**

means all or any pollutants or contaminants, including any chemical or industrial, radioactive, dangerous, toxic or hazardous substance, waste or residue (whether in solid, semi-solid or liquid form or a gas or vapour) and including without limitation genetically modified organisms;

**"Contract Manager"**

means the person so appointed by the Board and notified to Project Co from time to time;

**"Contract Month"**

means a calendar month provided that:

- (a) the first Contract Month shall be the period from and including the Payment Commencement Date to and including the last day of the calendar month in which the Payment Commencement Date falls; and
- (b) the last Contract Month shall be the period from and including the first day of the calendar month in which the Expiry Date or Termination Date (as the case may be) falls to and including the Expiry Date or the Termination Date (as the case may be);

**"Contract Year"**

means:

- (a) for the first Contract Year, the period from

the date of this Agreement to the subsequent 31 March; and

- (b) for all subsequent Contract Years, the period of twelve (12) calendar months commencing on each anniversary of 1 April,

provided that the final Contract Year shall be such period as commences on 1 April and ends on and includes the date of expiry or earlier termination of this Agreement (as the case may be);

**“Contracting Associate”**

means the Contractor, any Service Provider and any other entity which performs on behalf of Project Co any material function in connection with this Agreement or the Project Operations;

**“Contractor”**

means Brookfield Multiplex Construction Europe Limited (registered under number 03808946) whose registered office is at 99 Bishopsgate, Second Floor, London, EC2M 3XD, engaged by Project Co to carry out the Works and any substitute design and/or building contractor engaged by Project Co as may be permitted by this Agreement;

**“Contractor's Collateral Agreement”**

means a collateral agreement among the Board, Project Co and the Contractor in the form set out in Section 1 of Schedule Part 9 (*Collateral Agreements*);

**“Contractor's Site Manager”**

means the manager to be appointed by the Contractor for purposes of supervision of all day-to-day activities on the Site and/or Off-Site;

**“Contractor's Site Rules”**

means the Contractor's rules, applicable on the Site and/or Off-Site to the Board, Project Co, the Contractor and their respective sub-contractors and suppliers of every tier during the construction of the Facilities and the Retained Estate Handback Infrastructure;

**“Convictions”**

means, other than in relation to minor road traffic offences, any previous or pending prosecutions, convictions, cautions and binding-over orders (including any spent convictions as contemplated by section 1(1) of The Rehabilitation of Offenders Act 1974 by virtue of the exemptions specified in Part II of Schedule 1 of the Rehabilitation of Offenders Act 1974 (Exceptions) Order 1975 (SI 1975/1023) and the Rehabilitation of Offenders Act 1974 (Exclusions and Exceptions) (Scotland) Order 2003 Scottish SI 2003/231) or any replacement or amendment to those Orders);

**"Cycle Path Infrastructure**

means the infrastructure resulting from the Cycle Path Works;

**"Cycle Path Works"**

means the design (including preparation of all Design Data), construction, testing and

	commissioning and completion of the works to be undertaken on the cycle path and reconfigure the landscaped areas in accordance with inter alia paragraphs 3.8.4 and 4.5.10C of the Board's Construction Requirements;
<b>“Deduction”</b>	means a deduction to be made in calculating a Monthly Service Payment, calculated in accordance with Section 3 ( <i>Deductions from Monthly Service Payments</i> ) of Schedule Part 14 ( <i>Payment Mechanism</i> );
<b>“Deemed Liability”</b>	has the meaning given in Clause 46.7.3 ( <i>Compensation on Termination</i> );
<b>“Default Interest”</b>	means any increased margin that is payable to the Senior Funders or which accrues as a result of any payment due to the Senior Funders not being made on the date on which it is due;
<b>“Default Interest Rate”</b>	means 2% over LIBOR;
<b>“Defects”</b>	means any defect or fault in the Works and/or the Facilities and/or the Retained Estate Handback Infrastructure (not being a Snagging Matter) which occurs due to a failure by Project Co to meet the Board's Construction Requirements and/or Project Co's Proposals or otherwise to comply with its obligations under this Agreement;
<b>“Delay Event”</b>	has the meaning given in Clause 29.3 ( <i>Delay Events</i> );
<b>“Derogated Low Value Change”</b>	has the meaning given in Schedule Part 16 ( <i>Change Protocol</i> );
<b>“Design Data”</b>	means all drawings, reports, documents, plans, software, formulae, calculations and other data relating to the design, construction, testing and/or operation of the Facilities and/or the Retained Estate Handback Infrastructure;
<b>“Design Quality Plan”</b>	means the document at Section 8 ( <i>Quality Plans (Design and Construction)</i> ) of Schedule Part 6 ( <i>Construction Matters</i> );
<b>"Design Team"</b>	means: <ul style="list-style-type: none"> <li>(a) TUV SUD Limited (trading as Wallace Whittle) a company registered in Scotland (company number SC215164) whose registered office is at Napier Building, Scottish Enterprise Technology Park, East Kilbride, G75 0QF who shall carry out works packages relating to the mechanical and electrical design and mechanical and electrical engineering including mechanical and electrical systems of the helipad;</li> <li>(b) HLMAD Limited, a company registered in England &amp; Wales (company number 05047778) whose registered office is at</li> </ul>

Ground Floor, 46 Loman Street, London, SE1 0EH who shall carry out works packages relating to the architectural design;

- (c) Robert Bird & Partners Limited, a company registered in England & Wales (company number 04472743) whose registered office is at Second Floor North Block, Harling House, 47-51 Great Suffolk Street, London, United Kingdom, SE1 0BS who shall carry out works packages relating to the structural engineering design including but not limited to primary steelwork, pre-cast / reinforced concrete, structural support for the helipad and the geotechnical consultancy services to satisfy the design requirements of the Petrol Station Site Works;
- (d) Acoustic Logic Consultancy (UK) Limited, a company registered in England and Wales (company number 06487654) whose registered office is 12 Russell Gardens, London, W14 8EZ who shall carry out acoustic services relating to the acoustic design;
- (e) Ove Arup & Partners Limited, a company registered in England and Wales (company number 01312453) whose registered office is 13 Fitzroy Street, London, W1T 4BQ who shall carry out transportation services relating to traffic consultancy;
- (f) WSP UK Limited, a company registered in England and Wales (company number 01383511) whose registered office is WSP Home, 70 Chancery Lane, London, WC2A 1AF who shall carry out fire engineering services relating to fire engineering;
- (g) Ironside Farrar Limited, a company registered in Scotland (company number SC109330) whose registered office is 111 MacDonald Road, Edinburgh, EH7 4NW who shall carry out planning services relative to planning consultancy;
- (h) Brookfield Multiplex CDM Services Europe Limited, a company registered in England (company number 06324496) whose registered office is 99 Bishopsgate, Second Floor, London, EC2M 3XD who shall carry out works packages relating to CDM Co-ordinator.

**“Direct Losses”**

means, subject to the provisions of Clause 54.1 (*Exclusions*), all damage, losses, liabilities, claims, actions, costs, expenses (including the cost of legal or professional services, legal costs being on an agent/client, client paying basis), proceedings, demands and charges whether arising under statute, contract or at common law



but, to avoid doubt, excluding:

- (a) Indirect Losses; and
- (b) any deductions levied by the Board and incurred by Consort pursuant to the payment mechanism within the RIE Project Agreement;

**“Disclosed Data”**

means any Design Data and any other written information, data and documents made available or issued to Project Co or any Project Co Party in connection with the Project by or on behalf of the Board (or any Board Party) whether on, before or after the execution of this Agreement;

**“Discriminatory Change in Law”**

means any Change in Law the effect of which is to discriminate directly against:

- (a) hospitals whose design, construction, financing and operation are procured under the private finance initiative in relation to other similar projects; or
- (b) companies undertaking projects procured by contracts under the private finance initiative in relation to other companies undertaking similar projects;
- (c) the Facilities or the Retained Estate Handback Works in relation to other similar facilities; or
- (d) Project Co in relation to other companies,

save:

- (i) where such Change in Law is in response to any act or omission on the part of Project Co which is illegal (other than an act or omission rendered illegal by virtue of the Change in Law itself);
- (ii) that such action shall not be deemed to be discriminatory solely on the basis that its effect on Project Co is greater than its effect on other companies; and
- (iii) that a change in taxes or the introduction of a tax affecting companies generally or a change in VAT shall be deemed not to be discriminatory in any circumstances (to avoid doubt, such changes being given effect in accordance with Clause 35 (*VAT and Construction Industry*)).

*Tax Deduction Scheme);*

<b>“Dispute”</b>	has the meaning given in paragraph 1 of Schedule Part 20 ( <i>Dispute Resolution Procedure</i> );
<b>“Dispute Resolution Procedure”</b>	means the procedure set out in Schedule Part 20 ( <i>Dispute Resolution Procedure</i> );
<b>"EIB Senior Finance Contract"</b>	has the meaning given to it in the Common Terms Agreement;
<b>"EIB Senior Subordinated Finance Contract"</b>	has the meaning given to it in the Common Terms Agreement;
<b>"EIB Senior Subordinated On-Loan Agreement"</b>	has the meaning given to it in the Common Terms Agreement;
<b>"EIB Senior Subordinated On-Loan Lender"</b>	has the meaning given to that term in the Common Terms Agreement;
<b>“Emergency”</b>	means an event causing or, in the reasonable opinion of a party, threatening to cause death or injury to any individual, or serious disruption to the lives of a number of people or extensive damage to property, or contamination of the environment, in each case on a scale beyond the capacity of the emergency services or preventing the Services operating under normal circumstances and requiring the mobilisation and organisation of the emergency services;
<b>"Encumbrance"</b>	means any option, right of pre-emption, pledge, security, interest, lien, charge, mortgage, lease, licence, claim, condition, retention or other encumbrance or restriction whether imposed by agreement, by law or otherwise;
<b>"Endorsed RDD Item"</b>	has the meaning given in Part 1 ( <i>Endorsed RDD Item– Level A or B but subject to re-submission to the Board through Schedule Part 8 (Review Procedure)</i> ) of Section 5 ( <i>Reviewable Region Data</i> ) of Schedule Part 6 ( <i>Construction Matters</i> );
<b>"Energy Model"</b>	means Project Co's approved software energy model used to inform compliance of Project Co's Proposals with the Energy Performance criteria;
<b>"Energy Performance"</b>	means the Board's requirements in relation to achieving a minimum performance for BREEAM credit ENE 01 and a minimum Energy Performance Certificate rating, as set out in the Board's Construction Requirements;
<b>“Environmental Information Regulations” (Scotland)</b>	means the Environmental Information (Scotland) Regulations 2004 together with any guidance and/or codes of practice issued by the Scottish Information Commissioner or relevant Government Department in relation to such regulations;

<b>"Equipment"</b>	means the Group 1 Equipment, the Group 2A Equipment, the Group 2B Equipment and/or the Group 3 Equipment;
<b>"Equipment Responsibilities Matrix"</b>	means the equipment responsibilities matrix set out in Appendix 2 of Schedule Part 11 ( <i>Equipment</i> );
<b>"Equipment Schedule"</b>	means the equipment schedule set out in Appendix 1 to Schedule Part 11 ( <i>Equipment</i> );
<b>"Equity Documents"</b>	has the meaning given to it in the Common Terms Agreement;
<b>"Equity Funding Date"</b>	means 31 July 2017 or such earlier date for accelerated equity funding in accordance with the terms of the Finance Documents or Senior Subordinated Finance Documents, as such are defined in the Intercreditor Agreement;
<b>"Estimated Deductions"</b>	has the meaning given in Clause 34.2.1 ( <i>Invoicing and Payment Arrangements</i> );
<b>"Estimated Increased Maintenance Costs"</b>	has the meaning given in Clause 23.7 ( <i>Programmed and Unprogrammed Maintenance</i> );
<b>"Excusing Cause"</b>	has the meaning given in Clause 51.2 ( <i>Excusing Causes</i> );
<b>"Expiry Date"</b>	means midnight on 2 <sup>nd</sup> July 2042;
<b>"Facilities"</b>	means the buildings and other facilities, together with all supporting infrastructure (including the Plant and the Group 1 Equipment), external hard-standings, specialist surfaces and other amenities located on the Site and Off-Site (excluding the Retained Estate Handback Infrastructure but including as a minimum all aspects detailed within Appendix B to Section 1 ( <i>Service Level Specification</i> ) of Schedule Part 12 ( <i>Service Requirements</i> )), as required to enable Project Co to comply with its obligations under this Agreement, all as the same may be varied, amended or supplemented from time to time in accordance with this Agreement;
<b>"Facility Manager"</b>	means Project Co's duty manager who shall be present at the Facilities in accordance with the Service Level Specification;
<b>"Fee Letter"</b>	has the meaning given to it in the Common Terms Agreement;
<b>"Fees Regulations"</b>	means the Freedom of Information (Fees for Required Disclosure (Scotland)) Regulations 2004;
<b>"Final Commissioning Programme"</b>	means the programme jointly developed and agreed by the Board and Project Co in accordance with the provisions of Clause 17.1 ( <i>Pre-completion Commissioning and</i>

	<i>Completion</i> );
<b>“Financial Close”</b>	means the date of this Agreement;
<b>"Financial Close Energy Model"</b>	means Project Co's Energy Model as agreed with the Board at Financial Close to inform compliance of Project Co's Proposals with the Board's Energy Performance requirements for the Facilities as detailed in Section 3 ( <i>Board's Construction Requirements</i> ) of Schedule Part 6 ( <i>Construction Matters</i> );
<b>“Financial Model”</b>	means the computer spreadsheet model for the Project incorporating statements of Project Co's cashflows including all expenditure, revenues, financing and taxation of the Project Operations together with the profit and loss accounts and balance sheets for Project Co throughout the Project Term accompanied by details of all assumptions, calculations and methodology used in their compilation and any other documentation necessary or desirable to operate the model, as amended from time to time in accordance with the terms of Clause 37 ( <i>Financial Model</i> ), a copy of which is attached to this Agreement on disk as Attachment 1;
<b>“Finishes”</b>	means those finishes listed in the table set out in paragraph 1.2.3 of Schedule Part 8 ( <i>Review Procedure</i> );
<b>“Finishes Proposal Date”</b>	means, in relation to a Finish, the relevant date identified in the table set out in paragraph 1.2.3 of Schedule Part 8 ( <i>Review Procedure</i> );
<b>“Finishes Selection Date”</b>	means, in relation to a Finish, the relevant date identified in the table set out in paragraph 1.2.3 of Schedule Part 8 ( <i>Review Procedure</i> );
<b>“Fire Alarm System”</b>	means the fire alarm system to be installed as part of the Works and thereafter maintained by Project Co as more fully described in paragraph 4.5.10(A) of the Board's Construction Requirements;
<b>“First Party”</b>	has the meaning given in Clause 35.3 ( <i>VAT</i> );
<b>“FOI(S)A”</b>	means the Freedom of Information (Scotland) Act 2002 and any subordinate legislation (as defined in section 73 of the Freedom of Information (Scotland) Act 2002) made under the Freedom of Information (Scotland) Act 2002 from time to time together with any guidance and/or codes of practice issued by the Scottish Information Commissioner or relevant Government department in relation to such Act;
<b>“Force Majeure”</b>	has the meaning given in Clause 31 ( <i>Force Majeure</i> );
<b>"Foul Service Strip"</b>	means the area shaded yellow and hatched black

	on Plan 2A;
<b>“Foul Water Drainage”</b>	means the foul water drainage to be installed as part of the Works and thereafter maintained by Project Co, as more fully described in paragraphs 4.5.10 ( <i>Construction Works Further Information</i> ), 6.11 ( <i>Drainage</i> ) and 8.7.20 ( <i>Drainage</i> ) of Sub Section 1A of the Board's Construction Requirements;
<b>“Functional Area”</b>	means an area of the Facilities identified as such in Appendix 2 to Schedule Part 14 ( <i>Payment Mechanism</i> );
<b>“Funders”</b>	means all or any of the persons who provide financing or funding in respect of the Project Operations under the Funding Agreements including European Investment Bank, The Prudential Assurance Company Limited and Prudential Retirement Income Limited and, where the context so permits, prospective financiers or funders;
<b>“Funders' Direct Agreement”</b>	means the agreement to be entered into between the Board, the Senior Funders and Project Co in the form set out in Schedule Part 4 ( <i>Funders' Direct Agreement</i> );
<b>"Funders' Contractor Direct Agreement"</b>	has the meaning given to the term "Construction Contract Direct Agreement" in the Common Terms Agreement;
<b>"Funders' Service Provider Direct Agreement"</b>	has the meaning given to the term "Service Provider Direct Agreement" in the Common Terms Agreement;
<b>“Funding Agreements”</b>	means all or any of the agreements or instruments to be entered into by Project Co or any of its Associates relating to the financing of the Project Operations (including the Initial Funding Agreements and any agreements or instruments to be entered into by Project Co or any of its Associates relating to the rescheduling of their indebtedness or the refinancing of the Project Operations);
<b>“Funding Default”</b>	means a Default, as such term is defined in the Common Terms Agreement;
<b>“Good Industry Practice”</b>	means using standards, practices, methods and procedures conforming to the Law and exercising that degree of skill and care, diligence, prudence and foresight which would reasonably and ordinarily be expected from a skilled and experienced person engaged in a similar type of undertaking under the same or similar circumstances;
<b>“Government”</b>	means the government of the United Kingdom or the Scottish Ministers;
<b>“Ground Physical and Geophysical</b>	means the investigation procured by the Board

<b>Investigation”</b>	dated 25 <sup>th</sup> July 2013 together with a supplemental report dated 27 <sup>th</sup> August 2013 of all the conditions of and surrounding the Site and of any extraneous materials in, on or under the Site (including its surface and subsoil) to enable the Facilities (other than those parts of the Facilities to be constructed Off-Site) to be designed and constructed and the Works to be carried out with due regard for those conditions and the seismic activity (if any) in the region of the Site;
<b>"Group 1 Equipment"</b>	means the equipment indicated as 1 in the "Group" column of the Appendix 1 ( <i>Equipment Schedule</i> ) of Schedule Part 11 ( <i>Equipment</i> ), including for the avoidance of doubt the Board Specified Group 1 Equipment and any Replacement Board Specified Group 1 Equipment;
<b>"Group 2A Equipment"</b>	means the equipment indicated as 2A in the "Group" column of the Appendix 1 ( <i>Equipment Schedule</i> ) of Schedule Part 11 ( <i>Equipment</i> );
<b>"Group 2B Equipment"</b>	means the equipment indicated as 2B in the "Group" column of the Appendix 1 ( <i>Equipment Schedule</i> ) of Schedule Part 11 ( <i>Equipment</i> );
<b>"Group 3 Equipment"</b>	means the equipment indicated as 3 in the "Group" column of the Appendix 1 ( <i>Equipment Schedule</i> ) of Schedule Part 11 ( <i>Equipment</i> );
<b>“H&amp;S Conviction”</b>	has the meaning given in Clause 40.1.5 ( <i>Health and Safety</i> );
<b>“Handback Amount”</b>	has the meaning given in Schedule Part 18 ( <i>Handback Procedure</i> );
<b>“Handback Bond”</b>	has the meaning given in Schedule Part 18 ( <i>Handback Procedure</i> );
<b>“Handback Certificate”</b>	means the certificate of confirmation that the Facilities comply with the Handback Requirements in the relevant form set out in Schedule Part 18 ( <i>Handback Procedure</i> );
<b>“Handback Programme”</b>	has the meaning given in Schedule Part 18 ( <i>Handback Procedure</i> );
<b>“Handback Requirements”</b>	has the meaning given in Schedule Part 18 ( <i>Handback Procedure</i> );
<b>“Handback Works”</b>	has the meaning given in Schedule Part 18 ( <i>Handback Procedure</i> );
<b>"Handover Clean"</b>	has the meaning given in paragraph 3 ( <i>Handover Clean</i> ) of Appendix B ( <i>Completion Criteria</i> ) of Schedule Part 10 ( <i>Outline Commissioning Programme</i> );
<b>"Hatched Orange Area"</b>	means the areas of land shown coloured orange and hatched in black on Plan 2, which form part

	of the Orange Area;
<b>“Health and Safety Regime”</b>	means the Food Safety Act 1990 (and associated regulations), the Health & Safety at Work etc Act 1974 (and associated regulations), the Fire Precautions Act 1971, the Environmental Protection Act 1990 and the Water Industry (Scotland) Act 2002 and any similar or analogous health, safety or environmental legislation in force from time to time;
<b>“Health Board”</b>	means a health board established under section 2 of the National Health Service (Scotland) Act 1978 (or any successor body to any such body established with substantially the same powers or duties);
<b>“High Value Change Stage 2 Submission”</b>	has the meaning given in Schedule Part 16 ( <i>Change Protocol</i> );
<b>"Hold Co"</b>	means IHS Lothian Holdings Limited (company number 09360660);
<b>"HoldCo Loan Note"</b>	has the meaning given to it in the Common Terms Agreement;
<b>“Holding Company”</b>	has the meaning given to it in section 1159 of the Companies Act 2006;
<b>“Hospital Square”</b>	means the areas shaded orange and hatched black on Plan 2, which form part of the Orange Area;
<b>“Hospital Square Infrastructure”</b>	means the infrastructure resulting from the Hospital Square Works;
<b>“Hospital Square Works”</b>	means the design (including preparation of all Design Data), construction, testing and commissioning and completion of the works to be undertaken in Hospital Square in accordance with inter alia paragraph 4 ( <i>Site Specific Requirements</i> ) of Sub-Section C of the Board's Construction Requirements;
<b>“Hours for Programmed Maintenance”</b>	has the meaning given in Appendix 2 of Schedule Part 8 ( <i>Review Procedure</i> );
<b>“Hours of Operation”</b>	has the meaning given in Appendix 2 of Schedule Part 8 ( <i>Review Procedure</i> );
<b>“ICT”</b>	means the information communications technology to be installed as part of the Works and thereafter maintained by Project Co, as more fully described in paragraph 9 ( <i>Information and Communication Technology (ICT) Requirements</i> ) of Sub-Section C of Board's Construction Requirements;
<b>“Indemnifier”</b>	has the meaning given in Clause 49.3 ( <i>Conduct of Claims</i> );

<b>“Indemnity Period”</b>	has the meaning given to it in Schedule Part 15 ( <i>Insurance Requirements</i> );
<b>“Independent Tester”</b>	means EC Harris LLP (registered under number OC368843) whose registered office is at ECHQ, 34 York Way, London N1 9AD or such substitute independent tester as may be permitted pursuant to this Agreement;
<b>“Independent Tester Contract”</b>	means the contract dated the same date as this Agreement in the form set out in Schedule Part 13 ( <i>Independent Tester Contract</i> ) or any replacement thereof among Project Co, the Board and the Independent Tester;
<b>“Indirect Losses”</b>	has the meaning given in Clause 54.1 ( <i>Exclusions and Limits on Liability</i> );
<b>“Information”</b>	has the meaning given under section 73 of the Freedom of Information (Scotland) Act 2002;
<b>“Initial Drainage Proposal”</b>	means the proposal in regard to works to install new Surface Water Drainage Works connections from the Site to the surface water drainage within the RIE Site detailed in Appendix E of the Board's Construction Requirements;
<b>“Initial Funding Agreements”</b>	means the Common Terms Agreement, the Intercreditor Agreement, the Institutional Investor Senior Facility Agreement, the EIB Senior Finance Contract, the Institutional Investor Senior Subordinated Facility Agreement, the EIB Senior Subordinated Finance Contract, the Topco Institutional Investor On-Loan Agreement, the Topco EIB On-Loan Agreement, the Institutional Investor Senior Subordinated On-Loan Agreement, the EIB Senior Subordinated On-Loan Agreement, the Account Bank Agreement, the Funders' Direct Agreement, the Funders' Contractor Direct Agreement, Funders' Service Provider Direct Agreement, each Fee Letter, each Security Document, the Equity Documents and each Senior Subordinated Security Document in the Agreed Form;
<b>"Insurance Proceeds Account”</b>	means the account numbered 326330 (GB27 SMBC 405 125 0032 6330) in the joint names of Project Co and the Board with the Account Bank (as defined in the Common Terms Agreement);
<b>“Insurance Proceeds Account Agreement”</b>	means the agreement in the form set out in Schedule Part 25 ( <i>Insurance Proceeds Account Agreement</i> );
<b>“Insurance Term”</b>	means any term and/or condition required to be included in a policy of insurance by Clause 53 ( <i>Insurance</i> ) and/or Schedule Part 15 ( <i>Insurance Requirements</i> ) but excluding any risk;
<b>“Insurances”</b>	means, as the context requires, all or any of the insurances required to be maintained by Project



	Co pursuant to this Agreement;
<b>“Intellectual Property”</b>	means all registered or unregistered trademarks, service marks, patents, registered designs, utility models, applications for any of the foregoing, copyrights, unregistered designs, the sui generis rights of extraction relating to databases, trade secrets and other confidential information or know-how;
<b>“Intellectual Property Rights”</b>	means the Intellectual Property which (or the subject matter of which) is created, brought into existence, acquired, used or intended to be used by Project Co, any Project Co Party or by other third parties (for the use by or on behalf of or for the benefit of Project Co) for the purposes of the design or construction of the Facilities and the Retained Estate Handback Infrastructure, the operation, maintenance, improvement and/or testing of the Facilities and Retained Estate Handback Infrastructure or the conduct of any other Project Operation or otherwise for the purposes of this Agreement;
<b>"Intercreditor Agent"</b>	has the meaning given to it in the Common Terms Agreement;
<b>“Interface Agreement”</b>	means an interface agreement of even date between Project Co, the Contractor and the Service Provider;
<b>“Interface Output Specification”</b>	means the document detailing interfaces between the Facilities and the Link Building and/or the RIE Facilities set out in Appendix B of the Board's Construction Requirements;
<b>“Interface Proposals”</b>	means any of the Access Strategy, Connection Proposal, Construction Access Proposal, Oversail Strategy, Service Proposal, Supplemental Drainage Proposal, Traffic Management Strategy, and any strategy or proposal agreed or determined pursuant to the terms of Part 2 ( <i>Interface Proposals Procedure</i> ) of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ), which Interface Proposals form part of Project Co's Proposals and Method Statements;
<b>"Intercreditor Agent"</b>	has the meaning given to it in the Common Terms Agreement;
<b>"Intercreditor Agreement"</b>	has the meaning given to it in the Common Terms Agreement;
<b>"Institutional Investor Senior Facility Agreement"</b>	has the meaning given to it in the Common Terms Agreement;
<b>"Institutional Investor Senior Lender"</b>	has the meaning given to it in the Common Terms Agreement;
<b>"Institutional Investor Senior Subordinated Facility Agreement"</b>	has the meaning given to it in the Common Terms Agreement;

<b>"Institutional Investor Senior Subordinated On-Loan Agreement"</b>	has the meaning given to it in the Common Terms Agreement;
<b>"Institutional Investor Senior Subordinated On-Loan Lender"</b>	has the meaning given to it in the Common Terms Agreement;
<b>"Interim Project Report"</b>	means a report prepared by Project Co setting out all information which Project Co is required to provide to the Senior Funders in respect of a Funding Default;
<b>"IT"</b>	means information technology systems, hardware and software;
<b>"Joint"</b>	means the isolation/movement joint within the Connection Area between the Facilities and the Link Building, as more particularly referred to at paragraph 2.3 of the Interface Output Specification;
<b>"Key Sub-Contractor"</b>	<p>means the sub-contractors, including the Design Team, appointed to complete the following works packages:</p> <ul style="list-style-type: none"> <li>(a) mechanical and electrical engineering and PTS;</li> <li>(b) connections design only in relation to primary steelwork and secondary steelwork;</li> <li>(c) roofing (excluding green and bituminous ballast/slab roofs) ;</li> <li>(d) cladding and windows (to the extent that design liability is not covered by the package set out in limb (e) of this definition);</li> <li>(e) curtain walling and windows(to the extent that design liability is not covered by the package set out in limb (d) of this definition);</li> <li>(f) structural glass (glazed balustrades);</li> <li>(g) helipad;</li> <li>(h) lifts;</li> <li>(i) piling;</li> <li>(j) SFS;</li> <li>(k) external canopies;</li> <li>(l) precast concrete (stairs, landings and edge beams only); and</li> <li>(m) catering facilities;</li> </ul>
<b>"Key Sub-Contractor Collateral Agreements"</b>	<p>means:</p> <ul style="list-style-type: none"> <li>(1) the Agreed Form Collateral Agreements between the members of the Design Team and the Board referred to in Clause 57.8A.1 of this</li> </ul>

Agreement; and

(2) the Agreed Form Collateral Agreements among the Board the Contractor and the Key Sub-Contractors referred to in Clause 57.8A.2 of this Agreement; and

(3) the Collateral Agreements among the Board, the Contractor and the Key Sub-Contractors referred to in Clause 57.8A.3 of this Agreement substantially in the form set out in Section 3 of Schedule Part 9 (*Collateral Agreements*); and

(4) the product warranty to be provided to the Board in accordance with Clause 57.8A.4 of this Agreement.

**“Law”**

means:

- (a) any applicable statute or proclamation or any delegated or subordinate legislation;
- (b) any enforceable community right within the meaning of section 2(1) of the European Communities Act 1972;
- (c) any applicable guidance, direction or determination with which the Board and/or Project Co is bound to comply to the extent that the same are published and publicly available or the existence or contents of them have been notified to Project Co by the Board; and
- (d) any applicable judgement of a relevant court of law which is a binding precedent in Scotland,

in each case in force in Scotland;

**"LIBOR"**

means the rate per annum administered by ICE Benchmark Administration Limited (or any other person which takes over the administration of that rate) for six month sterling deposits in the London interbank market displayed (before any correction, recalculation or republication by the administrator) on pages LIBOR01 or LIBOR02 of the Thomson Reuters screen (or any appropriate replacement screen which displays that rate) and if, in either case, that rate is less than zero, LIBOR shall be deemed to be zero;

**“Lifecycle Replacement”**

means any works for the renewal or replacement of any Plant, Group 1 Equipment, or any other equipment or asset or part of the Facilities that are necessary to ensure that the Facilities are maintained in accordance with the Service Level

	Specification and Method Statements and that the Facilities comply with the Board's Construction Requirements and Project Co's Proposals throughout the Project Term;
<b>"Link Building"</b>	means the extension to the RIE Facilities constructed or to be constructed within the Connection Area by or on behalf of the Board pursuant to the Interface Output Specification;
<b>"Little France Campus Working Group"</b>	has the meaning given to it in Clause 8A.1 ( <i>Little France Campus Working Group</i> );
<b>"Little France Campus Working Group Parties"</b>	means the Board, Consort, the University, Project Co and the relevant Sub-Contractor;
<b>"Little France Steading"</b>	means subjects extending to 0.242 hectares forming Little France Steading shown outlined in red on Plan 10;
<b>"Low Value Change"</b>	has the meaning given in Schedule Part 16 ( <i>Change Protocol</i> );
<b>"Mac Co"</b>	means IHS Lothian Corporate Limited (company number 09359625);
<b>"Maintenance Works"</b>	means any works for maintenance or repair of the Facilities that are necessary to ensure that the Facilities are maintained in accordance with Service Level Specification and Method Statements and that the Facilities comply with the Board's Construction Requirements and Project Co's Proposals (including, without limitation, the renewal or replacement of any Plant or equipment) throughout the Project Term but excluding for the avoidance of doubt Lifecycle Replacement;
<b>"Major Incident"</b>	means the widely accepted term used by the emergency services to describe any emergency that requires the implementation of special arrangements by one or more of the emergency services, the NHS, the Board or the local authority;
<b>"Malicious Damage Report"</b>	has the meaning given in Clause 49A.2.1;
<b>"Management Services Agreement"</b>	means the management services agreement of even date between Top Co, Hold Co, Project Co and HCP Management Services Limited (registered under number 3819468);
<b>"Medical Contamination"</b>	means a disease carrying agent which cleaning and prevention of infection or contamination techniques in use in accordance with Good Industry Practice and this Agreement cannot substantially prevent or cannot substantially remove with the result that: <ul style="list-style-type: none"> <li>(a) it is unsafe to admit patients or staff to the relevant area or to use the area for</li> </ul>

	the purpose for which it is intended; and
	(b) the area cannot be made safe for the admission of patients or staff;
<b>“Medium Value Change”</b>	has the meaning given in Schedule Part 16 ( <i>Change Protocol</i> );
<b>“Method Statements”</b>	means the method of providing a Service as set out or identified in Section 2 ( <i>Method Statements</i> ) of Schedule Part 12 ( <i>Service Requirements</i> ) as amended from time to time in accordance with Clause 33 ( <i>Change Protocol</i> ) and Clause 22 ( <i>The Services</i> );
<b>“Monthly Service Payment”</b>	has the meaning given in Schedule Part 14 ( <i>Payment Mechanism</i> );
<b>“Monthly Service Report”</b>	means a monthly report to be prepared by Project Co and provided to the Board in accordance with the relevant provisions in Section 1 ( <i>Service Level Specification</i> ) of Schedule Part 12 ( <i>Service Requirements</i> );
<b>“Net Present Value”</b>	has the meaning given in Schedule Part 23 ( <i>Refinancing</i> );
<b>“NHS”</b>	means the National Health Service;
<b>“NHS Requirement”</b>	means: <ul style="list-style-type: none"> <li>(a) in relation to the Works, Health Building Notes and Health Technical Memoranda and such other requirements as are designated as NHS Requirements in the Board’s Construction Requirements; and</li> <li>(b) in relation to the Project Operations (other than the Works), Health Building Notes, Health Technical Memoranda, all Executive Letters, Health Service Guidelines, Health Circulars of the NHS and any similar official requests, requirements and guidance having similar status for the time being in force, but only to the extent the same are published and publicly available or the existence and contents of them have been notified to Project Co by the Board;</li> </ul>
<b>“Non-Clinical Services”</b>	has the meaning set out in Sub-Section E ( <i>Specific Non-Clinical Requirements</i> ) of the Board’s Construction Requirements;
<b>“NPD”</b>	means non-profit distributing model;
<b>“NPD Requirements”</b>	means all of the following requirements: <ul style="list-style-type: none"> <li>(a) not to make a distribution of profit or surplus, or any transfer of assets to one or more shareholders whether by</li> </ul>

means of any payment or transfer of assets, directly or indirectly, in cash or in any kind, whether by way of dividend, bonus or release of obligation or in any other way otherwise than:

- (i) for full consideration; or
  - (ii) to the Board pursuant to Clause 36 (*Payment of Surpluses and Compliance with NPD Requirements*) or Article 12 or 13 of the Articles of Association); or
  - (iii) Project Co's Share of a Project Co Change; or
  - (iv) Project Co's Share of a Refinancing Gain;
- (b) to comply with Clause 4.4 (*Changes to Funding Agreements and Refinancing*);

**"Off-Site"**

means:

- (a) the land made available to Project Co for the Works, the Off-Site Works and Services being:
  - (i) the Yellow Area, the Petrol Station Site, the Orange Area, the Connection Area and the Service Strip and
  - (ii) the Foul Service Strip; and
  - (iii) Not Used; and
- (b) those parts of the RIE Facilities made available to Project Co for the Off-Site Works and Services; and
- (c) the land procured by Project Co for the Substation Works.

**"Off-Site Conditions"**

means the condition of the Off-Site (including but not limited to) hydrological, hydrogeological, ecological, environmental, geotechnical and archaeological conditions;

**"Off-Site Works"**

means the RIE Works, Hospital Square Works, Cycle Path Works, Substation Works, Petrol Station Site Works and/or Surface Water Drainage Works;

**"Operational Functionality"**

means

(a) the following matters as shown on the 1:500 scale development control plan and site plans;

- (i) the point of access to and within the Site and the Facilities;
- (ii) the relationship between one or more buildings that comprise the Facilities; and
- (iii) the adjacencies between different hospital departments within the Facilities,

as indicated on the following drawings in Section 4 (*Project Co's Proposals*) of Schedule Part 6 (*Construction Matters*)

- HLM-Z0-00-PL-700-020 Rev 6;
- HLM-SZ-B1-PL-400-400 Rev 2;
- HLM-SZ-00-PL-400-400 Rev 3;
- HLM-SZ-01-PL-400-400 Rev 2;
- HLM-SZ-02-PL-400-400 Rev 2;
- HLM-SZ-03-PL-400-400 Rev 2;
- HLM-SZ-04-PL-400-400 Rev 2;

(b) the following matters as shown on the 1:200 scale plans:

- (i) the points of access to and within the Site and the Facilities;
- (ii) the relationship between one or more buildings that comprise the Facilities;
- (iii) the adjacencies between different hospital departments within the Facilities; and
- (iv) the adjacencies between rooms within the hospital departments within the Facilities,

as indicated on the following drawings in Section 4 (*Project Co's Proposals*) of Schedule Part 6 (*Construction Matters*)

- HLM-SZ-00-PL-220-001 Rev 6;

- HLM-SZ-01-PL-220-001 Rev 6;
  - HLM-SZ-02-PL-220-001 Rev 6;
  - HLM-SZ-03-PL-220-001 Rev 6;
  - HLM-SZ-04-PL-220-001 Rev 6;
  - HLM-SZ-06-PL-240-001 Rev 5;
  - HLM-SZ-B1-PL-220-001 Rev 7;
  - HLM-Z5-SL-PL-220-001 Rev 6;
- (c) the quantity, description and areas (in square metres) and minimum critical dimensions of those rooms and spaces as indicated on the following drawings in Section 4 (*Project Co's Proposals*) of Schedule Part 6 (*Construction Matters*)
- HLM-SZ-00-PL-220-001 Rev 6;
  - HLM-SZ-01-PL-220-001 Rev 6;
  - HLM-SZ-02-PL-220-001 Rev 6;
  - HLM-SZ-03-PL-220-001 Rev 6;
  - HLM-SZ-04-PL-220-001 Rev 6;
  - HLM-SZ-06-PL-240-001 Rev 5;
  - HLM-SZ-B1-PL-220-001 Rev 7;
  - HLM-Z5-SL-PL-220-001 Rev 6;
- (d) the location and relationship of equipment, furniture, fittings and user terminals as shown on the 1:50 loaded room plans in respect of:
- (i) all bed and trolley positions;
  - (ii) internal room elevations;
  - (iii) actual ceiling layouts;
  - (iv) the Non-Clinical Services supplies, storage, distribution and waste management spaces; and
  - (v) the ICT requirements;
- (e) the location of and the inter-relationships between rooms within the departments within the Facilities, as indicated on the following drawings in Section 4 (*Project Co's Proposals*) of Schedule Part 6



*(Construction Matters)*

- HLM-SZ-00-PL-220-001 Rev 6;
- HLM-SZ-01-PL-220-001 Rev 6;
- HLM-SZ-02-PL-220-001 Rev 6;
- HLM-SZ-03-PL-220-001 Rev 6;
- HLM-SZ-04-PL-220-001 Rev 6;
- HLM-SZ-06-PL-240-001 Rev 5;
- HLM-SZ-B1-PL-220-001 Rev 7;
- HLM-Z5-SL-PL-220-001 Rev 6;

but only insofar as each of the matters listed in (a) to (e) above relate to or affect Operational Use;

**“Operational Insurances”**

means the insurances required by Clause 53.2 and **“Operational Insurance”** means any one of such insurances;

**“Operational Term”**

means the period from the Actual Completion Date until the end of the Project Term;

**“Operational Use”**

means the use of a room or space to the extent that it is used by the Board or its employees, tenants, agents and/or contractors (but not to avoid doubt Project Co staff) for carrying out the Board Services;

**“Option Period”**

has the meaning given in Clause 53.14.3 (*Uninsurable Risks*);

**“Orange Area”**

means the area of land shaded orange on Plan 2 including for the avoidance of doubt the Hatched Orange Area;

**“Original Senior Commitment”**

means the amount committed under the Senior Funding Agreements as at Financial Close (as adjusted to take into account any Qualifying Change);

**“Outline Commissioning Programme”**

means the programme setting out the standards, specifications, procedures and other requirements for the carrying out and completion of the commissioning activities of the parties set out in outline in Appendix 3 (*Outline Commissioning Programme*) Schedule Part 10 (*Outline Commissioning Programme*);

**“Oversail Strategy”**

means the agreed Interface Proposal for oversailing parts of the Campus Site other than the Facilities, as set out in Appendix 3 of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*);

<b>“Payment Commencement Date”</b>	means the Actual Completion Date;
<b>“Payment Mechanism”</b>	means Schedule Part 14 ( <i>Payment Mechanism</i> );
<b>“Performance Failure”</b>	has the meaning given in Section 1 of Schedule Part 14 ( <i>Payment Mechanism</i> );
<b>“Performance Guarantees”</b>	means the guarantees to Project Co in respect of the Construction Contract, the Service Contracts which, as at the date of this Agreement are in the Agreed Form;
<b>"Permit to Work System"</b>	means as at the Commencement Date the permit to work system in force at the Campus Site, as more fully described in the documentation set out in Appendix 11 ( <i>Permit to Work Documentation</i> ) of Schedule Part 31 ( <i>Consort interfere with Campus Site and/or Campus Facilities</i> );
<b>“Permitted Borrowing”</b>	means without double-counting, any: <ul style="list-style-type: none"> <li>(a) advance to Project Co under the Senior Funding Agreements;</li> <li>(b) Additional Permitted Borrowing;</li> <li>(c) Not Used; and</li> <li>(d) interest and, in respect of the original Senior Funding Agreements only (as entered into at the date of this Agreement, prior to any subsequent amendment), other amounts accrued or payable under the terms of such original Senior Funding Agreements,</li> </ul> <p>except where the amount referred to in paragraphs (a) to (d) above is or is being used to fund a payment of Default Interest on any Additional Permitted Borrowing;</p>
<b>"Petrol Station Site"</b>	means the area outlined in pink set out on Plan 2;
<b>"Petrol Station Site Contamination Investigation"</b>	means the investigation procured by the Board dated 26 June 2014 (titled "Little France Service Station, Edinburgh Report on Ground Investigations, Final Factual Report") of the conditions the Petrol Station Site and of any extraneous materials in, on or under the Petrol Station Site (including its surface and subsoil) to enable the Petrol Station Site Works to be carried out with due regard for those conditions and the seismic activity (if any) in the region of the Petrol Station Site;
<b>"Petrol Station Site Infrastructure"</b>	means the infrastructure resulting from the Petrol Station Site Works;

<b>"Petrol Station Site Works"</b>	means the design (including preparation of all Design Data), construction, remediation, demolition, testing and commissioning and completion of the works to be undertaken in relation to the Petrol Station Site in accordance with paragraph 4.6 ( <i>Petrol Station Site Works</i> ) of the Board's Construction Requirements;
<b>"Physical Damage Policies"</b>	means the policies of insurance referred to in paragraph 1 ( <i>Contractors' 'All Risk' Insurance</i> ) of Section 1 ( <i>Policies to be Taken Out by Project Co and Maintained During the Design and Construction Phase</i> ) and paragraph 1 ( <i>Property Damage</i> ) of Section 2 ( <i>Policies to be Taken Out By Project Co and Maintained from the Actual Completion Date</i> ) of Schedule Part 15 ( <i>Insurance Requirements</i> );
<b>"Plan 1"</b>	means the plan marked "Plan 1 ( <i>RHSC &amp; DCN Site</i> )" annexed and executed as relative hereto and contained in Schedule Part 27 ( <i>Plans</i> );
<b>"Plan 2"</b>	means the plan marked "Plan 2 ( <i>Yellow Area, Orange Area, Connection Area, Service Strip, Substation Access Area and Petrol Station Site</i> )" annexed and executed as relative hereto and contained in Schedule Part 27 ( <i>Plans</i> );
<b>"Plan 2A"</b>	means the plan marked "Plan 2A ( <i>Foul Service Strip</i> )" annexed and executed as relative to this Agreement and contained in Schedule Part 27 ( <i>Plans</i> );
<b>"Plan 3"</b>	means the plan marked "Plan 3 ( <i>Car Park E</i> )" annexed and executed as relative to this Agreement and contained in Schedule Part 27 ( <i>Plans</i> );
<b>"Plan 5"</b>	means the plan marked "Plan 5 ( <i>Car Park Layout Plan</i> )" annexed and executed as relative hereto and contained in Schedule Part 27 ( <i>Plans</i> );
<b>"Plan 6"</b>	means the plan marked "Plan 6 ( <i>Roads Layout</i> )" annexed and executed as relative to this Agreement and contained in Schedule Part 27 ( <i>Plans</i> );
<b>"Plan 7"</b>	means the indicative plan marked "Plan 7 ( <i>Campus Site Plan</i> )" annexed and executed as relative to this Agreement and contained in Schedule Part 27 ( <i>Plans</i> );
<b>"Plan 8"</b>	means the plan marked "Plan 8 ( <i>Access Roads</i> )" annexed and executed as relative to this Agreement and contained in Schedule Part 27 ( <i>Plans</i> );
<b>"Plan 9"</b>	means the plan marked "Plan 9 ( <i>217 Old Dalkeith Road</i> )" annexed and executed as relative to this Agreement and contained in Schedule Part 27

(Plans);

<b>"Plan 10"</b>	means the plan marked "Plan 10 ( <i>Little France Steading</i> )" annexed and executed as relative to this Agreement and contained in Schedule Part 27 (Plans);
<b>"Plan 11"</b>	means the plan marked "Plan 11 ( <i>Sewer</i> )" annexed and executed as relative to this Agreement and contained in Schedule Part 27 (Plans);
<b>"Plan 12"</b>	means the plan marked "Plan 12 ( <i>Manhole</i> )" annexed and executed as relative to this Agreement and contained in Schedule Part 27 (Plans);
<b>"Planning Approval"</b>	means planning permission in principal for the Project given reference number 11/02454/PPP by the City of Edinburgh Council and dated 5 April 2012, and annexed as Attachment 2;
<b>"Planning Permission"</b>	means any planning permission, approval of matters specified in conditions attached to any planning permission in principle listed building consent, conservation areas consent and/or other consent or approval reasonably required from time to time for construction and/or operation of the Facilities and the construction of the Retained Estate Handback Infrastructure (including without limitation for any Board Change and the Planning Approval);
<b>"Plant"</b>	means the infrastructure systems, building systems, fixed, and immovable equipment systems, installed as part of the Works or pursuant to a Board Change as replaced from time to time;
<b>"Post Completion Commissioning"</b>	means, as appropriate, Project Co's Post Completion Commissioning and/or the Board's Post Completion Commissioning;
<b>"Pounds Sterling"</b>	means the currency issued by the Bank of England from time to time;
<b>"Programme"</b>	means the programme set out in Schedule Part 7 ( <i>The Programme</i> ) as revised and issued by Project Co (or on its behalf) from time to time pursuant to Clause 14 ( <i>Programme and Dates for Completion</i> );
<b>"Programmed Maintenance"</b>	means the maintenance work which Project Co is to carry out in accordance with Schedule of Programmed Maintenance;
<b>"Programmed Maintenance Information"</b>	has the meaning given in Clause 23.3 ( <i>Programmed Maintenance Works</i> );
<b>"Prohibited Act"</b>	has the meaning given in Clause 44 ( <i>Corrupt Gifts and Payments</i> );

<b>“Project”</b>	has the meaning given in Recital B;
<b>“Project Co Event of Default”</b>	has the meaning given in Clause 40 ( <i>Project Co Events of Default</i> );
<b>“Project Co Party”</b>	means Project Co's agents and contractors (including without limitation the Contractor and the Service Providers) and its or their sub-contractors of any tier and its or their directors, officers, employees and workmen in relation to the Project and <b>"Project Co Parties"</b> shall be construed accordingly;
<b>“Project Co's Community Benefits Method Statements”</b>	means those method statements set out in Section 2 of Schedule Part 32 ( <i>Community Benefits</i> );
<b>“Project Co's Post-Completion Commissioning”</b>	means Project Co's commissioning activities carried out in accordance with Clause 18.1 ( <i>Commissioning</i> );
<b>“Project Co's Pre-Completion Commissioning”</b>	means Project Co's commissioning activities to be carried out in accordance with Clause 17 ( <i>Pre Completion Commissioning and Completion</i> );
<b>“Project Co's Proposals”</b>	means the document at Section 4 ( <i>Project Co Proposals</i> ) of Schedule Part 6 ( <i>Construction Matters</i> ) as amended from time to time in accordance with Clause 33 ( <i>Change Protocol</i> );
<b>“Project Co's Remedial Services”</b>	means any activities to be performed by or on behalf of Project Co pursuant to its rights under Clause 23.15 ( <i>Board's Maintenance Obligation</i> );
<b>“Project Co's Representative”</b>	means the person appointed by Project Co pursuant to Clause 8 ( <i>Representatives</i> );
<b>“Project Data”</b>	means: <ul style="list-style-type: none"> <li>(a) all Design Data;</li> <li>(b) all drawings, reports, documents, plans, software, formulae, calculations and other data relating to the provision of the Services; and</li> <li>(c) any other materials, documents and or data acquired, brought into existence or used in relation to the Project Operations or this Agreement;</li> </ul>
<b>“Project Documents”</b>	means the Ancillary Documents and the Funding Agreements;
<b>"Project IRR"</b>	means 9.47%;
<b>“Project Operations”</b>	means the carrying out of the Works, the carrying out of Project Co's Pre-Completion Commissioning and Project Co's Post-Completion Commissioning, the management

and provision of the Services and the performance of all other obligations of Project Co under this Agreement from time to time;

**“Project Term”**

means the period commencing at midnight on the date of this Agreement and ending on the earlier of the Expiry Date and the Termination Date;

**"Proposal for an Adverse Law"**

means a proposal for an Adverse Law as follows:

- (a) in the case of a bill, the bill being introduced by the Government or receiving the support of the Government at its second reading in the first House of Parliament into which it is introduced or the bill passing a second reading in the first House of Parliament into which it is introduced;
- (b) in the case of a bill passing through the Scottish Parliament, the bill being introduced by the Scottish Government or receiving the support of the Scottish Government at Stage 2 in the Scottish Parliament or the bill passing Stage 2 in the Scottish Parliament;
- (c) in the case of subordinate legislation, the proposed statutory instrument or order being laid before Parliament in draft;
- (d) in the case of a directive, regulation or decision of the European Union, its adoption; or
- (e) in the case of an administrative act as referred to in the definition of Adverse Law, any of the following prior or preparatory to the making of such an act;
- (f) the taking by the Board, the Government, a minister of the Crown, or a department, agency, regulator or other public body official of any step in a process defined by Law for the making of such administrative acts, other than any early stages of such process (such as, without limitation, consultation or information gathering) following the completion of which further substantive steps remain in such a process before the making of such an administrative act can occur; or
- (g) any communication from the

Government, a minister of the Crown, or the department, agency, regulator or other public body or official responsible for making such administrative acts, to the effect that such an administrative act will be made;

**"Protecting Vulnerable Groups Scheme"**

means the Scottish Government's membership scheme which helps to ensure that people who have regular contact with children and protected adults through paid or unpaid work do not have a known history of harmful behaviour;

**"PRS Timetable"**

has the meaning given in Clause 23.16 (*Board's Maintenance Obligation*);

**"PTS"**

means the pneumatic tube system to be installed as part of the Works and thereafter maintained by Project Co, as more fully described in paragraph 8.7.23 (*Pneumatic Air Tube Transport System*) of the Board's Construction Requirements;

**"Qualifying Change"**

means (unless expressly stated otherwise):

- (a) a Low Value Change in respect of which the parties have agreed the method of implementation; or
- (b) a Medium Value Change in respect of which the Board has issued a confirmation notice pursuant to paragraph 7.1.1 of Section 3 (*Medium Value Changes*) of Schedule Part 16 (*Change Protocol*); or
- (c) a High Value Change which has received Stage 2 Approval pursuant to paragraph 8.2.1 of Section 4 (*High Value Changes*) of Schedule Part 16 (*Change Protocol*),

in each case provided that any necessary changes required to be made to any Project Document and/or Ancillary Document pursuant to Schedule Part 16 (*Change Protocol*) have been given effect to and become unconditional;

**"Quality Plans"**

means the Design Quality Plan and Construction Quality Plan, prepared in accordance with Section 8 (*Quality Plans (Design and Construction)*) of Schedule Part 6 (*Construction Matters*), and the Services Quality Plan, prepared in accordance with Section 3 (*Service Quality Plan*) of Schedule Part 12 (*Service Requirements*), as required to be implemented by Project Co in accordance with Clause 20 (*Quality*

*Assurance*);

<b>"Regulatory Authority"</b>	means any competent authority having powers and duties in relation to the enforcement of any law rule regulation or obligation existing adopted made commenced introduced or otherwise brought into force prior to or after this transfer concerning the protection of human health the Environment or any Relevant Substances and for the avoidance of doubt the expression 'Regulatory Authority' shall not include any court of law, and <b>"Regulatory Authorities"</b> shall be construed accordingly;
<b>"Range of Finishes"</b>	has the meaning given in paragraph 1.2.3(a) of Schedule Part 8 ( <i>Review Procedure</i> );
<b>"Rectification"</b>	has the meaning given in Schedule Part 14 ( <i>Payment Mechanism</i> );
<b>"Rectification Period"</b>	has the meaning given in Schedule Part 14 ( <i>Payment Mechanism</i> );
<b>"Refinancing"</b>	has the meaning given in Schedule Part 23 ( <i>Refinancing</i> );
<b>"Reinstatement Plan"</b>	has the meaning given in Clause 53.22 ( <i>Reinstatement</i> );
<b>"Reinstatement Works"</b>	has the meaning given in Clause 53.22.2 ( <i>Reinstatement</i> );
<b>"Relevant Authority"</b>	means any court with the relevant jurisdiction and any local, national or supra-national agency, inspectorate, minister, ministry, official or public or statutory person of the government of the United Kingdom, or of the European Union, (or of the Scottish Government or the Scottish Parliament);
<b>"Relevant Change in Law"</b>	has the meaning given in Clause 32.3 ( <i>Changes in Law</i> );
<b>"Relevant Event"</b>	has the meaning given in Schedule Part 16 ( <i>Change Protocol</i> );
<b>"Relevant Incident"</b>	has the meaning given in Clause 53.22.2 ( <i>Reinstatement</i> );
<b>"Relevant Payment"</b>	has the meaning given in Clause 53.14.3;
<b>"Relevant Petrol Station Site Contamination"</b>	means: <ul style="list-style-type: none"> <li>(a) Contamination in, on, at, over or under the Petrol Station Site; and</li> <li>(b) Contamination that has migrated from the Petrol Station Site to the Site or Off-Site (excluding the Petrol Station Site) after the Commencement Date,</li> </ul> <p style="margin-left: 40px;">save to the extent that:</p>



- (i) the implementation of cleaning up and/or mitigation measures and/or otherwise dealing with such Contamination is within the scope of the Petrol Station Site Works to be carried out by Project Co; or
- (ii) such Contamination (A) arises, (B) is aggravated or disturbed by, (C) increases in concentration, (D) necessitates the implementation of cleaning up and/or mitigation measures and/or (E) otherwise requires to be dealt with (in any of these cases) as a result of an act and/or omission of Project Co or any Project Co Party or any failure by Project Co to carry out the Project Operations in accordance with this Agreement;

<b>“Relevant Proceeds”</b>		has the meaning given in Clause 53.22.2 ( <i>Reinstatement</i> );
<b>“Relevant Service Transfer Date”</b>		has the meaning given in Clause 25.1 ( <i>No Employee Transfer</i> );
<b>“Relevant Tax Liability”</b>		has the meaning given in Clause 46.7.3 ( <i>Compensation on Termination</i> );
<b>“Relief”</b>		has the meaning given in Clause 46.7.1,
<b>“Relief Events”</b>		has the meaning given in Clause 30 ( <i>Relief Events</i> );
<b>"Replacement Board Specified Equipment"</b>	<b>Group 1</b>	means any item or items of Board Specified Group 1 Equipment which requires to be replaced by Project Co in accordance with its Schedule of Lifecycle Replacement;
<b>"Replacement Board Specified Equipment Commissioning Tests"</b>	<b>Group 1</b>	means any tests required to demonstrate that any replacement item of Board Specified Group 1 Equipment has been commissioned, such tests to be in accordance with Good Industry Practice and Law;
<b>"Replacement Board Specified Equipment Specifications"</b>	<b>Group 1</b>	means the specifications for any Replacement Board Specified Group 1 Equipment prepared by the Board pursuant to paragraph 1A.1 of Schedule Part 11 ( <i>Equipment</i> );
<b>"Replacement Board Specified Equipment Commissioning Tests"</b>	<b>Group 1</b>	means any tests required to demonstrate that any replacement item of Board Specified Group 1 Equipment has been commissioned, such tests to be in accordance with Good Industry Practice and Law;
<b>"Replacement Group 1 Equipment"</b>		means any item or items of Group 1 Equipment which requires to be replaced by Project Co in accordance with its Schedule of Lifecycle

		Replacement;
<b>"Replacement Group 1 Commissioning Tests"</b>	<b>1</b>	<b>Equipment</b> means any tests required to demonstrate that any replacement item of Group 1 Equipment has been commissioned, such tests to be in accordance with Good Industry Practice and Law;
<b>"Request for Information"</b>		has the meaning set out in the FOI(S)A or the Environmental Information (Scotland) Regulations as relevant (where the meaning set out for the term "request" shall apply);
<b>"Required Action"</b>		has the meaning given in Clause 24.7 ( <i>Board's Remedial Rights</i> );
<b>"Reserved Rights"</b>		means the matters referred to in Section 2 ( <i>Reserved Rights</i> ) of Schedule Part 5 ( <i>Land Matters</i> );
<b>"Restricted Person"</b>		means either: <ul style="list-style-type: none"> <li>(a) a person providing or proposing to provide healthcare services of a similar nature to those provided or contemplated by the Board at the time in question; or</li> <li>(b) any person who has a material interest in the production of tobacco products and/or alcoholic beverages;</li> </ul>
<b>"Retail Prices Index" or "RPI"</b>		means the Retail Prices Index (All Items) as published by the Office for National Statistics from time to time (the " <b>Index</b> "), or, failing such publication or in the event of a fundamental change to the Index, such other index as the parties may agree, or such adjustments to the Index as the parties may agree (in each case with the intention of putting the parties in no better nor worse position than they would have been in had the Index not ceased to be published or the relevant fundamental change not been made) or, in the event that no such agreement is reached, as may be determined in accordance with the Dispute Resolution Procedure;
<b>"Retained Estate"</b>		means the RIE Facilities and the University Facilities and the Retained Estate Handback Infrastructure;
<b>"Retained Estate Handback Infrastructure"</b>		means the infrastructure to be handed back to the Board at or prior to the Actual Completion Date, comprising the Hospital Square Infrastructure, Cycle Path Infrastructure, Petrol Station Site Infrastructure, Surface Water Drainage Infrastructure (outwith the site) and Bus Stop Infrastructure;
<b>"Retained Estate Handback Works"</b>		means the Hospital Square Works, Cycle Path Works, Surface Water Drainage Works (outwith

		the site), Petrol Station Site Works and Bus Stop Works;
<b>"Retained Estate Completion Criteria"</b>	<b>Handback Works</b>	has the meaning given to it in paragraph 6 ( <i>Retained Estate Handback Infrastructure Completion Criteria</i> ) of Appendix B ( <i>Completion Criteria</i> ) of Schedule Part 10 ( <i>Outline Commissioning Programme</i> );
<b>"Retained Site"</b>		means the Campus Site under exception of the Site;
<b>"Revenue"</b>		means the projected Unavoidable Fixed Costs and Senior Debt Service Costs of Project Co;
<b>"Reviewable Design Data"</b>		means the Design Data listed at Section 5 ( <i>Reviewable Design Data</i> ) of Schedule Part 6 ( <i>Construction Matters</i> );
<b>"Revised Senior Debt Termination Amount"</b>		has the meaning given in Section 6 ( <i>Definitions</i> ) of Schedule Part 17 ( <i>Compensation on Termination</i> );
<b>"RIE Facilities"</b>		means the existing hospital, buildings and other facilities together with all supporting infrastructure and amenities located on the RIE Site as such hospital, buildings, facilities, infrastructure and amenities may be modified from time to time;
<b>"RIE Infrastructure"</b>		means the infrastructure resulting from the RIE Works;
<b>"RIE Project"</b>		means the financing, design, construction equipping and operation of, and the provision of certain services in connection with the RIE Facilities and the University Facilities;
<b>"RIE Project Agreement"</b>		means the private finance initiative agreement between the Board and Consort in relation to the RIE Project;
<b>"RIE Site"</b>		means the Campus Site under exception of the Site and the University Site;
<b>"RIE Works"</b>		means the design (including preparation of all Design Data), construction, testing, commissioning and completion of the works to be undertaken at the RIE Site and/or the RIE Facilities in accordance with inter alia paragraph 4 ( <i>Site Specific Requirements</i> ) of Sub-Section C of the Board's Construction Requirements (as varied, amended or supplemented from time to time in accordance with this Agreement), namely the PTS, ICT, Foul Water Drainage, Joint and Fire Alarm System;
<b>"Room Data Sheets"</b>		has the meaning given in Section 6 ( <i>Room Data Sheets</i> ) of Schedule Part 6 ( <i>Construction Matters</i> );
<b>"Schedule of Condition"</b>		shall have the meaning given to it in paragraph 2.1 ( <i>Schedules of Condition</i> ) of Part 3 ( <i>General</i>

	<i>Matters) of Schedule Part 31 (Consort interface with Campus Site and/or Campus Facilities); .</i>
<b>“Schedule of Lifecycle Replacement”</b>	means the programme of Lifecycle Replacement for the Project Term that complies with the requirements set out in Clause 23A ( <i>Lifecycle Replacement</i> );
<b>“Schedule of Programmed Maintenance”</b>	means the programme referred to in Clause 23.1 ( <i>Programmed Maintenance Works</i> ) to be submitted to the Board's Representative by Project Co in accordance with Schedule Part 8 ( <i>Review Procedure</i> );
<b>“Scottish Futures Trust”</b>	means Scottish Futures Trust Limited (Company Number SC348382), having its registered office at 1 <sup>st</sup> Floor, 11-15 Thistle Street, Edinburgh EH2 1DT;
<b>“Second Party”</b>	has the meaning given in Clause 35.3 ( <i>VAT</i> );
<b>"Secured Creditors"</b>	has the meaning given to it in the Common Terms Agreement;
<b>"Security Document"</b>	has the meaning given to it in the Common Terms Agreement;
<b>“Security Trustee”</b>	means Prudential Trustee Company Limited (registered number 01863305);
<b>“Senior Debt”</b>	has the meaning given in Section 6 ( <i>Definitions</i> ) of Schedule Part 17 ( <i>Compensation on Termination</i> );
<b>“Senior Debt Service Costs”</b>	means interest and debt service costs incurred in respect of the Senior Funding Agreements less: <ul style="list-style-type: none"> <li>(a) sums which are in arrears;</li> <li>(b) all sums reserved by Project Co and which Project Co is entitled to use to make such payments, without breaching the Senior Funding Agreements;</li> </ul>
<b>“Senior Funders”</b>	means the Senior Lenders, the Senior Subordinated Lenders and the Senior Subordinated On-Loan Lenders, as such terms are defined respectively in the Common Terms Agreement;
<b>“Senior Funding Agreements”</b>	means the Initial Funding Agreements (other than the Equity Documents) as at the date of this Agreement and as amended as permitted under Clause 4 ( <i>Project Documents</i> );
<b>"Senior-Subordinated On-Loan Lenders"</b>	has the meaning given to in the Common Terms Agreement;
<b>"Senior Subordinated Security Document"</b>	has the meaning given to it in the Common

Terms Agreement;

<b>“Service Contracts”</b>	means the contracts dated the same date as this Agreement between Project Co and each Service Provider (which as at the date of this Agreement are in the Agreed Form), by which Project Co will procure the performance of the Services (as amended or replaced from time to time in accordance with this Agreement);
<b>"Service Event"</b>	has the meaning given in Schedule Part 14 ( <i>Payment Mechanism</i> );
<b>“Service Level Specification”</b>	means the requirements of the Board set out in Section 1 ( <i>Service Level Specification</i> ) of Schedule Part 12 ( <i>Service Requirements</i> ) as amended from time to time in accordance with Clause 33 ( <i>Change Protocol</i> );
<b>“Service Proposal”</b>	means the agreed Interface Proposal in respect of the route, depth and size (having regard to the condition of existing service media in the Service Strip and Foul Service Strip) for laying and maintaining service media in the Service Strip and/or foul drainage in the Foul Service Strip as applicable, as set out in Appendix 7 of Schedule Part 31;
<b>“Service Provider”</b>	means each of Bouygues E&S FM UK Limited (registered under number 04243192) whose registered office is at Waterloo Centre Elizabeth House, 39 York Road, London, SE1 7NQ, or any other person engaged by Project Co from time to time as may be permitted by this Agreement to procure the provision of the Services (or any part of them);
<b>“Service Providers Collateral Agreements”</b>	means the collateral agreements among the Board, Project Co and each Service Provider in the form set out in Section 2 of Schedule Part 9 ( <i>Collateral Agreements</i> );
<b>"Service Strip"</b>	means the area shaded yellow and hatched black on Plan 2;
<b>“Services”</b>	means the services to be provided, managed and/or procured by Project Co for the Board in relation to the Facilities in accordance with Schedule Part 12 ( <i>Service Requirements</i> ) as subsequently amended or adjusted in accordance with this Agreement;
<b>“Services Quality Plan”</b>	means the document set out in Section 3 ( <i>Services Quality Plan</i> ) of Schedule Part 12 ( <i>Service Requirements</i> );
<b>“Sewer”</b>	means the sewer, the expected route of which within the Site is shown red and to be located within the area of land shaded green on Plan 11;
<b>“Shareholder(s)”</b>	means any person(s) who from time to time, as permitted by this Agreement, holds share capital

	in Project Co, Hold Co or Top Co which persons are, as at the date of this Agreement, listed as such in Schedule Part 21 ( <i>Project Co Information</i> );
<b>“Site”</b>	means the land made available to Project Co for the Project delineated in a broken red line on "Plan 1";
<b>"Shareholder Support Agreement"</b>	has the meaning given to it in the Common Terms Agreement;
<b>“Site Conditions”</b>	means the condition of the Site including (but not limited to) climatic, hydrological, hydrogeological, ecological, environmental, geotechnical and archaeological conditions;
<b>"SME's"</b>	means a company that is a: <ul style="list-style-type: none"> <li>(i) small or medium sized company and is not a member of a large group;</li> <li>(ii) has a turnover of up to fifty million (50,000,000) Euro per annum; and</li> <li>(iii) has no more than two hundred and fifty (250) employees;</li> </ul>
<b>“Snagging Matters”</b>	means minor items of outstanding work (including in relation to landscaping) which would not materially impair the Board's use and enjoyment of the Facilities and/or Retained Estate and/or the Retained Estate Handback Infrastructure or the carrying out by the Board of the Board Services or the performance of the Services by Project Co and/or the carrying out of any services pursuant to the RIE Project Agreement;
<b>“Snagging Notice”</b>	means the notice to be issued by the Independent Tester in accordance with Clause 17.14 ( <i>Completion Certificate</i> );
<b>"Social Enterprises"</b>	means any registered charity as defined in either the Charities and Trustees Investment (Scotland) Act 2005 or the Charities Act 2011 (both as amended) and any community-interest-company, not-for profit organisation or other organisation whose constitution or founding document contains an express asset-lock under which proceeds and/or benefits from its activities must be applied to further an identified social cause;
<b>“Specific Change in Law”</b>	means: <ul style="list-style-type: none"> <li>(a) any Change in Law which specifically refers to: <ul style="list-style-type: none"> <li>(i) the provision of works or services the same as or similar to the Works or the Services in premises similar to the Facilities; or</li> </ul> </li> </ul>

(ii) the holding of shares in companies whose main business is providing works or services the same as or similar to the Works or the Services in premises similar to the Facilities; or

(b) any change in a NHS Requirement (other than any NHS Requirement which merely gives effect to Law generally and does not principally affect or principally relate to the provision or operation of the Facilities or healthcare premises);

**"Stop Incident"**

means a failure by Project Co to carry out the relevant part or parts of the Project Operations in accordance with:

- (a) Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and/or the Interface Proposals; and/or
- (b) any provision of this Agreement and such breach gives rise to an immediate and serious threat to the health and safety of any user of the Site, Off-Site, Retained Site and/or the Retained Estate (which for the avoidance of doubt shall include any adverse impact upon clinical services at the RIE Facilities) during the Construction Phase; and/or
- (c) paragraphs 4.4.3(b), 4.4.3(e), 4.5.1A, 4.5.12, 6.1.1, 6.1.2 and/or 7.6(j) of Sub-section C of the Board's Construction Requirements;

**"Stop Log Book"**

means a log book to be maintained by Project Co pursuant to Clause 13A.9 (*Board's Right to stop Project Operations during the Project Term*) in relation to the dates, timings and reasons for stopping and re-starting the relevant part or parts of the Project Operations;

**"Sub-Contractor"**

means any third party (including the Contractor and a Services Provider) who enters into any Sub-Contract;

**"Sub-Contracts"**

means the contracts entered into by or between Project Co, the Contractor and/or a Service Provider and other third parties in relation to any aspect of the Project Operations;

**"Subordinated Debt"**

has the meaning given in Section 6 (*Definitions*) of Schedule Part 17 (*Compensation on Termination*);

**"Subordinated Debt Rate"**

means 9.47%;

**"Subordinated Funder"**

means a person providing finance under a Subordinated Funding Agreement;

<b>“Subordinated Funding Agreements”</b>	means the Equity Documents and as at the date of this Agreement or as amended with the prior written agreement of the Board;
<b>“Subsidiary”</b>	has the meaning given to it in Section 1159 of the Companies Act 2006;
<b>“Substation Works”</b>	means the design (including preparation of all Design Data), construction, testing and commissioning and completion of the substation in accordance with inter alia paragraph 4.5.10(d) of sub-section C of the Board's Construction Requirements;
<b>“Suitable Substitute Contractor”</b>	has the meaning given in Section 6 ( <i>Definitions</i> ) of Schedule Part 17 ( <i>Compensation on Termination</i> );
<b>“Supplemental Drainage Proposal”</b>	means the agreed Interface Proposal for Surface Water Drainage Works connections in the Orange Area, as set out in Appendix 5 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> );
<b>“Surface Water Drainage Infrastructure”</b>	means the surface water infrastructure resulting from the Surface Water Drainage Works;
<b>“Surface Water Drainage Works”</b>	means the design (including preparation of all Design Data), construction, testing and commissioning and completion of the surface water drainage works connections to be undertaken in accordance with inter alia paragraphs 4.5.10 ( <i>Construction Works Further Information</i> ) of section C, 6.11 ( <i>Drainage Works</i> ) and 8.7.20 ( <i>Drainage Works</i> ) of Sub-Section C of the Board's Construction Requirements and the Initial Drainage Proposal and/or the Supplemental Drainage Proposal;
<b>“Surplus”</b>	means, on any given date, the amount (if any) standing to the credit of the Surplus Account;
<b>“Surplus Account”</b>	has the meaning given in the Common Terms Agreements;
<b>“Surplus Payment”</b>	means the payment of a Surplus or Surpluses by Project Co to the Board pursuant to Clause 36 ( <i>Payment of Surpluses and Compliance with NPD Requirements</i> );
<b>“Surplus Payment Date”</b>	means the date falling five (5) Business Days after 31 March and 30 September in each year that follows the Commencement Date;
<b>"Teenage Cancer Trust Activities"</b>	means activities carried out at the Facilities and/or Site by the "Teenage Cancer Trust", a charitable organisation devoted to improving the lives of teenagers and young adults with cancer;
<b>“Termination Date”</b>	means the date on which termination of this Agreement takes effect in accordance with its



	terms;
<b>“The NHS and You”</b>	means the document so entitled and issued by the Scottish Government Health Directorate in January 2009;
<b>“Title Conditions”</b>	means title conditions set out in Section 1 of Schedule Part 5 ( <i>Land Matters</i> );
<b>"Top Co" or "Topco" or "TopCo"</b>	means IHS Lothian Investments Limited (company number 09359641);
<b>"Top Co EIB On-Loan Agreement"</b>	has the meaning set out in the Common Terms Agreement;
<b>"TopCo Institutional Investor On-Loan Agreement"</b>	has the meaning set out in the Common Terms Agreement;
<b>"TopCo Loan Note"</b>	has the meaning set out in the Common Terms Agreement;
<b>“TPL Risk”</b>	means a risk which is required to be insured under the third party liability insurance policy;
<b>“Traffic Management Strategy" or "TMS”</b>	means the agreed Interface Proposal in relation to the traffic management strategy for construction access over the Orange Area, as set out in Appendix 2 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> );
<b>“Transfer Regulations”</b>	means the Transfer of Undertaking (Protection of Employment) Regulations 2006 (SI No. 246);
<b>"Transferring Staff"</b>	has the meaning given to it in Clause 25.2 ( <i>No Employee Transfer</i> );
<b>“Unavoidable Fixed Costs”</b>	means the fixed costs incurred by Project Co which first fall due for payment by Project Co during the period of indemnity but excluding: <ul style="list-style-type: none"> <li>(a) costs which could have reasonably been mitigated or avoided by Project Co;</li> <li>(b) payments to Project Co’s Associated Companies;</li> <li>(c) payments which are not entirely at arm’s length;</li> <li>(d) payments to holders of equity in Project Co, providers of Subordinated Debt and any other financing costs other than Senior Debt Service Costs;</li> <li>(e) indirect losses suffered or allegedly suffered by any person;</li> <li>(f) fines, penalties or damages for unlawful acts, breaches of contract or other legal obligations;</li> </ul>

- (g) payments Project Co can recover under contract or in respect of which Project Co has a remedy against another person in respect of the same liability;
- (h) payments to the extent that Project Co has available to it including:
  - (i) reserves which Project Co can draw upon without breaching the Senior Funding Agreements;
  - (ii) standby or contingent facilities or funds of Senior Debt or equity which Project Co is entitled to have available;
- (i) payments representing any profits of the Project (to the extent not already excluded in (e) above);

**“Uninsurable”**

means, in relation to a risk, either that:

- (a) insurance is not available to Project Co in respect of the Project in the worldwide insurance market with reputable insurers of good standing in respect of that risk; or
- (b) the insurance premium payable for insuring that risk is at such a level that the risk is not generally being insured against in the worldwide insurance market with reputable insurers of good standing by contractors in the United Kingdom;

**"University"**

means the University Court of the University of Edinburgh and any successor or permitted assignee acquiring an interest in the University Site and/or the University Facilities;

**“University Facilities”**

means the existing university buildings and other facilities together with all supporting infrastructure and amenities located on the University Site, as each university buildings, facilities, infrastructure and amenities may be modified from time to time;

**"University Party"**

means any of the University's agents, contractors and sub-contractors of any tier, its tenants and its or their directors, officers, employees, consultants, researchers, students, staff, workmen, licensees, permitted occupiers, tenants, users, visitors, sub-contractors (of any tier), any patients (whether of the University or of the University's tenants), and any other person for whom the University is responsible for;

**"University Site"**

means the two areas of land shaded peach and

	outlined in blue on Plan 7;
<b>“Unprogrammed Maintenance or Lifecycle Replacement Work”</b>	has the meaning given in Clause 23.8 ( <i>Programmed and Unprogrammed Maintenance</i> );
<b>“Unreasonable Act”</b>	means any act or omission which is contrary to any reasonable instruction, guidance or rules for the operation or management of the Facilities;
<b>“Utilities”</b>	has the meaning given in the Service Level Specification;
<b>“VAT”</b>	means value added tax at the rate prevailing at the time of the relevant supply charged in accordance with the provisions of the Value Added Tax Act 1994;
<b>“VAT Sum”</b>	has the meaning given in Clause 35 ( <i>VAT and Construction Industry Tax Deduction Scheme</i> );
<b>“Vitiating Act”</b>	has the meaning given in Endorsement 2, Section 3 ( <i>Endorsement</i> ) of Schedule Part 15 ( <i>Insurance Requirements</i> );
<b>"Volunteer Services"</b>	means any volunteer services and/or third sector bodies and/or retail bodies authorised by the Board to be the provider of volunteer services at the Facilities and/or Site from time to time, including for the avoidance of doubt the drop in centre, radio lollipop and clown doctors;
<b>“Warning Notice”</b>	means a notice validly served by the Board's Representative on Project Co under Clause 24.3 ( <i>Warning Notices</i> ), specifying that it is a Warning Notice and setting out the circumstances that have given rise to the issue thereof;
<b>“Works”</b>	means the design (including the preparation of all Design Data), construction, testing, commissioning and completion of the Facilities and the Retained Estate Handback Infrastructure (including any temporary works) and the installation, testing, commissioning and completion of Equipment to be performed by Project Co in accordance with this Agreement (as varied, amended or supplemented from time to time in accordance with this Agreement);
<b>"Yellow Area"</b>	means the area shaded Yellow on Plan 2.

**SECTION 2****INTERPRETATION**

This Agreement shall be interpreted according to the following provisions, unless the context requires a different meaning:

- 1 The headings and marginal notes and references to them in this Agreement shall be deemed not to be part of this Agreement and shall not be taken into consideration in the interpretation of this Agreement.
- 2 Except where the context expressly requires otherwise, references to Clauses, Sub-clauses, paragraphs, sub-paragraphs and parts of the Schedule are references to Clauses, Sub-clauses, paragraphs, sub-paragraphs and parts of the Schedule to this Agreement and references to Sections, Appendices and Attachments (if any) are references to Sections, Appendices and Attachments to or contained in this Agreement.
- 3 The Schedule and Attachments (if any) to this Agreement are integral parts of this Agreement and a reference to this Agreement includes a reference to the Schedule and the Attachments (if any).
- 4 Words importing persons shall, where the context so requires or admits, include individuals, firms, partnerships, trusts, corporations, governments, governmental bodies, authorities, agencies, unincorporated bodies of persons or associations and any organisations having legal capacity.
- 5 Where the context so requires words importing the singular only also include the plural and vice versa and words importing the masculine shall be construed as including the feminine or the neuter or vice versa.
- 6 The language of this Agreement is English. All correspondence, notices, drawings, Design Data, test reports, certificates, specifications and information shall be in English. All operating and maintenance instructions, name plates, identification labels, instructions and notices to the public and staff and all other written, printed or electronically readable matter required in accordance with, or for purposes envisaged by, this Agreement shall be in English.
- 7 Save where stated to the contrary, references to any agreement or document include (subject to all relevant approvals and any other provisions of this Agreement concerning amendments to agreements or documents) a reference to that agreement or document as amended, supplemented, substituted, novated or assigned.
- 8 References to any Law are to be construed as references to that Law as from time to time amended or to any Law from time to time replacing, extending, consolidating or amending the same provided that the provisions of this paragraph shall be without prejudice to the operation of Clause 32 (*Changes in Law*) and Schedule Part 16 (*Change Protocol*) which shall operate in relation to a Change in Law on the basis set out in this Agreement.
- 9 Without prejudice to Clause 57.1 (*Assignment*), references to a public organisation (other than the Board) shall be deemed to include a reference to any successor to such public organisation or any organisation or entity which has taken over either or both the relevant functions and relevant responsibilities of such public organisation.

- 10 Without prejudice to Clause 57.1 (*Assignment*), references to other persons (other than the Board and Project Co) shall include their successors and assignees.
- 11 References to a deliberate act or omission of the Board or any Board Party shall be construed having regard to the interactive nature of the activities of the Board and of Project Co and the expression shall exclude acts or omissions which were within the contemplation of the parties or which were otherwise provided for in this Agreement.
- 12 The words in this Agreement shall bear their natural meaning. The parties have had the opportunity to take legal advice on this Agreement and no term shall, therefore, be construed contra proferentem.
- 13 Reference to "parties" means the parties to this Agreement and references to "a party" mean one of the parties to this Agreement.
- 14 In construing this Agreement, the rule known as the ejusdem generis rule shall not apply nor shall any similar rule or approach to the construction of this Agreement and accordingly general words introduced or followed by the word "other" or "including" or "in particular" shall not be given a restrictive meaning because they are followed or preceded (as the case may be) by particular examples intended to fall within the meaning of the general words.
- 15 All of Project Co's obligations, duties and responsibilities shall be construed as separate obligations, duties and responsibilities owed to the Board and to be performed at Project Co's own cost and expense.
- 16 Unless expressly stated otherwise, references to amounts or sums expressed to be "**(index linked)**" are references to amounts or sums expressed in prices relevant at the date of this Agreement (the "**Base Date**") which require to be adjusted whenever the provision containing the amount or sum is given effect in accordance with this Agreement to reflect the effects of inflation after that date. The adjustment shall be measured by changes in the relevant index published for that Contract Year as calculated in accordance with the following formula:

$$\text{Amount or sum in Base Date prices} \times \text{RPI}_d / \text{RPI}_0$$

Where  $\text{RPI}_d$  is the value of the Retail Prices Index published or determined with respect to the month of February most recently preceding the date when the provision in question is to be given effect and  $\text{RPI}_0$  is the value of the Retail Prices Index at the Base Date

$$\frac{\text{RPI}_d}{\text{RPI}_0}$$

- 17 Reference to a document being in the Agreed Form is a reference to the form of the relevant document (or where appropriate, the form of relevant document on disc) agreed between the parties and for the purpose of identification initialled by each of them or on their behalf.
- 18 The operation of the Housing Grants, Construction and Regeneration Act 1996 upon any Project Document shall not affect the rights or obligations of the parties under this Agreement.
- 19 Words in parenthesis and italics appearing after a Clause reference or a reference to a Schedule Part are inserted for ease of reference only. If there is any discrepancy between the Clause reference and the words appearing in parenthesis and italics after the Clause

reference, the Clause reference shall prevail.

- 20 Where this Agreement states that an obligation shall be performed "no later than" or "within" or "by" a prescribed number of Business Days after a stipulated date or event, or "no later than" or "by" a stipulated date or event which is a prescribed number of Business Days after a stipulated date or event, the latest time for performance shall be 5pm on the last Business Day for performance of the obligations concerned.
- 21 Where this Agreement states that an obligation shall be performed "no later than" or "within" or "by" a prescribed number of Business Days before a stipulated date or event, or "no later than" or "by" a stipulated date or event which is a prescribed number of Business Days before a stipulated date or event, the latest time for performance shall be 5pm on the last Business Day for performance of the obligations concerned.

**SCHEDULE PART 2****COMPLETION DOCUMENTS****SECTION 1****DOCUMENTS TO BE DELIVERED BY PROJECT CO**

Unless an original document is specifically requested, a copy (certified by an officer of Project Co as being a true copy) of each of the following documents is to be delivered by Project Co to the Board in accordance with Clause 2.1 (*Execution and Delivery of Documents*) of this Agreement:

1. Not Used.
2. Not Used.
3. The Initial Funding Agreements and certification from Project Co that (1) the Initial Funding Agreements have become unconditional (other than any condition relating to the conditionality of this Agreement) and (2) that all conditions to the availability of funds to Project Co under the Initial Funding Agreements have been satisfied or waived, accompanied by evidence of the same.
4. The Construction Contract, the Services Contract, Performance Guarantees, Subordinated Funding Agreements, Interface Agreement, Management Services Agreement, executed by the parties to such agreements.
5. An original of the Funders' Direct Agreement, the Independent Tester Contract, the Insurance Proceeds Account Agreement, the Collateral Agreements (and in terms of the Key Sub-contractor Collateral Agreements shall be those agreements referred to in Clauses 57.8A.1 and 57.8A.2 of this Agreement) and the brokers letters of undertaking relating to the Insurances referred to in paragraph 11 below in the Agreed Form, executed by the parties to such agreements (other than the Board).
6. Extracts from the minutes of the meeting of the board of directors (certified as true and accurate by the Secretary, Director or authorised signatory of the relevant company) of each of Project Co, Hold Co, Top Co, the Contractor, the Service Provider and each of the guarantors under the parent company guarantees to Project Co in respect of the Construction Contract and the Service Contract, at which resolutions were passed approving the execution, delivery and performance of each relevant document to which such person is expressed to be a party and in each case authorising a named person or persons to execute and deliver each such document and any other documents to be delivered by it pursuant to it. For the avoidance of doubt, this requirement shall not extend to the Senior Funders.
7. A certificate of the Secretary, Director or authorised signatory of each of the companies referred to in paragraph 6 above setting out the names and specimen signatures of the person or persons named in the relevant certified extract.
8. Evidence of the share subscriptions contemplated under Article 11.1 of the Articles of Association of Project Co having been made.
9. Project Co's, Hold Co's and Top Co's Certificate of Incorporation and of any Certificate of Incorporation on Change of Name.

- 10 The Articles of Association of Project Co, Hold Co and Top Co.
- 11 The insurance broker's letter of undertaking, evidence of the insurances required in accordance with Clause 53 (*Insurances*) having been taken out by Project Co and that the policies comply with the requirements of this Agreement, and an estimate by the insurance broker of the premiums for the Operational Insurances for the first year of the Operational Term.
- 12 Two computer disk copies of the Financial Model audited by Mazars.
- 13 Evidence that an election has been made for Project Co to act as "client" for the Project for the purposes of the CDM Regulations.
- 14 Evidence that the Insurance Proceeds Account has been opened.
- 15 The sub-contracts for Key Sub-Contractors executed by the parties to such agreements for the relevant sub-contract between the Contractor and each member of the Design Team and/or Key Sub-contractor required to provide a Collateral Agreement pursuant to Clauses 57.8A.1 and 57.8A.2 of this Agreement, and evidence that the professional indemnity insurance, to be maintained by the Key Sub-Contractor in terms of the relevant sub-contract and Collateral Agreement as applicable is in place.
- 16 Letter from Macquarie to B Director in relation to the provision of training to the B Director regarding both anti-bribery and anti-money laundering laws and regulations.
- 17 An original duly executed copy of this Agreement.



## SECTION 2

## DOCUMENTS TO BE DELIVERED BY THE BOARD

The Board shall deliver to Project Co the following documents:

1. An original copy of the Funders' Direct Agreement, the Collateral Agreements referred to in Clauses 57.8A.1 and 57.8A.2 of this Agreement, the Independent Tester Contract, the Insurance Proceeds Account Agreement and this Agreement, duly executed by the Board.
2. A certified copy of the resolution of the Board approving:
  - 2.1 the execution, delivery and performance of the documents referred to in paragraph 1 above;
  - 2.2 the full business case for the Project; and
  - 2.3 in the case of the execution and delivery of the documents referred to in paragraph 1 above, authorising a named person or persons to execute and deliver each such document and any documents to be delivered by it pursuant thereto.
3. A certificate of the relevant officer of the Board setting out the names and specimen signatures of the person or persons named in the resolution of the Board referred to in paragraph 2 above.
4. Certified copies of the Board's:
  - 4.1 standing orders;
  - 4.2 standing financial instructions; and
  - 4.3 scheme of delegation.
5. An original certificate of the Scottish Government issued pursuant to Section 1 of the National Health Service (Private Finance) Act 1997 as amended by the NHS Reform (Scotland) Act 2004, in relation to the documents referred to in paragraph 1 above
6. A certified copy of a letter confirming that the full business case of the Board has been approved on behalf of the Scottish Government, in respect of the Project.
7. A confirmation from the Director of Finance of the Board in respect of:
  - 7.1 approval of the documents to be signed by the Director of Finance of the Board as more fully described in the resolution of the Board referred to in paragraph 2 above; and
  - 7.2 no threatened, pending or actual litigation in respect of the procurement process for the Project.
8. The following documentation for Raeburn Drilling and Geotechnical Ltd (company number 00094320) ("**Raeburn**"):
  - 2526505\_21
  - A47206723

- 8.1 Raeburn letters of reliance in respect of the Ground Physical and Geophysical Investigation and the Petrol Station Site Contamination Investigation for each Project Co, the Contractor and the Service Provider; and
- 8.2 the appointments of Raeburn in respect of both the Ground Physical and Geophysical Investigation and the Petrol Station Site Contamination Investigation.

**SCHEDULE PART 3**  
**KEY WORKS PERSONNEL**

Position	Name
Project Director (Construction)	Alasdair Fernie
Design Lead (Construction)	Liane Edwards-Scott
Construction Director	Fergus Shaw
Lead M&E Engineer (Construction)	Stewart McKechnie
Lead Architect (Architect)	Lorraine Robertson
Civil and Structural Lead (Construction)	Barry McCormack

## SCHEDULE PART 4

## FUNDERS' DIRECT AGREEMENT

## THIS AGREEMENT IS MADE ON

## AMONG:

- (1) **LOTHIAN HEALTH BOARD**, a health board constituted in Scotland under the National Health Service (Constitution of Health Boards) (Scotland) Order 1974 (S.I. 1974/267) as amended by the National Health Service (Constitution of Health Boards) (Scotland) Amendment Order 2003 (S.S.I. 2003/217) pursuant to Section 2 of the National Health Service (Scotland) Act 1978 as amended by section 28 of the National Health Service and Community Care Act 1990 and having its principal address at Waverley Gate, 2-4 Waterloo Place, Edinburgh EH1 3EG (the "**Board**")
- (2) **PRUDENTIAL TRUSTEE COMPANY LIMITED** (the "**Security Trustee**" for the Secured Creditors) on behalf of itself and the Secured Creditors; and
- (3) **IHS LOTHIAN LIMITED** (company no SC493676) whose registered office is at Burness Paull LLP, 50 Lothian Road, Festival Square, Edinburgh, EH3 9WJ ("**Project Co**")

## IT IS AGREED AS FOLLOWS:

## 1 INTERPRETATIONS

**Definitions**

In this Agreement, unless the context otherwise requires:

<b>"Accrued Rights"</b>	means all costs, claims, damages, losses and liabilities suffered by Project Co and/or the Senior Funders which shall have arisen out of, or in connection with, the Sub-contracts, the Funders' Contractor Direct Agreement, the Funders' Service Provider Direct Agreement and the Security Documents in relation to which the Intercreditor Agent and/or the Security Trustee is acting on behalf of Project Co, in respect of the period prior to and including the Termination Date;
<b>"Affiliate"</b>	means, in relation to any person, any holding company or subsidiary of that person or any subsidiary of such holding company, and " <b>holding company</b> " and " <b>subsidiary</b> " shall have the meaning given to them in section 1159 of the Companies Act 2006;
<b>"Appointed Representative"</b>	means a Representative that has been notified to the Board pursuant to a Step-In Notice;
<b>"Assets"</b>	to be defined by reference to Clause 47.2 ( <i>Transfer to the Board of Assets, Contracts, etc.</i> ) of the Design Building Finance and Maintain Agreement;
<b>"Board Project Documents"</b>	means the Project Agreement and all other documents to which the Board and Project Co

	are parties pursuant to the Project Agreement;
<b>“Collateral Agreements”</b>	means the Contractor's Collateral Agreement and the Service Provider's Collateral Agreement and each Key Sub-contractor Collateral Agreement;
<b>“Collateral Agreement Counterparty”</b>	means one of the parties to the Collateral Agreements (other than the Board or Project Co);
<b>“Common Terms Agreement”</b>	means the common terms agreement dated on or around about the date of this Agreement between, amongst others, Project Co, the Senior Funder, the Senior Subordinated On-Loan Lenders, the Intercreditor Agent and the Security Trustee, as such terms are defined therein;
<b>“Enforcement Event”</b>	means the Security Trustee taking any steps set out in Clause 17.3 ( <i>Remedies</i> ) of the Common Terms Agreement;
<b>“Event of Default”</b>	shall have the meaning given to it in the Common Terms Agreement;
<b>“Event of Insolvency”</b>	means Clause 40.1.1 ( <i>Project Co Event of Default</i> ) of the Project Agreement (inclusive) of a Project Co Event of Default;
<b>“Final Payment Date”</b>	means the later of the Senior Discharge Date and the Senior Subordinated On-Loan Discharge Date, as each such term is defined in the Intercreditor Agreement;
<b>“Project Agreement”</b>	means an agreement dated on or around the date of this Agreement between Project Co and the Board relating to the design, development, construction and provision of certain services in connection with the re-provision of the Royal Hospital for Sick Children, Child and Adolescent Mental Health Service and the Department of Clinical Neurosciences in a single building adjoining the Royal Infirmary of Edinburgh at Little France at the Site and Off-Site;
<b>“Project Co Event of Default”</b>	shall have the meaning given to it in the Project Agreement;
<b>“Representative”</b>	means: <ul style="list-style-type: none"> <li>(a) the Intercreditor Agent, any Senior Funder and/or any of their Affiliates;</li> <li>(b) an administrator, administrative receiver, receiver or receiver and manager of Project Co appointed under the Security Documents;</li> </ul>

(c) a person directly or indirectly owned or controlled by the Security Trustee and/or any Senior Funders; or

(d) any other person approved by the Board (such approval not to be unreasonably withheld or delayed);

**“Required Period”**

means subject to paragraph 4 (*No Liquid Market*) the period starting on the date of a Termination Notice and:

(a) prior to the Payment Commencement Date, ending eighty (80) Business Days later; and

(b) on or following the Payment Commencement Date, ending sixty (60) Business Days later;

**“Secured Creditors”**

has the meaning given to it in the Common Terms Agreement;

**“Security Documents”**

means:

- (a) Borrower Assignment in Security;
- (b) Borrower Bond and Floating Charge;
- (c) Borrower Debenture;
- (d) HoldCo Share Pledge;
- (e) HoldCo (First Ranking) Debenture;
- (f) HoldCo (Second Ranking) Debenture;
- (g) Intercreditor Agreement,
- (h) the Assignment in Security of Reversionary Rights
- (i) Hold Co Assignment and Pledge

(each as defined in the Common Terms Agreement) together with:

- (j) the TopCo Charge (as defined in the Intercreditor Agreement);
- (k) any present or future document confirming or evidencing any Security (as defined in the Common Terms Agreement) or guarantee for, or in relation to, all the Senior Debt (as defined in the Intercreditor Agreement);
- (l) all agreements and other documents

executed from time to time pursuant to any of the foregoing including all notices of assignment and intimations of assignation given pursuant to, and as contemplated by, the above documents and the acknowledgements to the notices of assignment and intimations of assignation;

- (m) any other agreement or document which the Security Trustee may from time to time designate as a "Security Document" in accordance with the Common Terms Agreement; and
- (n) any other agreement or document which the Senior Subordinated Security Trustee (as defined in the Intercreditor Agreement) may from time to time designate as a "Senior Subordinated Security Document" in accordance with the Senior Subordinated Finance Documents (as defined in the Common Terms Agreement);

**“Senior Debt Discharge Date”**

means the date on which all amounts owing by the Contractor to the Senior Funders under the Senior Funding Agreements have been irrevocably paid in full;

**“Senior Funders”**

means the Senior Lenders and the Senior Subordinated Lenders, as such terms are defined respectively in the Common Terms Agreement;

**“Step-In Date”**

means the date on which the Security Trustee gives the Board a Step-In Notice;

**“Step-In Notice”**

means the notice given by Project Co to the Board pursuant to paragraph 5 (*Representative*) stating that the Security Trustee is exercising the step-in rights under this Agreement and identifying the Appointed Representative;

**“Step-In Period”**

means the period from the Step-In Date up to and including the earlier of:

- (a) the Step-Out Date;
- (b) the date of any transfer under paragraph 8 (*Novation*);
- (c) the date of any termination for breach under paragraph 6 (*Step-In Period*); and

- (d) the date of expiry of the Project Agreement;
- “Step-Out Date”** means the date falling twenty (20) Business Days after the date of a Step-Out Notice;
- “Step-Out Notice”** means a notice from the Security Trustee or Appointed Representative to the Board pursuant to paragraph 7 (*Step-Out*);
- “Suitable Substitute Contractor”** means a person approved by the Board (such approval not to be unreasonably withheld or delayed) as:
- (a) having the legal capacity, power and authority to become a party to and perform the obligations of Project Co under the Board Project Documents; and
  - (b) employing persons having the appropriate qualifications, experience and technical competence and having the resources available to it (including committed financial resources and sub-contracts) which are sufficient to enable it to perform the obligations of Project Co under the Board Project Documents;
- “Termination Notice”** means a notice given by the Board to the Security Trustee under paragraph 3.2;
- “Unrestricted Assets”** means those Assets, excluding any revenues or cash balances or claims outstanding at the date of transfer under any Sub-Contract, which are required by the Board or its nominee or any replacement of Project Co for the purposes of the construction, operation or maintenance of the Facilities following termination, assuming such construction, operation or maintenance is carried out on terms substantially the same as the terms of the Project Agreement.

## 1.2 Interpretation

- 1.2.1 Capitalised terms defined in the Project Agreement shall have the same meaning in this Agreement.
- 1.2.2 The clause and paragraph headings in this Agreement are for ease of reference only and are not to be taken into account in the construction or interpretation of any provision to which they refer.



- 1.2.3 Unless the context otherwise requires:
- (a) a reference in this Agreement to any clause, sub-clause, paragraph, schedule or annex is, except where it is expressly stated to the contrary, a reference to such clause, sub-clause, paragraph, schedule or annex of this Agreement;
  - (b) references to this Agreement or to any other such document shall include any permitted variation, amendment or supplements to such document;
  - (c) references to any enactment, order, regulation or other similar instrument shall be construed as a reference to the enactment, order, regulation or instrument (including any EU instrument) as amended or re-enacted;
  - (d) references to a person includes firms and corporations and their successors and permitted assignees or transferees;
  - (e) words in this Agreement importing any one gender include both other genders and may be used interchangeably; and
  - (f) words in this Agreement importing the singular meaning, include the plural meaning and vice versa.

## **2. CONSENT TO SECURITY**

- 2.1 The Board acknowledges notice of, and consents to, the security interest granted over Project Co's rights under the Board Project Documents effected by Project Co in favour of the Senior Funders under the Security Documents.
- 2.2 The Board confirms that it has not received notice of any other security interest granted over Project Co's rights under the Board Project Documents.
- 2.3 Except as specifically provided for in this Agreement the Board has no obligations (whether express, implied, collateral or otherwise) to the Security Trustee and/or the Senior Funders in connection with this Agreement or the Board Project Documents or the Project.
- 2.4 The Board acknowledges notice of and consents to the security interest granted by Hold Co in favour of the Security Trustee over the entire issued share capital of Project Co.
- 2.5 For the purposes of Clause 34.3 of the Project Agreement, Project Co and the Security Trustee hereby authorise and instruct the Board (and the Board agrees) to pay all sums payable to Project Co under the Board Project Documents to the Proceeds Account and Project Co and the Board agree that upon the occurrence of an Enforcement Event, if so directed in writing by the Security Trustee upon giving reasonable notice, the Board shall pay any sum which it is obliged to pay to Project Co under the Board Project Documents to a bank account specified by the Intercreditor Agent.

- 2.6 The Board shall not be obliged to make any enquiry as to the authority of the Security Trustee in doing any act or entering into any document or making any agreement under or in connection with this Agreement and the Board shall be entitled to assume that the Security Trustee is duly authorised by each of the Senior Funders to assume the obligations expressed to be assumed by it under this Agreement and to undertake on behalf of each Senior Funder in the terms of this Agreement so as to bind each Senior Funder as if it were a party hereto.
- 2.7 The rights of the Security Trustee under this Agreement shall be extinguished upon the Final Payment Date.

### 3. NO TERMINATION WITHOUT NOTICE

- 3.1 Subject only to paragraph 3.2, the Board may serve notice terminating the Project Agreement at any time if it is entitled to do so under the terms of the Project Agreement.
- 3.2 The Board shall not terminate or serve notice terminating the Project Agreement in respect of a Project Co Event of Default without giving to the Intercreditor Agent:
- 3.2.1 at least the Required Period of prior written notice (a "**Termination Notice**") stating:
- (a) that a Project Co Event of Default has occurred and the proposed Termination Date; and
- (b) the grounds for termination in reasonable detail, and
- 3.2.2 not later than the date falling twenty (20) Business Days after the date of a Termination Notice a notice containing details of any amount owed by Project Co to the Board, and any other liabilities or obligations of Project Co of which the Board is aware (having made proper enquiry) which are:
- (a) accrued and outstanding at the time of the Termination Notice; and/or
- (b) which will fall due on or prior to the end of the Required Period, under the Project Agreement.
- 3.3 On becoming aware of an Enforcement Event the Security Trustee shall give notice thereof to the Board stating that an Enforcement Event has occurred and giving reasonable details thereof (an "**Enforcement Event Notice**") whereupon, subject to payment by the Intercreditor Agent of the Board's reasonable costs and expenses in respect thereof (being such costs and expenses as would not have been incurred in respect of the provision of such information had an Enforcement Event Notice not been served) the provisions of paragraph 3.2.2 shall apply as if references therein to a Termination Notice were to an Enforcement Event Notice.

### 4. NO LIQUID MARKET

- 4.1 At any time during the Required Period the Security Trustee may issue a written notice (the "**No Liquid Market Notice**") to the Board setting out the reasons why the Security Trustee does not believe that a Liquid Market exists.
- 4.2 On or before the date falling fourteen (14) Business Days after the date on which a No Liquid Market Notice is received by the Board, the Board shall notify the Security Trustee of its opinion as to whether or not a Liquid Market exists. Where the Board believes that a Liquid Market does exist, such notice shall set out the reasons for the Board's belief. If the parties do not agree whether or not a Liquid Market exists, then either party may refer the dispute to be determined in accordance with paragraph 17 (*Disputes*) below.
- 4.3 If the parties agree or it is determined in accordance with Clause 56 (*Dispute Resolution Procedure*) of the Project Agreement that no Liquid Market exists, the Project Agreement shall automatically terminate and the provisions of paragraph 4 (*No Retendering Procedure*) of Section 2 (*Compensation for Project Co Default*) of Schedule Part 17 (*Compensation on Termination*) to the Project Agreement (*No Retendering*) shall apply.
- 4.4 If any dispute relating to this paragraph 4 (*No Liquid Market*) is determined pursuant to paragraph 17, the Required Period shall be extended by the period of time spent determining such dispute pursuant to paragraph 17.

## 5. REPRESENTATIVE

- 5.1 Subject to paragraph 5.2 and without prejudice to the Intercreditor Agent's rights under the Security Documents, the Security Trustee may give the Board a Step-In Notice at any time:
- 5.1.1 during which a Project Co Event of Default or an Enforcement Event is subsisting (whether or not a Termination Notice has been served); or
- 5.1.2 during the Required Period.
- 5.2 The Security Trustee shall give the Board not less than 5 Business Days prior notice of:
- 5.2.1 its intention to issue a Step-In Notice; and
- 5.2.2 the identity of the proposed Appointed Representative.
- 5.3 On the issue of the Step-In Notice, the Appointed Representative shall assume jointly with Project Co the rights of Project Co under the Board Project Documents and thereafter, until the end of the Step-In Period the Board shall deal with the Appointed Representative and not Project Co.

## 6. STEP-IN PERIOD

- 6.1 Notwithstanding paragraph 3 (*No Termination Without Notice*) above, the Board may terminate the Project Agreement if:
- 6.1.1 any amount referred to in paragraph 3.2.2(a) above has not been paid to the Board on or before the Step-In Date; or
  - 6.1.2 any amount referred to in paragraph 3.2.2(b) above has not been paid on or before the last day of the Required Period;
  - 6.1.3 amounts, of which the Board was not aware (having made proper enquiry) at the time of the Termination Notice, subsequently become payable and are not discharged on or before the date falling twenty (20) Business Days after the date on which the liability of Project Co for these amounts is notified to the Security Trustee or if later the Step-In Date; or
  - 6.1.4 grounds arise after the Step-In Date in accordance with the terms of the Project Agreement provided that Deductions and/or Warning Notices that arose pursuant to Schedule Part 14 (*Payment Mechanism*) to the Project Agreement prior to the Step-In Date shall not be taken into account during the Step-In Period but such Deductions and/or Warning Notices (to the extent applicable under the terms of the Project Agreement) shall be taken into account after the Step-Out Date.
- 6.2 The Board shall not terminate the Project Agreement during the Step-In Period on grounds:
- 6.2.1 that the Security Trustee has served a Step-In Notice or enforced any Security Document; or
  - 6.2.2 arising prior to the Step-In Date of which the Board was aware (having made proper enquiry) and whether or not continuing at the Step-In Date unless:
    - (a) the grounds arose prior to the Actual Completion Date, and the Actual Completion Date does not occur on or before the date twelve (12) months after the date on which the Board would have been entitled to terminate the Project Agreement for non-completion of the Works under Clause 40.1.2 (*Long stop*) of the Project Agreement; or
    - (b) the grounds arose after the Actual Completion Date, and neither the Appointed Representative nor Project Co is using all reasonable endeavours (including implementation of any remedial programme) to remedy any breach of the Project Agreement which:
      - (i) arose prior to the Step-In Date; and

(ii) is continuing (and capable of remedy); and

(iii) would have entitled the Board to terminate the Project Agreement; or

(c) the grounds (whenever they first arose) did not give rise to any right to terminate until after the Step-In Notice; or

6.2.3 arising solely in relation to Project Co

## 7. STEP-OUT

7.1 The Appointed Representative may at any time during the Step-In Period deliver to the Board a Step-Out Notice which shall specify the Step-Out Date.

7.2 On expiry of the Step-In Period:

7.2.1 the Appointed Representative will be released from all of its obligations and liabilities to the Board under the Board Project Documents arising prior to the end of the Step-In Period and rights of the Appointed Representative against the Board will be cancelled; and

7.2.2 the Board shall no longer deal with the Appointed Representative and shall deal with Project Co in connection with the Board Project Documents.

7.3 Project Co shall continue to be bound by the terms of the Project Agreement, notwithstanding the occurrence of a Step-In Notice, a Step-In Period, a Step-Out Notice, Step-Out Date, any action by the Security Trustee or Appointed Representative or the Senior Funders and/or any provision of this Agreement.

## 8. NOVATION

8.1 Subject to paragraph 8.2, at any time:

8.1.1 after an Enforcement Event has occurred; or

8.1.2 during the Step-In Period,

the Security Trustee may, subject to paragraph 8.2, on not less than twenty (20) Business Days' prior notice to the Board and any Appointed Representative, procure the transfer of Project Co's rights and liabilities under the Board Project Documents to a Suitable Substitute Contractor in accordance with the provisions of paragraph 8.4.

8.2 The Board shall notify the Security Trustee as to whether any person to whom the

Security Trustee proposes to transfer Project Co's rights and liabilities under the Board Project Documents to a Suitable Substitute Contractor, on or before the date falling twenty (20) Business Days after the date of receipt from the Security Trustee of all information reasonably required by the Board to decide whether the proposed transferee is a Suitable Substitute Contractor.

- 8.3 The Board shall not unreasonably withhold or delay its decision on whether the proposed transferee is a Suitable Substitute Contractor and it shall, without limitation, be reasonable for the Board to withhold its consent if there are unremedied breaches under the Board Project Documents and there is no rectification plan reasonably acceptable to the Board in respect of the breaches.
- 8.4 Upon the transfer referred to in paragraph 8.1 becoming effective:
- 8.4.1 Project Co and the Board will be released from their obligations under the Board Project Documents to each other (the "discharged obligations");
  - 8.4.2 the Suitable Substitute Contractor and the Board will assume obligations towards each other which differ from the discharged obligations only insofar as they are owed to or assumed by the Suitable Substitute Contractor instead of Project Co;
  - 8.4.3 the rights of Project Co against the Board under the Board Project Documents and vice versa (the "**discharged rights**") will be cancelled;
  - 8.4.4 the Suitable Substitute Contractor and the Board will acquire rights against each other which differ from the discharged rights only insofar as they are exercisable by or against the Suitable Substitute Contractor instead of Project Co;
  - 8.4.5 any then subsisting ground for termination of the Project Agreement by the Board shall be deemed to have no effect and any subsisting Termination Notice shall be automatically revoked;
  - 8.4.6 the Board shall enter into a direct agreement with the Suitable Substitute Contractor and a representative of Senior Funders lending to the Suitable Substitute Contractor on substantially the same terms as this Agreement; and
  - 8.4.7 any Deductions and/or Warning Notices that arose pursuant to Schedule Part 14 (*Payment Mechanism*) prior to that time shall, without prejudice to the rights of the Board to make financial deductions, not be taken into account in determining whether a Project Co Event of Default has occurred.

## 9. MISCELLANEOUS

- 9.1 The Board shall at Project Co's expense, take whatever action the Intercreditor Agent, an Appointed Representative or a Suitable Substitute Contractor taking a

transfer in accordance with paragraph 8.1 may require for perfecting any transfer or release under paragraph 5 (*Representative*) above, paragraph 7 (*Step-Out*) above and paragraph 8 (*Novation*) above including the execution of any transfer or assignment, and the giving of any notice, order or direction and the making of any registration which, in each case, the Security Trustee or Appointed Representative or Suitable Substitute Contractor reasonably requires.

- 9.2 The Board shall not take any action to wind up, appoint an administrator or sanction a voluntary arrangement (or similar) in relation to Project Co.
- 9.3 This Agreement shall remain in effect until the earlier of:
- 9.3.1 the Final Payment Date;
  - 9.3.2 the date of termination of the Project Agreement; or
  - 9.3.3 the date of transfer of Project Co's rights and liabilities under the Board Project Documents to a Suitable Substitute Contractor pursuant to paragraph 9.1 above.
- 9.4 The Intercreditor Agent, in respect of paragraphs 9.4.1, 9.4.2 and 9.4.3, and Project Co, in respect of paragraph 9.4.4 shall promptly notify the Board of:
- 9.4.1 any Enforcement Event and any action taken in connection with such Enforcement Event, any decisions to accelerate the maturity of any amounts owing by Project Co to the Senior Funders under the Senior Funding Agreements and/or any decisions to demand repayment;
  - 9.4.2 the date referred to in paragraph 9.3.1 above on or before the date falling twenty (20) Business Days after its occurrence:
  - 9.4.3 the details and amount of any proposed Additional Permitted Borrowing including:
    - (a) the circumstances giving rise to it and reasons for it; and
    - (b) the terms on which it will be borrowed;
  - 9.4.4 on the first Business Day of each calendar month during which any Additional Permitted Borrowing is, or may be, subsisting, the amount outstanding under the Senior Funding Agreements (as the same may be amended (whether or not with the approval of the Board))and, to the extent it is aware (having made reasonable and proper enquiry);
    - (a) the amount of any Distribution made by Project Co; and
    - (b) the amount of any credit balance on any account of Project Co.

- 9.5 Project Co joins in this Agreement to acknowledge and consent to the arrangements set out and agrees not knowingly to do or omit to do anything that may prevent any party from enforcing its rights under this Agreement.
- 9.6 For the avoidance of doubt, if there is any conflict or inconsistency between the provisions of this Agreement and the Project Agreement, the provisions of this Agreement shall prevail.
- 9.7 Notwithstanding any provision in the Collateral Agreements to the contrary, the Board agrees that, subject to paragraphs 9.8 and 9.9, it will not, in respect of any particular Collateral Agreement, exercise or seek to exercise any of its step-in rights or other rights (other than design, intellectual property or similar rights) under such Collateral Agreement until the earliest of:
- 9.7.1 the Senior Debt Discharge Date; or
- 9.7.2 the date on which the Security Trustee has given its written consent to such exercise; or
- 9.7.3 the time when in respect of any such Collateral Agreement either:
- (a) the Senior Funders have failed to exercise any corresponding right to such Collateral Agreement under their own Security Documents and the time for exercising such right has ended in accordance with the terms thereof; or
- (b) the Security Trustee has confirmed in writing to the Board (following any request from the Board for such confirmation, to which the Security Trustee shall be obliged to respond promptly) that it does not intend to exercise any of its rights under the relevant Security Document or that it has no further claim thereunder; or
- (c) the Senior Funders have stepped in to or otherwise directly or indirectly taken control over the rights of Project Co under the relevant Sub-Contract (in accordance with their rights under their Security Documents) and then stepped out from, or otherwise relinquished control of such rights under or in connection with such Sub-Contract; or
- 9.7.4 the date falling three (3) months after the date on which the Project Agreement has been terminated in accordance with its terms and the terms of this Agreement.
- 9.8 In addition to its rights under paragraph 9.7, where the Project Agreement has not been terminated but a counterparty has a right to terminate its Sub-Contract for breach by Project Co of the terms of such Sub-Contract the Board may pay directly, or undertake to make a payment directly to the counterparty concerned, amounts due pursuant to the Sub-Contract and may set off any such sums against any payments payable by the Board to Project Co under the Project Agreement so as to satisfy them pro tanto, provided always that the Board shall not exercise its rights under this paragraph 9.8 in respect of any particular Sub-Contract in



circumstances where the Senior Funders have stepped in to or otherwise directly or indirectly taken control over the relevant Sub-Contract and have not stepped out of it or otherwise relinquished such control.

- 9.9 In addition to its rights under paragraph 9.7, where the Project Agreement has been terminated, the Board shall from the Termination Date be able to exercise any of its step-in rights or other rights under or in respect of any of the Collateral Agreements; however notwithstanding the terms of the Collateral Agreements or any other provisions of this paragraph 9.9, each of the relevant Sub-Contractors (and any guarantors thereof as relevant) shall remain responsible, and be liable, to Project Co in respect relevant Accrued Rights in relation to which the Security Trustee acting on behalf of Project Co and the Senior Funders shall retain the benefit of all and any rights to all and any Accrued Rights.
- 9.10 Except in accordance with the provisions of paragraphs 9.7 to 9.9(inclusive) the Board shall not, prior to the Senior Debt Discharge Date:
- 9.10.1 claim, recover, retain or receive (or seek to claim, recover, retain or receive) any amount under the Collateral Agreements;
- 9.10.2 take any action to wind-up, appoint an administrator, seek an interim order appointee (under paragraph 3(b) of the Insolvency Act 1986 (as amended)) or sanction a voluntary arrangement (or similar) in relation to any Sub-Contractors; or
- 9.10.3 save with the prior written consent of the Intercreditor Agent, compete on grounds (whether in whole or in part) relating to the Project (by virtue of a claim under any of the Collateral Agreements, the Project Agreement or any other Project Document or otherwise) with the rights of the Senior Funders on any formal insolvency of any Sub-Contractor or Project Co, nor claim to be subrogated to the rights of any Senior Funders.
- 9.11 The Board agrees and undertakes that if it receives any amount in contravention of the provisions of paragraph 9.10 above it will promptly turn the same over to the Security Trustee and pending such payment hold the same on trust for the Security Trustee and the Senior Funders.
- 9.12 Notwithstanding the terms of the Project Agreement and Security Documents, the Security Trustee agrees that the Board may exercise its rights to have transferred to it or its nominee any Unrestricted Assets following the Termination Date and the Security Trustee will not exercise or seek to exercise any enforcement rights and shall on or before the date any Unrestricted Assets are transferred to the Board or its nominee, as the case may be, release its security over them.
- 9.13 Notwithstanding the terms of any Senior Funding Agreements, the parties agree and shall, to the extent it is within their power, direct that all insurance proceeds receivable or received by Project Co under the insurances referred to in Clause 53 (*Insurance*) of the Project Agreement shall be paid directly into the Insurance Proceeds Account and applied in accordance with the Project Agreement.

**10. ASSIGNATION**

- 10.1 No party to this Agreement may assign or transfer any part of its rights or obligations under this Agreement save as provided in this paragraph 10 (*Assignment*).
- 10.2 The Security Trustee may assign, novate or transfer its rights and obligations under this Agreement and in respect of the Security Documents to a successor Security Trustee in accordance with the Senior Funding Agreements without the consent of the Board and any such assignment novation or transfer shall not constitute a Change of Control for the purposes of Clause 58.6 of the Project Agreement. The Board also agrees that any enforcement by the Security Trustee of the security referred to in paragraph 2.5 above (and any subsequent transfer of share capital in Project Co) following an Enforcement Event shall not constitute a Project Co Event of Default under Clause 40.1.6 (*Change in Control*) of the Project Agreement.
- 10.3 Any Senior Funder may assign or transfer its rights under the Senior Funding Agreements in accordance with the terms of the Senior Funding Agreements.
- 10.4 The Board may transfer its rights and obligations under this Agreement to any permitted assignee of its interest in the Project Agreement and the Security Trustee and the Senior Funders shall co-operate with the Board in completing the formalities of any transfer or assignment including by executing any additional documents as may be required by the Board.
- 10.5 If paragraph 10.2 applies in relation to the Intercreditor Agent, the Board shall enter into a new direct Agreement with the new Intercreditor Agent on substantially the same terms as this Agreement.

**11. ENTIRE AGREEMENT**

Unless otherwise stated in this Agreement, this Agreement and the Board Project Documents constitutes the entire agreement between the parties in connection with its subject matter and supersedes all prior representations, communications, negotiations and understandings concerning the subject matter of this Agreement. No party has relied on any representation except as expressly set out in this Agreement.

**12. WAIVER**

- 12.1 The failure of any party to exercise any contractual right or remedy shall not constitute a waiver thereof until communication in writing under paragraph 12.2.
- 12.2 No waiver shall be effective unless it is communicated in writing to the other party.
- 12.3 A waiver of any right or remedy arising from a breach of contract shall not constitute a waiver of any right or remedy arising from any other breach of this Agreement.

**13. SEVERABILITY**

If any term, condition or provision contained in this Agreement shall be held to be invalid, unlawful or unenforceable to any extent, such term, condition or provision shall not affect the validity, legality or enforceability of the remaining parts of this Agreement.

**14. CONFIDENTIALITY**

The Security Trustee shall be bound to comply with the obligations on the part of Project Co contained in Clause 61 (*Confidentiality*) of the Project Agreement in relation to all information and matters obtained from any other party under or in connection with the Project.

**15. NOTICES CONSENTS AND APPROVALS**

15.1 Any notice served under or in connection with this Agreement is to be in writing and shall be deemed to have been served:-

15.1.1 if delivered at the time of delivery; or

15.1.2 if posted at noon (Greenwich mean time) one Business Day after posting; or

15.1.3 if set by fax at the time shown in the relevant transmission report for the complete fax.

provided that a notice or other communication received on a non-Business Day or after 5p.m. in the place of receipt shall be deemed to be received at 9a.m. on the next following Business Day in such place.

15.2 Any notice to be given to the Board should be marked for the attention of The Chief Executive and delivered to Lothian Health Board, Waverley Gate, 2-4 Waterloo Place, Edinburgh, EH1 3EG or such other party or address or fax number as notified in writing to the Security Trustee by the Board.

15.3 Any notice to be given to the Security Trustee should be marked for the attention of Prudential Trustee Company Limited and delivered to Laurence Pountney Hill London EC4R 0HH or faxed to:

Attention: Corporate Trust Manager,

or such other party address or fax number as notified in writing to the Board by the Intercreditor Agent.

15.4 Any consent or approval under this Agreement is required to be obtained before the act or event to which it applies is carried out or done and is to be treated as effective only if the consent or approval is given in writing.

**16. SURVIVORSHIP**

Notwithstanding the provisions of paragraph 9.3.2 and paragraphs 9.7 to 9.13 (inclusive) (*Miscellaneous*) shall survive termination of this Agreement.

**17. DISPUTES**

17.1 All disputes shall be resolved in accordance with terms equivalent (mutatis mutandis) to the Dispute Resolution Procedure set out in the Project Agreement.

17.2 Project Co, the Board and the Security Trustee shall co-operate to facilitate the proper, just, economical and expeditious resolution of any and all such disputes which arise under this Agreement.

**18. GOVERNING LAW**

18.1 Subject to paragraph 17 (*Disputes*) above, this Agreement is governed by the laws of Scotland.

18.2 The parties agree that the courts of Scotland shall have exclusive jurisdiction to hear and settle any action, suit, proceeding or dispute in connection with this Agreement and irrevocably submit to the jurisdiction of those courts.

**IN WITNESS WHEREOF** these presents typewritten on this and the preceding [ ] pages are executed by the parties hereto as follows:

**SIGNED for and on behalf of  
LOTHIAN HEALTH BOARD**

at

on the                    day  
of                        2015

by

.....  
Authorised Signatory

..... Full Name

Before this witness

.....Witness

..... Full Name

..... Address

.....

Signed by  
**PRUDENTIAL TRUSTEE  
COMPANY LIMITED**

at  
on

acting by its duly

authorised Sealing Officer

.....  
**Sealing Officer**

before this witness

.....

.....

**Witness**

Address

.....

.....

**SIGNED** for and on behalf of  
the said **IHS LOTHIAN LIMITED**  
acting under a power of attorney

at

on

by

.....

.....

Print Full Name

Attorney

and

.....

.....

Print Full Name

Attorney

## SCHEDULE PART 5

### LAND MATTERS

#### SECTION 1 – TITLE CONDITIONS

1. Little France Steading has the benefit of the following rights:
  - 1.1 a servitude right to lay and thereafter maintain a pipe connecting Little France Steading to the main sewer running through the Campus Site to the northwest of Little France Steading, subject to causing as little inconvenience as possible during pipe laying operations and making good any damage caused to the surface of the said subjects occasioned by the laying of the pipe or the maintenance thereof;
  - 1.2 a right to enter that part of the Campus Site lying to the northeast of Little France Steading in so far as this may be necessary for the repair, maintenance or renewal of the buildings erected on these subjects.
2. 217 Old Dalkeith Road has the benefit of a heritable and irredeemable servitude right of access and egress for vehicular and pedestrian traffic in all time coming over that part of the access road shown on Plan 9 as is required to give access to 217 Old Dalkeith Road.

3. Not Used

4. Not Used.

#### 5. **Use of the Campus Site by Project Co**

Project Co and any Project Co Parties shall not be permitted to use any part of the Campus Site (including, without prejudice to the foregoing generality, the car parks, shops, restaurants, toilets, concourses and corridors forming the Campus Site except (a) as otherwise provided for in this Agreement, or (b) with the express permission of the Board, or (c) with regard to the accident and emergency department within the RIE Facilities, in the case of a medical emergency).

6. Not Used.

#### 7 **Petrol Station Site**

During the Construction Phase, the Petrol Station Site is subject to the following burdens:

- 7.1 Project Co shall not use or permit the Petrol Station Site or any part thereof to be used for any of the following purposes:
  - 7.1.1 residential accommodation or development, which includes any form of accommodation that is designed as and/or converted into accommodation in which people sleep or reside whether or not on a permanent basis or as a principal residence;
  - 7.1.2 hotel, hostel, guest house or bed and breakfast accommodation;
  - 7.1.3 campsite or caravan site;
  - 7.1.4 nursing home or similar geriatric facility or healthcare facility for children, disabled or injured persons in which persons sleep or reside;
  - 7.1.5 place of worship;

- 7.1.6 nursery, school or a playground;
  - 7.1.7 growing any produce for the purpose of human consumption or consumption by any living thing, or any other agricultural use;
  - 7.1.8 processing food;
  - 7.1.9 the construction or installation of:-
    - (a) any water wells for drinking or food processing, or
    - (b) basement living space or any underground living space;
  - 7.1.10 the construction or installation of
    - (a) underground storage space (including vehicle parking spaces),
    - (b) underground utility space, and
    - (c) additional underground utility conduits.
- 7.2 Project Co shall:
- 7.2.1 not construct, install or make use of any basement or other sub-ground level accommodation or facility in or under any part of the Petrol Station Site other than for (1) foundations, (2) Services (which for the purposes of this paragraph 7 of Section 1 of Schedule Part 5 (*Land Matters*) shall mean pipes, cables, conduits and utility spaces where those items are vapour tight, and shall not wells or boreholes for the abstraction of water) and (3) temporary boreholes for testing of soil and ground water and (4) use of underground storage tanks in relation to the permitted use;
  - 7.2.2 not remove, alter or compromise the integrity of any Membrane and Fill Works (which for the purposes of this paragraph 7 of Schedule Part 5 (*Land Matters*) shall mean. the laying of an appropriate membrane that prevents exposure of users of the relevant part of the Petrol Station Site to contaminants that may be present overlaid by a protective layer of uncontaminated fill of appropriate depth) undertaken on the Petrol Station Site other than in compliance with paragraph 7.2.4;
  - 7.2.3 install during the course of any development upon the Petrol Station Site such other building design, controls and safeguards (including protective of human health and the Environment) as an appropriately experienced environmental engineer appointed by Project Co recommends or may be required by relevant Regulatory Authorities;
  - 7.2.4 as part of any permitted works upon the Petrol Station Site, undertake Membrane and Fill Works protective of human health in accordance with a design specification and method statement approved by an appropriately experienced environmental engineer and that to the satisfaction of any relevant Regulatory Authorities (which, for *the purposes of this paragraph 7 of Schedule 1 of Schedule Part 5 (Land Matters)*, Regulatory Authority means any competent authority having powers and duties in relation to the enforcement of any law rule regulation or obligation existing adopted made commenced introduced or otherwise brought into force prior to or after this transfer concerning the protection of human health the Environment or any Relevant Substances and for the avoidance of doubt the expression 'Regulatory Authority' shall not include any court of law, and "Regulatory Authorities" shall be construed accordingly);
  - 7.2.5 install a Vapour Barrier (which for the purposes of this paragraph 7 of Section 1 of Schedule Part 5 (*Land Matters*) shall mean a membrane that prevents the migration of vapours from the underlying soil to the interior of each building upon the Petrol Station Site) protective of human health during the course of construction of each building from time to time constructed upon the Petrol Station Site in accordance with a design specification and method statement approved by an appropriately

experienced environmental engineer appointed by Project Co and that to the satisfaction of all relevant Regulatory Authorities;

- 7.2.6 not remove, alter or compromise the integrity of any Vapour Barrier installed pursuant to paragraph 7.2.5 above unless as part of demolition of the relevant building or the relevant part of such building;
- 7.2.7 not open up create or use any borehole or water abstraction point upon the Petrol Station Site and upon discovery of any well or borehole upon the Petrol Station Site providing an actual or potential supply of water without unreasonable delay to permanently decommission and plug the same in accordance with a design specification and method statement of an appropriately experienced environmental engineer appointed by Project Co and to the satisfaction of all relevant Regulatory Authorities;
- 7.2.8 install Engineering Controls (which, for the purpose of this paragraph 7 of Section 1 of Schedule Part 5 (*Land Matters*) means such controls as are required to effectively prevent the migration of vapours and or liquids containing Relevant Substances into any buildings underground utilities or storm water retention/detention ponds upon the Burdened Land including (without limitation) slab or at grade construction vapour installations systems, vapour barriers, sealed sumps and storm pond liners) protective of human health during the course of construction of each building from time to time constructed upon the Petrol Station Site in accordance with a design specification and method statement approved by an appropriately experienced environmental engineer appointed by Project Co and to the satisfaction of all relevant Regulatory Authorities;
- 7.2.9 not remove alter or compromise the integrity of any Engineering Controls installed at the Petrol Station Site unless as part of demolition of the relevant building or the relevant part of such building; and
- 7.2.10 install during the course of any development upon the Petrol Station Site such building design, controls and safeguards (including protective of human health and the environment) as an appropriately experienced environmental engineer appointed by the Project Co recommends or may be required by relevant Regulatory Authorities.

## **SECTION 2 – RESERVED RIGHTS**

1. To each Campus Party the full free and uninterrupted passage and running of water, sewage, drainage or oil, gas, electricity, telephone (and other telecommunications) and other services through the Campus Site by or through the pipes, channels, drains, sewers, conduits, water courses, wires, cables and other conducting media which currently or at any time in the future may be located within the Campus Site.
2. To each Campus Party or any party on behalf of any of them, the right to connect into and maintain, repair, renew and replace existing pipes, channels, drains, sewers, conduits, water courses, wires, cables and other conducting media through, under and over the Retained Site for the passage of services referred to in paragraph 1.
3. To each Campus Party or any party on behalf of any of them, the right to maintain, repair and renew and replace existing pipes, channels, drains, sewers, conduits, water courses, wires, cables and other conducting media through, under and over the Site for the passage of services referred to in paragraph 1 above subject to the following conditions:
  - 3.1 this right is exercisable on reasonable prior notice being given (except in an emergency) to Project Co;
  - 3.2 the right shall be exercised in such a manner as shall cause the minimum practicable disruption to the use and occupation of the Site;
  - 3.3 the Board shall procure that any physical damage to the Site and any buildings,



structures and others erected thereon and any plant, machinery and equipment resulting from the exercise of the rights is made good.

4. To each Campus Party or any party on behalf of any of them, a right of access over the Site where necessary in connection with the carrying out of works of maintenance, repair and renewal and replacement to the Retained Site and/or Retained Estate subject to the following conditions:
  - 4.1 this right is exercisable on reasonable prior notice being given (except in an emergency) to Project Co;
  - 4.2 the right shall be exercised in such a manner as shall cause the minimum practicable disruption to the use and occupation of the Site;
  - 4.3 the Board shall procure that any physical damage to the Site and any buildings, structures and others erected thereon and any plant, machinery and equipment resulting from the exercise of the rights is made good.
  
5. To the Board and/or any Board Party and/or Consort and/or any Consort Party or any party on behalf of them, a right of overhang in respect of the canopy forming part of the RIE Facilities at the A&E entrance and a right to retain pillars supporting the said canopy, for so long as they subsist (in their existing form or as replaced or renewed from time to time) to the extent that such pillars or canopy are within the remainder of the RIE Facilities together with all rights of access over the Site where necessary for the purposes of carrying out any works of maintenance, repair, renewal or replacement of the canopy and pillars, provided that the rights in this paragraph 5 shall cease to be enforceable following the permanent dismantling and removal of the canopy and pillars subject to the following conditions:
  - 5.1 this right is exercisable on reasonable prior notice being given (except in an emergency) to Project Co;
  - 5.2 the right shall be exercised in such a manner as shall cause the minimum practicable disruption to the use and occupation of the Site;
  - 5.3 the Board shall procure that any physical damage to the Site and any buildings, structures and others erected thereon and any plant, machinery and equipment resulting from the exercise of the rights is made good.
  
6. Not Used.
  
7. Not Used.
  
8. To the Board and/or any Board Party or any party acting on their behalf all necessary rights required for the maintenance and cleansing of the Niddrie Burn.
  
9. To the Board and/or any Board Party and/or Consort and/or any Consort Party, an exclusive right of occupation over the RIE Site, subject to the Reserved Rights and the Ancillary Rights.
  
10. To the Board and/or any Board Party and/or the University and/or any University Party, an exclusive right of occupation over the University Site.
  
11. To each Campus Party or any party on behalf of any of them a right to inspect, maintain, repair, renew and/or replace any service media, buildings, structures and others erected thereon and any plant, machinery and equipment located within or adjacent to any part or parts of the Access Areas which are occupied and/or hoarded off by Project Co or a Project Co Party pursuant to Section 5 (*Access Areas and Drainage*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and if any such party requires to access such areas to inspect, maintain, repair, renew and/or replace as aforesaid then the following provisions shall apply:
  - 11.1 except in the case of an emergency, the Board shall give Project Co reasonable prior notice of the requirement to enter such areas;

- 11.2 Project Co shall provide the Board and/or any Board Party, and/or Consort and/or any Consort Party and/or the University and/or any University Party and/or any party authorised by them with the level of access required to implement their obligations and/or exercise their rights in regard to such service media, buildings, structures and others erected thereon and any plant, machinery and equipment;
- 11.3 the Board shall use reasonable endeavours to procure that Consort and the University shall in exercising the rights pursuant to this paragraph 11 cause as little inconvenience as is reasonably practicable to Project Co; and
- 11.4 the Board shall use reasonable endeavours to procure that Consort and the University in exercising the rights pursuant to this paragraph 11 shall comply with Project Co's reasonable site rules and requirements which are applied in accordance with Good Industry Practice.
12. To each Campus Party, or any party on behalf of any of them, a right to inspect, maintain, repair, renew and/or replace service media buildings, structures and others erected thereon and any plant, machinery and equipment, located within any parts of Car Park E which are occupied by Project Co or a Project Co Party and/or are hoarded off pursuant to Section 3 (*Site Compound/Car Park E*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) (and provided always that Project Co shall not locate any site accommodation at a location which could impede such a party in accessing service media) and if any such party requires to access such areas to inspect, maintain, repair, renew and/or replace aforesaid then the following provisions shall apply:
- 12.1 except in the case of an emergency where no prior notice is required, the Board shall give Project Co reasonable prior notice of the requirement to enter Car Park E and/or the relevant part;
- 12.2 Project Co shall provide the Board and/or any Board Party and/or Consort and/or any Consort Party, and the University and/or University Party and/or any party authorised by them with the level of access required to exercise their rights and/or implement their obligations in regard to such service media buildings, structures and others and any plant, machinery and equipment and without prejudice to the foregoing generality shall ensure that the areas under which the such service media, buildings, structures and others and any plant, machinery and equipment are located are not obstructed; and
- 12.3 the Board shall use reasonable endeavours to procure that Consort and/or the University shall in exercising the rights pursuant to this paragraph 12 cause as little inconvenience as is reasonably practicable to Project Co.
- 12.4 the Board shall use reasonable endeavours to procure that Consort and the University in exercising the rights pursuant to this paragraph 12 shall comply with Project Co's reasonable site rules and requirements which are applied in accordance with Good Industry Practice.
13. To the extent that the gas pipe serving the RIE Site and/or RIE Facilities is located within the Site Project Co shall comply with the conditions and restrictions in paragraph 6.1.2 of Sub-Section C of the Board's Construction Requirements and there shall be reserved to the Board and/or any Board Party and/or Consort and/or any Consort Party and/or any party on behalf of any of them, rights of access to the Site to the extent required to maintain, repair, replace and renew the gas pipe and all necessary rights to maintain, repair, replace and renew the gas pipe.
14. To the extent that the Sewer serving the RIE Site and/or RIE Facilities and other neighbouring properties on and off the Campus Site part of which is located within the Site as shown in Plan 11 which forms part of the Disclosed Data, Project Co shall comply with the conditions and restrictions in paragraph 6.1.1 of Sub-Section C of the Board's Construction Requirements and there shall be reserved to the Board and/or any Board Party and/or Consort and/or any Consort Party and/or any party on behalf of any of them, rights of access to the Site to the extent required to maintain, repair, replace and renew the Sewer and all necessary

rights to maintain, repair, replace and renew the Sewer.

15. To each Campus Party and/or any party on behalf of any of them and other restrictions, reservations and others contained in Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and in each of the Interface Proposals.
16. To the Board or Exxon Mobil Corporation (a company incorporated in the State of New Jersey in the United States of America and its predecessor and successor companies) a right to re-enter the Petrol Station Site to carry out any works, operations or steps for the purpose of preventing, mitigating or remedying Contamination to the Petrol Station Site that are required by any Regulatory Authority, but then only if Project Co has failed to carry out such required remediation work.
17. There are reserved in favour of the local or public authorities and statutory undertakers, utilities companies or organisations and the like all necessary rights of access for the installation, repair, maintenance, cleaning and renewal of all electric and telegraphic cables, water, gas and drainage pipes, sewers, soil, waste and water supply pipes and all other cables, pipes and transmitters and other services serving the Site or running through the Site provided that such rights may be exercised by any local or public authority or statutory undertaker or utility company or organisation without any liability on the part of the Board.

### **SECTION 3 – ANCILLARY RIGHTS**

The following Ancillary Rights are granted to the extent required for the purpose of implementing the Works, performing the Services and fulfilling Project Co's rights and obligations under this Agreement:

#### **1. Occupancy**

A non exclusive right to enter and remain on the Site;

#### **2. Construction Access over the Yellow Area and/or Petrol Station Site**

Project Co shall have the right to:

- 2.1 form the Construction Access;
- 2.2 hoard off the Construction Access from the remainder of the Yellow Area and/or Petrol Station Site;
- 2.3 use the Construction Access during the Construction Phase for access to and/or egress from the Site at all times for all kinds of construction traffic and pedestrians; and
- 2.4 carry out the Petrol Station Works at the Petrol Station Site,

subject to Project Co complying with and carrying out such works and hoarding off in accordance with the provisions of paragraph 1 of Section 1 (*Construction Access*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and the Construction Access Proposal.

#### **3 Construction Access over the Orange Area**

Project Co shall have the right to take:

- 3.1 construction access to and egress from the Site for the carrying out and completion of the Works over the Orange Area; and
- 3.2 access to and egress from Car Park E over the Orange Area,

subject to Project Co complying with and carrying out the Works over the Orange Area in accordance with the provisions of paragraph 2 of Section 1 (*Construction Access*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of Schedule Part 31 (*Consort Interface*

with Campus Site and/or Campus Facilities) and the TMS.

#### 4. Access Areas

Project Co shall have the right during the Construction Phase as part of the Works to:

- 4.1 enter upon and occupy on an exclusive basis and where necessary hoard off from the remainder of the RIE Site any part or parts of the Access Areas in connection with the exercise of the rights granted in terms of the Access Strategy;
- 4.2 carry out works to form pedestrian and vehicular accesses to and from the Site onto the Orange Area;
- 4.3 reconfigure the roads, footpaths and landscaped areas within the Hatched Orange Area;
- 4.4 install the Surface Water Drainage Works from the Site to the existing surface water drain within the Orange Area; and
- 4.5 carry out the Cycle Path Works in the Yellow Area and the Service Strip;

subject to Project Co complying with the conditions in Section 5 (*Access Areas and Drainage*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and the Access Strategy, and in relation to the matters in the foregoing paragraph 4.4 the Initial Drainage Proposal and the Supplemental Drainage Proposal and where applicable the Amended Supplemental Drainage Proposal and/or Access Strategy agreed or determined pursuant to Section 2 (*Access Areas and Amended Supplemental Drainage Proposals*) of Part 2 (*Interface Proposals Procedure*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*).

#### 5. Not Used.

#### 6. Service Strip and Foul Service Strip

Project Co shall have the right to construct and lay and thereafter maintain, repair and renew service media through, under and over (1) the Service Strip for the passage of water, sewage, drainage or oil, gas, electricity, telephone (and other telecommunications), and (2) the Foul Service Strip for the passage of foul drainage, in each case as necessary in connection with the Works but subject to Project Co complying with the conditions in Section 6 (*Service Strip and Foul Service Strip*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and the Service Proposal and/or where applicable any Amended Service Proposal agreed or determined pursuant to Section 3 (*Amended Service Proposal*) of Part 2 (*Interface Proposals Procedure*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*).

#### 7. Link Building

Following the construction of the Link Building to the RIE Facilities within the Connection Area, Project Co shall be entitled to:

- 7.1 install a Joint between the Facilities to the Link Building;
- 7.2 install interface links between the Fire Alarm System within the Facilities with those within the RIE Facilities;
- 7.3 install the PTS in relation to the Facilities; and
- 7.4 install the ICT in relation to the Facilities,

subject to Project Co complying with the conditions in Section 7 (*Link Building*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and the Connection Proposal.

**8. Site Compound/Car Park E**

During the Construction Phase Project Co shall be entitled to occupy Car Park E and where necessary hoard off and segregate Car Park E or the relevant part thereof being occupied from the remainder of the Campus Site subject to Project Co complying with the conditions in Section 3 (*Site Compound/Car Park E*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and the Interface Proposals.

**9. Oversail**

Project Co shall be permitted to oversail parts of the Retained Site with the jib and/or counterweight of any crane subject to Project Co complying with the requirements in Section 4 (*Oversail*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and the Oversail Strategy and/or where applicable any Additional Oversail Strategy agreed or determined pursuant to Section 1 (*Oversail*) of Part 2 (*Interface Proposals Procedure*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*).

**9A. Petrol Station Site**

Project Co shall be entitled to take access to the Petrol Station Site from the Yellow Area and to occupy and use the Petrol Station Site only for the purpose of temporary modular office.

**9B. Manhole**

During the Construction Phase, Project Co shall be entitled to construct, install, lay, commission, maintain, repair, renew and replace a water main/sewer pipe connection and any ancillary apparatus through the area shown as a continuous red line running between and connecting at the points marked MHF3 and MHF7 (indicated by a dotted red circle) and MHFX on Plan 12.

**10. Operational Access**

10.1 During the Operational Term Project Co shall have the following rights of access to and egress from the Site:

10.1.1 (until adoption by the relevant authority for use as a public road) for pedestrians and vehicles (excluding heavy construction traffic) over and across the roads and footpaths shown coloured blue, coloured yellow and coloured pink and also hatched black (excluding the section of road coloured pink but unhatched) on Plan 6;

10.1.2 for pedestrians and vehicles (excluding heavy construction traffic) over and across the roads and footpaths shown coloured pink (excluding the section of road coloured pink and hatched black) on Plan 6 until such time as the Board notify Project Co in writing that access over this area shall no longer be permitted;

10.1.3 a right of access over the Service Strip where necessary in connection with the carrying out of works or maintenance, repair and renewal to the Site. This right is subject to the following conditions:

(a) the right shall only be exercisable on reasonable prior notice (except in case of emergency) being given to the Board (who shall liaise with Consort);

(b) the right shall be exercised in such a manner as shall cause the minimum practicable disruption to the use and occupation of the Service Strip;

(c) Project Co shall make good any physical damage to the Service Strip and any buildings, structures and others erected thereon and any plant, machinery and equipment resulting from the use of this right.

10.2 During the Operational Term Project Co shall have a right of access over the RIE Site where

necessary to maintain, repair and renew to the Facilities subject to Project Co complying with the conditions in paragraph 1 of Section 2 (*Operational Construction Issues*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and the Interface Proposals.

- 10.3 During the Operational Term Project Co shall have a right of access to the Service Strip and the Foul Service Strip to repair, maintain and renew service media serving the Facilities located within the Service Strip or the Foul Service Strip subject to Project Co complying with the terms of Section 6 (*Service Strip and Foul Service Strip*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and the Service Proposal, and where applicable any Amended Service Proposal agreed or determined pursuant to Section 3 (*Amended Service Proposal*) of Part 2 (*Interface Proposals Procedure*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*).
- 10.4 During the Operational Term, Project Co shall have a right of access to the RIE Facilities to:
- 10.4.1 maintain, repair and renew interface links between the Fire Alarm System within the Facilities and those within the RIE Facilities;
- 10.4.2 maintain, repair and renew the PTS in relation to the Facilities;
- 10.4.3 maintain, repair and renew the ICT in relation to the Facilities,
- 10.4.4 maintain, repair and renew the Joint,
- subject to Project Co complying with Section 7 (*Link Building*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and the Connection Proposal.
- 10.5 During the Operational Term, Project Co shall be entitled to construct, lay, commission, maintain, repair, renew and replace a water main/sewer pipe connection and any ancillary apparatus through the area shown as a continuous red line running between and connecting at the points marked MHF3 and MHF7 (indicated by a dotted red circle) and MHFX on Plan 12 (*Manhole*) in Schedule Part 27 (*Plans*).
11. Wherever in this Schedule Part 5 (*Land Matters*) Project Co has an obligation to perform or comply with any matter, Project Co shall procure that Project Co Parties shall perform or comply with any such matter.

**SCHEDULE PART 6  
CONSTRUCTION MATTERS**

**SECTION 1**

**NOT USED**

## SECTION 2

## SAFETY DURING CONSTRUCTION

1 In this Section 2 (*Safety During Construction*) of Schedule Part 6 (*Construction Matters*) and wherever used elsewhere in this Agreement:

1.1 "**CDM Regulations**" means the Construction (Design and Management) Regulations 2007 (and "**CDM Regulation**" shall be construed accordingly); and

1.2 "the **client**", "**the CDM Co-ordinator**" and "the Executive" shall have the same meanings as are ascribed to them in the CDM Regulations.

2 In so far as not already done, within five (5) Business Days of the date of execution of this Agreement, Project Co shall make and serve on the Board a declaration pursuant to and in the form (if any) required by CDM Regulation 8 that Project Co will act as the client in relation to the Works for all the purposes of the CDM Regulations. Notwithstanding the election made by Project Co in relation to CDM Regulation 8, the Board will comply with its remaining obligations as set out in CDM Regulation 8. During the Project Term, Project Co shall not, and shall not seek to, withdraw, terminate or in any manner derogate from its declaration that it will act as, and its acceptance of its responsibilities as, the client in relation to the Works for all the purposes of the CDM Regulations. The Board will endorse its consent, in writing, to such election on the said election and return it to Project Co within five (5) Business Days of receipt.

3 Project Co warrants that it has the competence, resources and capacity to, and shall, observe, perform and discharge or shall procure the observance, performance and discharge of:

3.1 all the obligations, requirements and duties of the client arising under the CDM Regulations in connection with the Works and, where necessary, the provision of the Services; and

3.2 all obligations incumbent on the client under any Code of Practice for the time being approved by the Health and Safety Commission pursuant to the Health and Safety at Work etc Act 1974 issued in connection with the CDM Regulations.

4 Project Co shall provide to the Board's Representative:

4.1 in a substantially complete form on the Actual Completion Date; and

4.2 in final form within five (5) Business Days of the Actual Completion Date,

one electronic copy (on computer disk, tape or other format) of each and every health and safety file and construction phase plan prepared by the CDM Co-ordinator pursuant to the CDM Regulations in relation to the Works and the Services and electronic or paper copies of every amendment or update made to such file during the Project Term.



**SECTION 3**

**BOARD'S CONSTRUCTION REQUIREMENTS**

The Board's Construction Requirements are the Board's Construction Requirements as set out on the disc in the Agreed Form identified and executed as the Section 3 (*Board's Construction Requirements*) of Schedule 6 (*Construction Matters*) of this Agreement, referred to in and forming part of this Agreement.

**SECTION 4****PROJECT CO'S PROPOSALS**

Project Co's Proposals are Project Co's Proposals as set out on the disc in the Agreed Form identified and executed as disc 1 (*Project Co Proposals*), disc 2 (*HLM Operational Functionality and Financial Close Drawings*), disc 3 (*Robert Bird Group Financial Close Drawings*), disc 4 (*TUV SUD Ltd Financial Close Drawings*), disc 5 (*Mercury Financial Close Drawings*) and disc 6 (*Catering Design Services Financial Close Drawings*) of Section 4 (*Project Co's Proposals*) of Schedule Part 6 (*Construction Matters*) of this Agreement, referred to in and forming part of this Agreement.

**SECTION 5**

**REVIEWABLE DESIGN DATA**

The Reviewable Design Data is the Reviewable Design Data as set out on the disc in the Agreed Form identified and executed as the Section 5 (*Reviewable Design Data*) of Schedule Part 6 (*Construction Matters*) of this Agreement, referred to in and forming part of this Agreement.

**SECTION 6**

**ROOM DATA SHEETS**

The Room Data Sheets are the Room Data Sheets as set out on the disc in the Agreed Form identified and executed as Appendix 1 (*RDS Pack*) and Appendix 2 (*Environmental Matrix*) of Section 6 (*Room Data Sheets*) of Schedule Part 6 (*Construction Matters*) of this Agreement, referred to in and forming part of this Agreement.

**Appendix 1**

**RDS Pack**

The RDS Pack is the RDS Pack as set out on the disc in the Agreed Form identified and executed as Appendix 1 (*RDS Pack*) and Appendix 2 (*Environmental Matrix*) of Section 6 (*Room Data Sheets*) of Schedule Part 6 (*Construction Matters*) of this Agreement referred to in and forming part of this Agreement.

**Appendix 2**  
**Environmental Matrix**

The Environmental Matrix is the Environmental Matrix as set out on the disc in the Agreed Form identified and executed as Appendix 1 (*RDS Pack*) and Appendix 2 (*Environmental Matrix*) of Section 6 (*Room Data Sheet*) of Schedule Part 6 (*Construction Matters*) of this Agreement, referred to in and forming part of this Agreement.

## SECTION 7

### THERMAL AND ENERGY EFFICIENCY TESTING PROCEDURE

#### 1. INTRODUCTION

##### 1.1 Main Principles

This Section 7 (*Thermal and Energy Efficiency and Testing Procedure*) of Schedule Part 6 (*Construction Matters*), sets out the structure and main principles of the Thermal and Energy Efficiency Testing procedures to be carried out by Project Co at the Facilities in order to ascertain the As Built Facilities Energy Performance. In particular, this Section 7 (*Thermal and Energy Efficiency and Testing Procedure*) of Schedule Part 6 (*Construction Matters*), sets out the tests that shall be carried out during the Final Commissioning Period to ensure the completed Facilities comply with the agreed Energy Performance, or if improved, the Energy Performance stated in Section 4 (*Project Co's Proposals*) of Schedule Part 6 (*Construction Matters*).

#### 2. TESTING OF THE THERMAL AND ENERGY MODEL

Project Co shall provide an As Built Energy Model for the Facilities to ensure compliance with the agreed Energy Performance, or if improved, the Energy Performance stated in Section 4 (*Project Co's Proposals*) of Schedule Part 6 (*Construction Matters*).

##### 2.1 As Built Energy Model

- 2.1.1 Prior to the Commissioning End Date, Project Co shall submit an As Built Energy Model for the Board's review.
- 2.1.2 The information provided with the As Built Energy Model shall be in line with Good Industry Practice, and consistent with the level of information submitted in Section 4 (*Project Co's Proposals*) of Schedule Part 6 (*Construction Matters*) and consistent with the Section 3 (*Board's Construction Requirements*) of Schedule Part 6 (*Construction Matters*).
- 2.1.3 The As Built Energy Model shall be developed from Financial Close Energy Model. When updating to the As Built Energy Model, Project Co shall not amend any parameters of the Financial Close Energy Model other than where agreed in writing with the Board or where those parameters are affected by the information and commissioning tests detailed below.
- 2.1.4 Project Co shall include the following updates in the As Built Energy Model:
  - (a) As built building envelope and construction materials performance;
  - (b) As installed manufacturers' plant and components information, including all associated operating parameters such as co-efficient of performance;
  - (c) Results of building wide commissioning of completed installations including, but not limited to, all Heating, Ventilation and Cooling (HVAC) systems and lighting systems; and
  - (d) Results of commissioning period tests as detailed in paragraph 3 of this Section 7 (*Thermal and Energy Efficiency Testing Procedure*) of Schedule Part 6 (*Construction Matters*).
- 2.1.5 Project Co shall ensure the completed Facilities meet the Energy Performance or if improved, the Energy Performance stated in Section 4 (*Project Co's Proposals*) of Schedule Part 6 (*Construction Matters*) following input of all the above information.

- 2.1.6 Project Co shall clearly report input information and results of the As Built Energy Model for the Board's review and approval. Reporting shall highlight where input parameters have been altered from the Financial Close Energy Model, and the reason for the change i.e. following commissioning period testing.

### **3. COMMISSIONING PERIOD TESTS**

#### **3.1 Introduction**

3.1.1 Notwithstanding Project Co's obligation to undertake all commissioning requirements of Schedule Part 10 (*Outline Commissioning Programme*) and Appendix B (*Completion Criteria*), Project Co shall undertake the following commissioning period tests in an agreed test zone (or with respect to the Air tightness test for all zones in the Facilities), to be agreed by the Board and Project Co, both parties acting reasonably, to demonstrate the actual Energy Performance of the Facilities:

- (a) Air tightness test;
- (b) Internal lighting installation test;
- (c) Building fabric performance test; and
- (d) Seasonal heating, cooling and ventilation installation testing.

3.1.2 Project Co shall incorporate the results of the commissioning period tests as detailed in this paragraph 3 of this Section 7 (*Thermal and Energy Efficiency Testing Procedure*) of Schedule Part 6 (*Construction Matters*), in the As Built Energy Model.

3.1.3 Project Co shall interpolate all results from the commissioning period tests such that the confirmed performance of the Facilities/installations following the commissioning period tests is applied across the complete Facilities in the As Built Energy Model.

3.1.4 Project Co shall submit all commissioning period test results and interpolative calculations to the Board as part of their As Built Energy Model submission for the Board's review.

3.1.5 An indication of the methodology of the commissioning period tests are outlined below, however the final extent and scope of the tests to be undertaken shall be developed and agreed by the Board and Project Co, both parties acting reasonably.

#### **3.2 Air Tightness Test**

3.2.1 Project Co shall carry out an air tightness test for the Facilities as outlined and in compliance with the Scottish Technical Standards and as detailed in CIBSE Technical Memorandum TM23-2000.

3.2.2 This air leakage rate should demonstrate the construction quality of the Facilities and allow a direct correlation to the assumed value used in the As Built Energy Model, detailed in  $m^3/m^2/h@50P$ .

#### **3.3 Internal Lighting Installation**

3.3.1 The lighting installation serving the agreed area/zone shall be completed, commissioned and operational and manually enabled for an agreed fixed period of time.

3.3.2 All lighting controls tested shall be as those installed in the Facilities and shall include all automatic presence and photocell sensors, time controls and manual switching/dimming controls.

3.3.3 The operating usage and hours for the lighting installation within the test zone and period shall be as the operating profiles in the Financial Close Energy Model.



- 3.3.4 The lighting distribution board feeding the agreed area/zone shall be separately metered to provide the actual energy consumption for that area which shall confirm, or otherwise inform, the lighting energy consumption in the As Built Energy Model.
- 3.3.5 Project Co shall undertake light meter tests in the agreed area/zone to confirm, or otherwise inform, the lighting levels within the respective areas in the As Built Energy Model.

### **3.4 Building Fabric Performance**

- 3.4.1 The thermal performance of the Facilities building fabric shall be assessed by Project Co within the agreed area/zone.
- 3.4.2 Project Co shall undertake the necessary tests to confirm the thermal performance of window, external door, ground floor, roof and external wall areas, as agreed between Project Co and the Board, both parties acting reasonably, within the agreed test zone.
- 3.4.3 Project Co shall further undertake thermographic surveys, to the relevant British Standards, of the agreed test areas to prove the quality of the thermal performance of the Facilities.
- 3.4.4 The thermal performance assessment in the agreed test zone shall confirm the thermal performance figures used for the building constructions, and all assumptions on thermal bridging, assumed within the As Built Energy Model.

### **3.5 Seasonal Heating, Cooling and Ventilation Installation Testing**

- 3.5.1 Energy testing of the heating, cooling and ventilation system shall require seasonal testing of the completed, commissioned and operational main heating plant and any cooling and ventilation plant serving the agreed area/zone.
- 3.5.2 Project Co shall incorporate in their commissioning programme the ability to monitor the heating, and any cooling and ventilation, installations during extremes of ambient conditions, for example testing heating systems within the winter months, and testing cooling systems in the summer months complete with fully simulated heat gains, as agreed with the Board in the Financial Close Energy Model, both parties acting reasonably.
- 3.5.3 The main heating/cooling distribution pipework feeding the agreed test area/zone shall be separately metered (for the test area/zone) and the BMS/controls installation shall require to be manually adjusted to simulate an agreed operating period.
- 3.5.4 Ventilation systems shall be assessed at maximum power on maximum pressure drop across the system.
- 3.5.5 The power feeds serving the agreed area/zone heating, cooling and ventilation systems shall be further separately metered to provide the actual energy consumption for those services within that area.
- 3.5.6 The actual power consumption of the installations during the testing period will confirm, or otherwise inform, Project Co's assumed co-efficients of performance, specific fan powers and energy efficiency ratings for the heating, ventilation and cooling systems in the As Built Energy Model; this being based on power inputs, heat/air flow rates/cooling outputs and associated ambient conditions during the testing procedures.

**SECTION 8**

**QUALITY PLANS (DESIGN AND CONSTRUCTION)**

The Quality Plans (*Design and Construction*) are the Quality Plans (*Design and Construction*) as set out in Section 4.20 (*Quality Plan*) of Section 4 (*Project Co's Proposals*) of Schedule Part 6 (*Construction Matters*).

**SECTION 9**

**AGREED FORM BOARD'S QUALIFICATIONS/COMMENTS IN RESPECT OF OPERATIONAL  
FUNCTIONALITY REQUIREMENTS**



**SCHEDULE PART 7**

**THE PROGRAMME**

The Programme is the Programme as set out on the disc in the Agreed Form identified and executed as the Schedule Part 7 (*The Programme*) of this Agreement, referred to in and forming part of this Agreement.

## SCHEDULE PART 8

### REVIEW PROCEDURE

#### 1. REVIEW

1.1 The provisions of this Schedule Part 8 (*Review Procedure*) shall apply whenever any item, document or course of action is required to be reviewed, approved or otherwise processed in accordance with Schedule Part 8 (*Review Procedure*).

1.2 Subject to any express provision of this Agreement, the manner, form and timing of any submission to be made by Project Co to the Board's Representative for review under this Schedule Part 8 (*Review Procedure*) shall be a matter for Project Co to determine. Each submission under this Schedule Part 8 (*Review Procedure*) shall be accompanied by a copy of the proposed document to be reviewed (including, where applicable, any Reviewable Design Data) or a statement of the proposed course of action (the entire contents of a submission being referred to in this Schedule Part 8 (*Review Procedure*) as a "**Submitted Item**"). In relation to each Submitted Item, the following procedure shall apply:

1.2.1 as soon as possible and, if the Submitted Item comprises:

- (a) an item of Reviewable Design Data;
- (b) a revised Programme submitted pursuant to Clause 14 (*Programme and Dates for Completion*); or
- (c) a document or proposed course of action submitted in the case of (an emergency),

within fifteen (15) Business Days of the date of receipt of a submission (or re-submission, as the case may be) of the Submitted Item to the Board's Representative (or such other period as the parties may agree), the Board's Representative shall return one copy of the relevant Submitted Item to Project Co endorsed "no comment" or (subject to and in accordance with paragraph 3 (*Grounds for Objection*)) "comments" as appropriate; and

1.2.2 subject to paragraph 1.4, if the Board's Representative fails to return a copy of any Submitted Item (including any re-submitted Submitted Item) duly endorsed in accordance with paragraph 1.2.1, within fifteen (15) Business Days (or within such other period as the parties may agree in writing) of the date of its submission to the Board's Representative, then the Board's Representative shall be deemed to have returned the Submitted Item to Project Co endorsed "no comment" (and, in the case of Reviewable Design Data, endorsed "Level A - no comment"); and

1.2.3 in relation to the aspects of each Finish identified in the table below:

- (a) Project Co shall submit to the Board a range or selection of finishes ("**Range of Finishes**") no later than the relevant Finishes Proposal Date;
- (b) the Board's Representative shall by the relevant Finishes Selection Date notify Project Co of its selection for the relevant Finish; and
- (c) if no selection of a Finish has been made by the Board's Representative and notified to Project Co in accordance with paragraph 1.2.3(b) by the relevant Finish Selection Date, Project Co shall be entitled to make a selection from the Range of Finishes submitted in accordance with paragraph 1.2.3(a). After the relevant Finish Selection Date, should the Board wish to vary any selection previously made by Project Co or by the Board, such variation shall be

effected as a Change in accordance with Schedule Part 16 (*Change Protocol*).

Table of Finishes

Finishes	Aspects	Finishes Proposal Date	Finishes Selection Date
External envelope and finishes including roof, windows, horizontal glazing or equivalent, cladding screens, ventilation outlets and grilles comprising the external elevations and roofing all incorporated in minimum of full size three mock-ups	colour and materials and detailing	13/4/15, (or such earlier date as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
internal wall finishes	colour and specification	9/10/15 (finishes) (or such earlier date) as may be proposed by Project Co)  21/12/15 (wall paint) (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
ceiling finishes	colour and specification	28/10/15 (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
floor finishes	colour and specification	28/10/15 (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
doors and screens	colour and specification	11/9/15 (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
ironmongery (windows and doors)	style, colour and specification	13/4/15 (external) (or such earlier date) as may be proposed by Project Co)  11/9/15 (internal) (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
sanitary fittings	style and content	1/3/16 (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
reception counters and desks	colour, content, style and material	26/10/15 (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
nurses station	colour, content, style and material	26/10/15 (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date

main public light fittings	specification and style	1/12/15 (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
lifts – walls, ceilings and floors, external finishes and trims.	colour, content, style and material	1/6/15 (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
external signage	size, style, colour and location	16/6/16 (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
internal signage	size, style, colour and location	18/1/16 (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
light switches and sockets	style and colour	1/12/15 (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
light fittings	style and colour	1/12/15 (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
hard landscaping	colour and material	9/2/15 (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
soft landscaping	specification, material and colour	22/4/16 (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
boundary fencing and enclosures	size, style, colour and location	9/12/15 (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date
stairs, treads, balustrades and handrails	style and colour	17/11/15 (Internal) (or such earlier date) as may be proposed by Project Co); 4/5/15 (external) (or such earlier date) as may be proposed by Project Co)	15 Business Days after the Finishes Proposal Date

1.3 If the Board's Representative raises comments on any Submitted Item in accordance with paragraph 3 (*Grounds for Objection*) he shall state the ground upon which such comments are based and the evidence or other information necessary to substantiate that ground. To the extent that the Board's Representative comments on a Submitted Item other than on the basis set out in this Schedule Part 8 (*Review Procedure*), or fails to comply with the provisions of this paragraph, Project Co may, in its discretion, either:

1.3.1 request written clarification of the basis for such comments and, if clarification is not received within ten (10) Business Days of such request by Project Co, refer the matter for determination in accordance with Schedule Part 20 (*Dispute Resolution Procedure*); or



- 1.3.2 in the case of a Submitted Item comprising Reviewable Design Data only, at its own risk, and without prejudice to Clause 12 (*The Design, Construction and Commissioning Process*), proceed with further design or construction disregarding such comments pending the outcome of any reference to the Dispute Resolution Procedure that may be made by either party.
- 1.4 In the case of any Submitted Item of the type referred to in paragraph 3.10, a failure by the Board's Representative to endorse and return such Submitted Item within the period specified in paragraph 1.2.2 shall be deemed to constitute an objection by the Board's Representative to such Submitted Item. If the parties fail to agree the form and content of such Submitted Item, within ten (10) Business Days following the expiry of the period specified in paragraph 1.2.2, the matter shall be determined in accordance with Schedule Part 20 (*Dispute Resolution Procedure*).

## 2. FURTHER INFORMATION

Project Co shall submit any further or other information, data and documents that the Board's Representative reasonably requires in order to determine whether he has a basis for raising comments or making objections to any Submitted Item in accordance with this Schedule Part 8 (*Review Procedure*). If Project Co does not submit any such information, data and documents, the Board's Representative shall be entitled to:

- 2.1 comment on the Submitted Item on the basis of the information, data and documents which have been provided; or
- 2.2 object to the Submitted Item on the grounds that insufficient information, data and documents have been provided to enable the Board's Representative to determine whether he has a legitimate basis for commenting or objecting in accordance with this Schedule Part 8 (*Review Procedure*).

## 3. GROUNDS OF OBJECTION

The expression "raise comments" in this paragraph shall be construed to mean "raise comments or make objections" unless the contrary appears from the context. The Board's Representative may raise comments in relation to any Submitted Item on the grounds set out in paragraph 2 (*Further Information*) above or on the ground that the Submitted Item would (on the balance of probabilities) breach any Law but otherwise may raise comments in relation to a Submitted Item only as follows:

- 3.1 in relation to any Submitted Item if:
- 3.1.1 Project Co's ability to perform its obligations under this Agreement would (on the balance of probabilities) be adversely affected by the implementation of the Submitted Item; or
- 3.1.2 the implementation of the Submitted Item would (on the balance of probabilities) adversely affect any right of the Board under this Agreement or its ability to enforce any such right;
- 3.1.3 any aspect of a Submitted Item does not comply with or is not in accordance with or breaches Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and/or the Interface Proposals;
- 3.2 in relation to any Submitted Item submitted pursuant to Clause 4.1 (*Ancillary Documents*) if:
- 3.2.1 the Board's ability to perform its obligations under this Agreement would be adversely affected by the proposed course of action;
- 3.2.2 the Board's ability to provide the relevant Board Services or to carry out any

- of its statutory functions would (on the balance of probabilities) be adversely affected by the proposed course of action;
- 3.2.3 the proposed course of action would be likely to result in an increase to the Board's liabilities or potential or contingent liabilities under this Agreement;
- 3.2.4 the proposed course of action would adversely affect any right of the Board under this Agreement or its ability to enforce any such right; or
- 3.2.5 Project Co's ability to perform its obligations under this Agreement would be materially adversely affected by the proposed course of action;
- 3.3 in relation to Reviewable Design Data submitted pursuant to Clause 12.6:
- 3.3.1 which does not comprise 1:50 scale Room Layout Drawings the Board's Representative may raise comments, subject to and in accordance with paragraph 4 (*Effect of Review*) on the ground that the Submitted Item is not in accordance with:
- (a) the Board's Construction Requirements; and/or
- (b) Project Co's Proposals;
- 3.3.2 which comprises a 1:50 scale Room Layout Drawing in respect of which there is a corresponding generic 1:50 scale Room Layout Drawing for the relevant room type (which has previously been reviewed and commented upon by the Board's Representative in accordance with this Schedule Part 8 (*Review Procedure*)), the Board's Representative may raise comments, subject to and in accordance with paragraph 4 (*Effect of Review*), on the ground that the Submitted Item does not conform to the generic 1:50 scale Room Layout Drawing; and
- 3.3.3 which comprises a 1:50 scale Room Layout Drawing in respect of which there is no corresponding generic 1:50 scale Room Layout Drawing for the relevant room type (which has previously been reviewed and commented upon by the Board's Representative in accordance with this Schedule Part 8 (*Review Procedure*)), the Board's Representative may raise comments, subject to and in accordance with paragraph 4 (*Effect of Review*), on the grounds that the Submitted Item:
- (a) is not in accordance with the Board's Construction Requirements and/or Project Co's Proposals; or
- (b) is inconsistent with the guidance contained in any current NHS Requirement which is applicable to a room of that function provided that such guidance has not been superseded by and is not inconsistent with any other provisions of the Board's Construction Requirements (including any existing Approved RDD Item);
- 3.3.4 on the grounds that the Interface Proposals (other than those set out in Part 2 (*Interface Proposals Procedure*) of Schedule Part 31 (*Consort interfere with Campus Site and/or Campus Facilities*), and/or Reviewable Design Data as set out in Part 5 of Section 5 (*Reviewable Design Data*) is not in accordance with or breaches Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and/or the relevant Interface Proposals;
- 3.4 in relation to a proposal to amend Project Co's Proposals and rectify (part of) the Works submitted pursuant to Clause 12.8 (*Rectification of Project Co's Proposals*), on the grounds that, following the amendment and rectification proposed:
- 3.4.1 Project Co's Proposals would not satisfy the Board's Construction Requirements; and/or

- 3.4.2 the structural, mechanical and/or electrical performance of the Facilities and/or the Retained Estate Handback Infrastructure would not be of an equivalent standard of performance to that set out in Project Co's Proposals prior to their amendment or rectification (for the purpose of this comparison disregarding the fault which required the amendment or rectification to be made);
- 3.5 in relation to Finishes:
- 3.5.1 which have the effect of making a selection from the Range of Finishes (or any alternative range or selection of Finishes submitted by Project Co to the Board's Representative) pursuant to Clause 12.6.1 (*Board Design Approval*); or
- 3.5.2 where the Submitted Item does not comply with the relevant provisions of the Board's Construction Requirements and/or Project Co's Proposals;
- 3.6 in relation to the submission of any revised Programme pursuant to Clause 14 (*Programme and Dates for Completion*) on the ground that the revised Programme would not (on the balance of probabilities) enable the Works to be completed by the Completion Date and/or reflect any timescales set out in the Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and/or the Interface Proposals;
- 3.7 in relation to the submission of any Quality Plan or part of a Quality Plan or any changes to any Quality Plan pursuant to Clause 20.4 (*Quality Plans and Systems*) or Clause 20.7 (*Quality Plans and Systems*) or any quality manual or procedure in accordance with Clause 20.9 (*Quality Manuals and Procedures*), on the grounds that such Quality Plans, or parts of or changes to such Quality Plans, quality manuals or procedures, or the quality management systems which they reflect, would not comply with:
- 3.7.1 in the case of the Design Quality Plan and the Construction Quality Plan referred to in Clause 20.8 (*Quality Plans and Systems*), the requirements referred to in Section 8 (*Quality Plans (Design and Construction)*) of Schedule Part 6 (*Construction Matters*); and
- 3.7.2 in the case of the Services Quality Plan referred to in Clause 20 (*Quality Assurance*), the requirements referred to in Section 3 (*Services Quality Plan*) of Schedule Part 12 (*Service Requirements*);
- 3.8 in relation to the submission of any proposed revision or substitution for the Method Statements and/or Interface Proposals (other than those set out in Part 2 (*Interface Proposals Procedure*) of Schedule Part 31 (*Consort interfere with Campus Site and/or Campus Facilities*) or any part of any Method Statement (as the case may be) pursuant to Clause 22.4 (*Project Co Service Changes*), on the grounds that:
- 3.8.1 the proposed revision or substitution is not in accordance with Good Industry Practice;
- 3.8.2 the performance of the Services in accordance with the proposed revision or substitution would (on the balance of probabilities):
- (a) be materially different from the performance of the Services in accordance with the Method Statement prior to such proposed revision or substitution; or
  - (b) be less likely to achieve compliance with the Service Level Specification and/or the relevant Interface Proposals; or
  - (c) have an adverse effect on the provision by the Board of the relevant Board Services at, or on the safety of any users of, the Facilities; or

- 3.8.3 the proposed revision or substitution would (on the balance of probabilities) result in an inferior standard of performance of the Services to the standard of performance in accordance with the Method Statement prior to such proposed revision or substitution; and
- 3.8.4 the Method Statement and/or Interface Proposals (other than those set out in Part 2 (*Interface Proposals Procedure*) of Schedule Part 31 (*Consort interfere with Campus Site and/or Campus Facilities*) are not in accordance with or breach Schedules Part 31 (*Consort interfere with Campus Site and/or Campus Facilities*)
- 3.9 in relation to the submission of any Schedule of Programmed Maintenance pursuant to Clause 23.1 (*Programmed Maintenance Works*), the submission of any Schedule of Lifecycle Replacement pursuant to Clause 23A (*Lifecycle Replacement*), any revision to any Schedule of Programmed Maintenance pursuant to Clause 23.4 (*Programmed Maintenance Works*) or any submission of Unprogrammed Maintenance Works pursuant to Clause 23.8 (*Programmed and Unprogrammed Maintenance*), on the grounds that:
- 3.9.1 carrying out the Programmed Maintenance, Lifecycle Replacement or the Unprogrammed Maintenance Works in the period or at the times suggested would (on the balance of probabilities) interfere with the operations of the Board and/or any Board Party and such interference could be avoided or mitigated by Project Co rescheduling the Programmed Maintenance, Lifecycle Replacement or the Unprogrammed Maintenance Works; or
- 3.9.2 in relation to the Schedule of Programmed Maintenance or Schedule of Lifecycle Replacement, the proposed hours for carrying out the Programmed Maintenance or Schedule of Lifecycle Replacement are not consistent with the principles set out in Appendix 2, Table B to this Schedule Part 8 (*Review Procedure*); or
- 3.9.3 the proposed method of performance of the Programmed Maintenance, Lifecycle Replacement or the Unprogrammed Maintenance Works would not be in accordance with the Service Level Specification and/or the relevant Interface Proposals and/or Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and/or the restrictions and/or requirements of Clause 9 (*Nature of Land Interests*) including without limitation Schedule Part 5 (*Land Matters*); or
- 3.9.4 the safety of users of the Facilities and/or RIE Facilities would (on the balance of probabilities) be adversely affected; or
- 3.9.5 the period for carrying out the Programmed Maintenance, Lifecycle Replacement or the Unprogrammed Maintenance Works would (on the balance of probabilities) exceed the period reasonably required for the relevant works.
- 3.10 in relation to the submission of Project Co's proposals for the Handback Works, the Handback Programme and the Handback Amount pursuant to Schedule Part 18 (*Handback Procedure*), on the grounds that:
- 3.10.1 in the case of the Handback Works, Project Co's proposals will not (on the balance of probabilities) ensure that the Handback Requirements are achieved by the Expiry Date;
- 3.10.2 in the case of the Handback Programme, performance of the Handback Works in accordance with the programme is not (on the balance of probabilities) capable of achieving satisfaction of the Handback Requirements by the Expiry Date; and
- 3.10.3 in the case of the Handback Amount, it does not represent the cost of

carrying out the Handback Works according to the Handback Programme and the provisions of Schedule Part 18 (*Handback Procedure*);

- 3.11 in relation to the submission of any Schedule of Lifecycle Replacement on the grounds that, Project Co's Proposals do not address the issues set out in Clause 23A.3 and/or Clause 23A.4 (*Lifecycle Replacement*) or the Board's Representative wishes to make additional comments on the issues set out in Clauses 23A.3, 23A.4 and/or 23A.5 (*Lifecycle Replacement*).

#### 4. EFFECT OF REVIEW

- 4.1 Any Submitted Item which is returned or deemed to have been returned by the Board's Representative endorsed "no comment" (and in the case of Reviewable Design Data, endorsed "Level A - no comment") shall be complied with or implemented (as the case may be) by Project Co.
- 4.2 In the case of any Submitted Item other than Reviewable Design Data, if the Board's Representative returns the Submitted Item to Project Co endorsed "comments", Project Co shall comply with such Submitted Item after amendment in accordance with the comments unless Project Co disputes that any such comment is on grounds permitted by this Agreement, in which case Project Co or the Board's Representative may refer the matter for determination in accordance with Schedule Part 20 (*Dispute Resolution Procedure*) and Project Co shall not act on the Submitted Item until such matter is so determined or otherwise agreed.
- 4.3 In the case of a Submitted Item comprising Reviewable Design Data, if the Board's Representative returns the Submitted Item endorsed other than "Level A - no comment", Project Co shall:
- 4.3.1 where the Board's Representative has endorsed the Submitted Item "Level B - proceed subject to amendment as noted", either proceed to construct or proceed to the next level of design of the part of the Works to which the Submitted Item relates but take into account any amendments required by the Board's Representative in his comments;
- 4.3.2 where the Board's Representative has endorsed the Submitted Item "Level C - subject to amendment as noted" not act upon the Submitted Item, amend the Submitted Item in accordance with the Board's Representative's comments and re-submit the same to the Board's Representative in accordance with paragraph 4.4; and
- 4.3.3 where the Board's Representative has endorsed the Submitted Item "Level D - rejected" not act upon the Submitted Item, amend the Submitted Item and re-submit the Submitted Item to the Board's Representative in accordance with paragraph 4.4,

unless Project Co disputes that any such comment or proposed amendment is on grounds permitted by this Agreement, in which case Project Co or the Board's Representative may refer the matter for determination in accordance with Schedule Part 20 (*Dispute Resolution Procedure*) and Project Co shall not act on the Submitted Item until such matter is so determined or otherwise agreed except at its own risk in accordance with paragraph 1.3.2.

- 4.4 Within ten (10) Business Days of receiving the comments of the Board's Representative on any Submitted Item comprising Reviewable Design Data, Project Co shall (except in the case contemplated in paragraph 4.3.1) send a copy of the Submitted Item as amended to the Board's Representative pursuant to paragraph 4.3 and the provisions of paragraphs 1.2.1, 4.1 and 4.3 shall apply (changed according to context) to such re-submission.
- 4.5 The return or deemed return of any Submitted Item endorsed "no comment" (or in the case of Reviewable Design Data endorsed "Level A - no comment" or otherwise endorsed in accordance with paragraphs 4.3.1 or 4.3.2) shall mean that the relevant

Submitted Item may be used or implemented for the purposes for which it is intended but, save to the extent expressly stated in this Agreement including, without limitation, as specified in Appendix 1 Table A to this Schedule Part 8 (*Review Procedure*), such return or deemed return of any Submitted Item shall not otherwise relieve Project Co of its obligations under this Agreement nor is it an acknowledgement by the Board that Project Co has complied with such obligations.

- 4.6 Clause 23A.6 (*Lifecycle Replacement*) shall apply in respect of any comments made by the Board's Representative on the grounds set out in paragraphs 3.9 to 3.11 which Project Co shall not be bound to implement, notwithstanding any other provision in this Schedule Part 8 (*Review Procedure*).

## 5. DOCUMENTATION MANAGEMENT

- 5.1 Project Co shall issue two (2) copies of all Submitted Items to the Board and compile and maintain a register of the date and contents of the submission of all Submitted Items.
- 5.2 Project Co shall compile and maintain a register of the date of receipt and content of all Submitted Items that are returned or deemed to be returned by the Board's Representative.
- 5.3 Save to the extent set out in Appendix 1, Table A to this Schedule Part 8 (*Review Procedure*) or elsewhere in this Schedule Part 8 (*Review Procedure*), no review, comment or approval by the Board shall operate to exclude or limit Project Co's obligations or liabilities under this Agreement (or the Board's rights under this Agreement).

## 6. CHANGES

- 6.1 No approval or comment or any failure to give or make an approval or comment under this Schedule Part 8 shall constitute a Change save to the extent provided in this Schedule Part 8 (*Review Procedure*).
- 6.2 If, having received comments from the Board's Representative, Project Co considers that compliance with those comments would amount to a Change, Project Co shall, before complying with the comments, notify the Board of the same and, if it is agreed by the parties or determined pursuant to Schedule Part 20 (*Dispute Resolution Procedure*) that a Change would arise if the comments were complied with, the Board may, if it wishes, implement the Change and it shall be dealt with in accordance with Schedule Part 16 (*Change Protocol*). Any failure by Project Co to notify the Board that it considers compliance with any comments of the Board's Representative would amount to a Change shall constitute an irrevocable acceptance by Project Co that any compliance with the Board's comments shall be without cost to the Board and without any extension of time.
- 6.3 No alteration or modification to the design, quality and quantity of the Works arising from the development of detailed design or from the co-ordination of the design shall be construed or regarded as a Change.

## APPENDIX 1

TABLE A

Approved (by category)	RDD	Item	Scale	Meaning of "Level A - no comment" and "Level B - proceed subject to amendment as noted" endorsement of Reviewable Design Data under Schedule Part 8 ( <i>Review Procedure</i> ) (including both the actual and deemed endorsement).
Room Data Sheets			n/a	A "Level A - no comment" endorsement or a "Level B - proceed subject to amendment as noted" endorsement of any room data sheet means that Project Co may proceed to construct in accordance with the Submitted Item and that the Board is satisfied that the design and other information in the relevant room data sheet satisfies Operational Functionality.
Drawings –  Development Control  Plan			1:1250	A "Level A - no comment" endorsement or a "Level B - proceed subject to amendment as noted" endorsement of any 1:1250 scale development control plan means that Project Co may proceed to construct in accordance with the Submitted Item and that the Board is satisfied that the design and other information contained in the relevant drawing satisfies Operational Functionality.
Drawings –  Site Plan			1:500	A "Level A - no comment" endorsement or a "Level B - proceed subject to amendment as noted" endorsement of any 1:500 scale site plan means that Project Co may proceed to construct in accordance with the Submitted Item and that the Board is satisfied that the design and other information contained in the relevant drawing satisfies Operational Functionality.
Drawings –  Floor Plans			1:200	A "Level A - no comment" endorsement or a "Level B - proceed subject to amendment as noted" endorsement of any 1:200 scale floor plan means that Project Co may proceed to construct in accordance with the Submitted Item and that the Board is satisfied that the design and other information contained in the relevant drawing satisfies the Operational Functionality.
Drawings –  Room Layouts (including room elevations) &  Reflected ceiling plans			1:50	A "Level A - no comment" endorsement or a "Level B - proceed subject to amendment as noted" endorsement of any 1:50 scale room layout and/or reflected ceiling drawing means that Project Co may proceed to construct in accordance with the Submitted Item and that the Board is satisfied (to the extent of the design and other information contained in the relevant drawing) that the design and other information in the relevant drawing satisfies Operational Functionality.

Drawings –  Departmental plans	1:50	A "Level A - no comment" endorsement or a "Level B – proceed subject to amendment as noted" endorsement of any 1:50 scale departmental plan means that Project Co may proceed to construct in accordance with the Submitted Item and that the Board is satisfied (to the extent of the design and other information contained in the relevant drawing) that the design and other information in the relevant drawing satisfies Operational Functionality.



## APPENDIX 2

## HOURS FOR PROGRAMMED MAINTENANCE

- 1 Subject to paragraphs 3 to 5 below, Project Co shall carry out Programmed Maintenance and Lifecycle Replacement at the Facilities during the hours of 0800 to 1700 from Monday to Friday ("**Hours for Programmed Maintenance**").
- 2 Project Co may, with the consent of the Board (which consent shall not be unreasonably withheld) carry out Maintenance Works outside the Hours for Programmed Maintenance and Lifecycle Replacement provided always that it shall take into account:
  - 2.1 the likely disturbance to the Board, Board Party and/or any Campus Party and users within the immediate area where the Maintenance Works and Lifecycle Replacement are to be undertaken;
  - 2.2 the likely disturbance to adjacent areas, the Board, Board Party and/or any Campus Party and users in those adjacent areas that may be affected by the Maintenance Works to be undertaken in the area(s) identified in (i) above; and
  - 2.3 compliance with the Law.
- 3 Subject to paragraph 4 and/or Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) and/or the Interface Proposals, Project Co shall have access to the Facilities during the hours of operation to the areas set out in and in accordance with Table B below ("**Hours of Operation**") to carry out Programmed Maintenance and Lifecycle Replacement.

TABLE B

Wards	0800 - 1800
Day Case Areas	1000 – 2000
Emergency Department	0800 - 1600
Theatres	1800 - 0700
Laboratories	0800 - 1600
ITU/High Dependency	0800 - 1800
Toilets	0000 - 0000
Corridors	0000 - 0000
VIP Rooms and Meeting Rooms	0000 - 0000
Family Hotel	0900 - 1700
Outpatient Departments	0000 - 0000
Office Accommodation	0000 - 0000
Reception/Entrances	0000 - 0000
Storage Areas	0000 – 0000

Classrooms	Outwith term time
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- 4 Where Project Co requires access to an area of the Facilities during the Hours of Operation, Project Co will consult with and obtain the consent of the Contract Manager concerning dates, times and periods during which Programmed Maintenance or Lifecycle Replacement is to be undertaken in those departments so as to minimise disruption to those departments.
- 5 The Board may request Project Co to carry out Programmed Maintenance or Lifecycle Replacement outside the Hours for Programmed Maintenance in the event that the carrying out of such Programmed Maintenance or Lifecycle Replacement during the Hours for Programmed Maintenance would adversely affect the use of the department or area.

**SCHEDULE PART 9**  
**COLLATERAL AGREEMENTS**

## SECTION 1

## CONTRACTOR'S COLLATERAL AGREEMENT

## COLLATERAL WARRANTY

## AMONG:

- (1) **LOTHIAN HEALTH BOARD**, a health board constituted in Scotland under the National Health Service (Constitution of Health Boards) (Scotland) Order 1974 (S.I. 1974/267) as amended by the National Health Service (Constitution of Health Boards) (Scotland) Amendment Order 2003 (S.S.I. 2003/217) pursuant to Section 2 of the National Health Service (Scotland) Act 1978 as amended by section 28 of the National Health Service and Community Care Act 1990 and having its principal address at Waverley Gate, 2-4 Waterloo Place, Edinburgh EH1 3EG (the "**Board**");
- (2) **BROOKFIELD MULTIPLEX CONSTRUCTION EUROPE LIMITED** (registered under number 03808946) whose registered office is at 99 Bishopsgate, Second Floor, London, EC2M 3XD, (the "**Contractor**");
- (3) **IHS LOTHIAN LIMITED** (registered number SC493676 whose registered office is at Burness Paull LLP, 50 Lothian Road, Festival Square, Edinburgh, EH3 9WJ) ("**Project Co**");
- (4) **PRUDENTIAL TRUSTEE COMPANY LIMITED** as agent and trustee for and on behalf of the Secured Creditors (the "**Security Trustee**"); and
- (5) **M&G INVESTMENT MANAGEMENT LIMITED** as agent for and on behalf of the European Investment Bank, The Prudential Assurance Company Limited, Prudential Retirement Income Limited, Hold Co and Top Co (the "**Intercreditor Agent**").

## WHEREAS:

- (A) The Board and Project Co have agreed the terms on which Project Co will design, develop and construct and provide certain services in connection with the reprovision of services from the Royal Hospital for Sick Children, Child and Adolescent Mental Health Service and the Department of Clinical Neurosciences in a single building adjoining the Royal Infirmary of Edinburgh at Little France (the "**Development**") at the Site and Off-Site (as such expressions are defined in the Project Agreement) and, accordingly, have entered into the Project Agreement an agreement ("**Project Agreement**") and the Project Documents (as defined in the **Project Agreement**).
- (B) Project Co has entered into the Senior Funding Agreements, (as defined in the Project Agreement) with the Funders.
- (C) The Contractor and Project Co have entered into an agreement (the "**Construction Contract**") of even date herewith relating to the provision of the Works (as defined in the Project Agreement) by the Contractor to enable Project Co to discharge its obligations to the Board regarding such Works under the Project Agreement and the Project Documents.
- (D) This Contractor's Collateral Agreement (the "**Agreement**") is the Contractor's Collateral Agreement contemplated by the Project Agreement.

**NOW IT IS HEREBY AGREED** as follows:

## 1 DEFINITIONS AND INTERPRETATION

### 1.1 Definitions

In this Agreement, the following terms shall, unless the context otherwise requires, have the following meanings:

"**Ancillary Documents**" has the meaning given in the Project

	Agreement;
<b>“Business Day”</b>	means a day other than a Saturday, Sunday or a bank holiday in Scotland;
<b>“Construction Contract”</b>	has the meaning given in the Project Agreement;
<b>“Event of Project Co Default”</b>	has the meaning given in the Construction Contract;
<b>“Funders”</b>	means the Senior Lenders and the Senior Subordinated Lenders, as such terms are defined respectively in the Common Terms Agreement;
<b>“Funders’ Contractor Direct Agreement”</b>	means the agreement of even date herewith between, amongst others, Project Co, the Contractor, the Security Trustee and the Intercreditor Agent;
<b>“Funders’ Direct Agreement”</b>	is the agreement of even date herewith between, amongst others, the Board, Project Co, the Security Trustee and the Intercreditor Agent;
<b>“Senior Funding Agreements”</b>	has the meaning given in the Project Agreement;
<b>“Novation Agreement”</b>	has the meaning given in Clause 4.5.3(b);
<b>“Novation Effective Date”</b>	means the date of performance of the obligations set out in Clause 4 ( <i>Novation</i> );
<b>“Parent Company Guarantee”</b>	has the meaning given in the Construction Contract;
<b>“Project Agreement”</b>	means the project agreement of even date herewith between (1) the Board and (2) Project Co;
<b>“Proposed Novation Date”</b>	has the meaning given in Clause 4.1 ( <i>Proposed Substitute</i> );
<b>“Proposed Novation Notice”</b>	has the meaning given in Clause 4.1 ( <i>Proposed Substitute</i> );
<b>“Proposed Step-in Date”</b>	has the meaning given in Clause 3.1 ( <i>Step-in Notice</i> );
<b>“Proposed Substitute”</b>	has the meaning given in Clause 4.1 ( <i>Proposed Substitute</i> );
<b>“Secured Creditors”</b>	means has the meaning given to it in the Intercreditor Agreement;
<b>“Security Documents”</b>	has the meaning given in the Funders’ Direct Agreement;

<b>“Step-in Date”</b>	means the date of issue of the Step-in Undertaking;
<b>“Step-in Notice”</b>	has the meaning given in Clause 3.1 ( <i>Step-in Notice</i> );
<b>“Step-in Period”</b>	means the period commencing on the Step-in Date and ending on the earliest of: <ul style="list-style-type: none"> <li>(a) the date of the first anniversary of the Step-in Date (but subject always to Clause 4.7 (<i>Extension of Step-in Period</i>));</li> <li>(b) the Step-out Date;</li> <li>(c) the Novation Effective Date; and(d) termination of the Construction Contract under Clause 3.3 (<i>Restriction of Right of Termination</i>);</li> </ul>
<b>“Step-in Undertaking”</b>	has the meaning given in Clause 3.2.4 ( <i>Notice of Obligation and Step-In Undertaking</i> );
<b>“Step-out Date”</b>	has the meaning given in Clause 3.4.1 ( <i>Proposed Substitute</i> );
<b>“Termination Notice”</b>	has the meaning given in Clause 2.3 ( <i>Termination Notice</i> ).

## 1.2 Interpretation

Save to the extent that the context or the express provisions of this Agreement otherwise require:

- 1.2.1 headings and sub-headings are for ease of reference only and shall not be taken into consideration in the interpretation or construction of this Agreement;
- 1.2.2 all references to Clauses are references to Clauses of this Agreement;
- 1.2.3 all references to agreements, documents or other instruments include (subject to all relevant approvals) a reference to that agreement, document or instrument as amended, supplemented, substituted, novated or assigned from time to time;
- 1.2.4 all references to any statute or statutory provision shall include references to any statute or statutory provision which amends, extends, consolidates or replaces the same or which has been amended, extended, consolidated or replaced by the same and shall include any orders, regulations, codes of practice, instruments or other subordinate legislation made under the relevant statute or statutory provision;
- 1.2.5 any reference to time of day shall be a reference to Edinburgh time;

- 1.2.6 the words "herein", "hereto" and "hereunder" refer to this Agreement as a whole and not to the particular Clause in which such word may be used;
- 1.2.7 words importing the singular include the plural and vice versa;
- 1.2.8 words importing a particular gender include all genders;
- 1.2.9 "person" includes any individual, partnership, firm, trust, body corporate, government, governmental body, authority, agency, unincorporated body of persons or association;
- 1.2.10 any reference to a public organisation shall be deemed to include a reference to any successor to such public organisation or any organisation or entity which has taken over the functions or responsibilities of such public organisation;
- 1.2.11 references to "Party" means a party to this Agreement and references to "Parties" shall be construed accordingly;
- 1.2.12 all monetary amounts are expressed in pounds sterling;
- 1.2.13 references to the word "includes" or "including" are to be construed without limitation;
- 1.1.14 the obligations of any Party under this Agreement are to be performed at that Party's own cost and expense;
- 1.1.15 terms used in this Agreement that are defined in the Project Agreement or the Ancillary Documents shall have the meanings given to them in the Project Agreement or the Ancillary Documents, as appropriate.

## **2 TERMINATION NOTICE AND BOARD TERMINATION**

### **2.1 Contractor's Warranties and Undertakings**

The Contractor warrants and undertakes to the Board that it has complied with and fulfilled and shall continue to comply with and fulfil its duties and obligations arising under or by virtue of the Construction Contract, provided that the Board shall only be entitled to make a claim against the Contractor under this Clause 2.1 (Contractor's Warranties and Undertakings) if the Project Agreement has terminated and shall not be entitled to do so during the Step-in Period or after the Construction Contract has been novated under Clause 4 (Novation).

### **2.2 Liability of Contractor**

Any liability arising from any claim for breach of the warranty under or pursuant to Clause 2.1 (*Contractor's Warranties and Undertakings*) shall be in addition to and without prejudice to any other present or future liability of the Contractor to the Board (including, without prejudice to the generality of the foregoing, any liability in negligence) and shall not be released, diminished or in any other way be affected by any independent enquiry into any relevant matter which may be made or carried out by or on behalf of the Board by any person nor by any action or omission of any

person whether or not such action or omission might give rise to an independent liability of such person to the Board provided always that the Contractor shall owe no greater duties or obligations to the Board under this Agreement than it owes or would have owed to Project Co under the Construction Contract. Without prejudice to Clause 12 (*Aggregate Liability*), the Contractor shall be entitled in any action or proceedings brought by the Board under this Agreement to rely on any limitation or exclusion of liability in the Construction Contract and to raise equivalent rights in defence of liability (but excluding retention, set-offs and counterclaims) as it would have against Project Co under the Construction Contract.

## 2.3 Termination Notice

2.3.1 The Contractor undertakes not to terminate the Construction Contract on account of an Event of Project Co Default without first giving the Board not less than twenty (20) Business Days' prior written notice specifying the grounds for that termination. Subject to Clause 2.3.2 below any such notice shall be a "**Termination Notice**".

2.3.2 Where the Contractor's right to terminate is subject to the terms of the Funders' Contractor Direct Agreement then the Contractor shall notify the Board of the same as soon as reasonably practicable upon becoming aware of the provisions of the Funders' Contractor Direct Agreement applying. Thereafter as soon as the Contractor becomes entitled to terminate the Construction Contract free from the constraints contained in the Funders' Contractor Direct Agreement, whether upon the expiry of the Step-in Period (as such term is defined in the Funders' Direct Agreement) or otherwise, then the Contractor undertakes to the Board not to terminate the Construction Contract on account of an Event of Project Co Default (whether occurring before or after the Contractor's right to terminate the Construction Contract was free from the constraints of the Funders' Contractor Direct Agreement) without first giving the Board not less than twenty (20) Business Days' prior notice specifying the grounds for that termination and noting that the Contractor's right of termination is not subject to the Funders' Contractor Direct Agreement. Any such notice, other than one given in circumstances where there is no default under the Construction Contract by Project Co or the Contractor, shall for the purposes of this Agreement also be a Termination Notice and the provisions of this Agreement shall apply accordingly.

2.3.3 Notwithstanding any provision of the Construction Contract to the contrary, and subject to the exercise by the Board of its rights under paragraph 3 (*Step-in and Step-out*) of this Agreement, the parties agree that following termination of the Project Agreement, the Construction Contract shall come to an end.

2.3.4 The Board acknowledges that it shall not be entitled to exercise its rights under Clauses 3 (*Step-in and Step-out*) and 4 (*Novation*):

- (a) where the event giving rise to termination of the Project Agreement is a Contractor Event of Default (as that term is defined in the Construction Contract) whether or not at the relevant time there has been notice to terminate the Construction Contract for such Contractor Event of Default.

## 3. STEP-IN AND STEP-OUT

### 3.1 Step-in Notice



- 3.1.1 If the Board has terminated the Project Agreement in accordance with the terms of the Project Agreement or if the Board has received a Termination Notice, then subject to the provisions of this Agreement, the Board may give written notice to the Contractor (copied to the Security Trustee and Intercreditor Agent) (a "**Step-in Notice**") of the intention of the Board to issue a Step-in Undertaking on a specified date (the "**Proposed Step-in Date**") provided that such Proposed Step-in Date shall be:
- (a) no later than five (5) Business Days after termination of the Project Agreement where this has been terminated by the Board; and
  - (b) no earlier than the date falling five (5) Business Days prior to the date of expiry of the Termination Notice and no later than the date of expiry of the Termination Notice where a Termination Notice has been given by the Contractor.
- 3.1.2 Unless the Contractor otherwise consents, only one Step-in Notice may be given during the period of this Agreement. Subject to Clause 5.1 (*Rights of Termination*) below, the Contractor shall not be entitled to terminate the Construction Contract until after the Proposed Step-in Date.

### 3.2 **Notice of Obligations and Step-in Undertaking**

- 3.2.1 Within three (3) Business Days of receipt of any Step-in Notice, the Contractor shall give written notice to the Board of any sums of which the Contractor has actual knowledge which are due and payable but unpaid by Project Co and of any other material obligations or liabilities, of which the Contractor has actual knowledge, which should have been performed or discharged by Project Co under the Construction Contract, in each case, as at the date of the Step-in Notice.
- 3.2.2 The Contractor shall inform the Board in writing as soon as reasonably practicable of:
- (a) any change in such sums, obligations or liabilities referred to in Clause 3.2.1; and
  - (b) any further sums, obligations or liabilities thereafter falling due and payable but unpaid or falling due for performance or discharge and unperformed or undischarged (as the case may be);
- in each case of which the Contractor has actual knowledge, before the Step-in Date.
- 3.2.3 The Contractor shall give the Board the information referred to in Clauses 3.2.1 and 3.2.2 in good faith and may not give any further notifications pursuant to Clause 3.2.2 less than two (2) Business Days prior to the Proposed Step-in Date. The Board shall not be required to assume any liability under a Step-in Undertaking for any outstanding obligations or liabilities of Project Co to the Contractor which are not notified to the Board pursuant to Clauses 3.2.1 or 3.2.2.

- 3.2.4 Not later than the Proposed Step-in Date the Board shall decide if it is prepared to issue a Step-in Undertaking. If it does so decide, the Board shall promptly give the Contractor written notification of such decision and, at the same time, provide a copy of such notification to the Security Trustee and Intercreditor Agent. The Board shall deliver to the Contractor on the Proposed Step-in Date, a written undertaking in form and substance agreed with the Contractor (both the Board and the Contractor acting reasonably) (the "**Step in Undertaking**"), incorporating a clause in terms similar to Clause 11 (but only to the extent that there will not be double counting of default interest accruing under the Construction Contract and this Agreement), and undertaking to the Contractor:
- (a) to pay or procure the payment to the Contractor, within twenty (20) Business Days of demand by the Contractor, of any sum due and payable but unpaid by Project Co to the Contractor under the Construction Contract before the Step-in Date and which has been notified by the Contractor to the Board in accordance with Clause 3.2.1 or 3.2.2;
  - (b) to perform or discharge or procure the performance or discharge of any unperformed or undischarged obligations of Project Co under the Construction Contract which shall have fallen due for performance or discharge before the Step-in Date and which have been notified by the Contractor to the Board in accordance with Clause 3.2.1 or 3.2.2 within such period as the Contractor may reasonably require;
  - (c) to pay or procure the payment of any sum due and payable by Project Co under the Construction Contract as a result of any act or omission occurring during the Step-in Period which shall arise from any act or omission occurring after the Step-in Date (but subject to Clauses 3.4 and 4.5.3(b)) but not, to avoid doubt, any sum due in respect of any Works carried out before the Step-in Date; and
  - (d) to perform or discharge or procure the performance or discharge of any obligations of Project Co under the Construction Contract as a result of any act or omission occurring during the Step-in Period which shall arise from any act or omission occurring after the Step-in Date (but subject to Clauses 3.4 (*Step-Out*) and 4.5.3(b)) but not, to avoid doubt, to perform or discharge or to procure the performance or discharge of any obligations in respect of any Works carried before the Step-in Date.
- 3.2.5 Following notification of the Board's decision pursuant to Clause 3.2.4, the Security Trustee and Intercreditor Agent shall, on or before the Proposed Step-in Date, take any action which is necessary unconditionally and irrevocably to release the Construction Contract and the Parent Company Guarantee from the security constituted by the Security Documents.
- 3.2.6 Upon release by the Security Trustee and Intercreditor Agent of its security over the Parent Company Guarantee in accordance with Clause 3.2.5, Project Co shall immediately assign all its rights and powers under the Parent Company Guarantee to the Board in accordance with Clause 17 of the same.
- 3.2.7 If the Board shall not have issued the Step-in Undertaking on or before the

Proposed Step-in Date the Step-in Notice shall be deemed to have been withdrawn and the rights and obligations of the Parties shall be construed as if the Step-in Notice had not been given.

### 3.3 Restriction of Right of Termination

During or in respect of the Step-in Period, the Contractor confirms to the Board that it shall continue to observe and perform its duties and obligations under the Construction Contract and shall, without prejudice to Clause 5.1 (*Rights of Termination*), only be entitled to exercise its rights of termination under the Construction Contract:

- 3.3.1 by reference to an Event of Project Co Default arising during the Step-in Period provided that no event of default by Project Co under the Project Agreement (whether resulting in termination of the Project Agreement or otherwise, and notwithstanding that it has occurred during the Step-in Period) shall entitle the Contractor to exercise such rights of termination during the Step-in Period; or
- 3.3.2 if the Board, in breach of the terms of the Construction Contract, fails to pay when due any amount owed to the Contractor or fails to perform or discharge when falling due for performance or discharge any obligation under the Step-in Undertaking or fails to procure such payment or performance or discharge; or
- 3.3.3 if such rights of termination arise in circumstances where there is no default under the Construction Contract by the Board or the Contractor.

### 3.4 Step-Out

- 3.4.1 the Board may, at any time, give the Contractor at least twenty (20) days' prior written notice to terminate the Step-in Period on a date specified in the notice (the "**Step-out Date**");
- 3.4.2 the Board shall give the Contractor at least twenty (20) days' prior written notice that (subject to Clause 4.4.2) the Step-in Period will end due to the occurrence (subject to Clause 4.7 (*Extension of Step-in Period*)) of the first anniversary of the Step-in Date;

provided that:

- (a) the Board has performed and discharged in full or procured the performance and discharge in full of any obligations of Project Co under the Construction Contract in relation to the maintenance of records and the provision of reports during the Step-in Period so as to permit the Contractor to monitor the performance of Project Co's other obligations under the Construction Contract; and
- (b) all liability under the Step-in Undertaking pursuant to any claims made up to the date specified in either Clause 3.4.1 or Clause 3.4.2 (as the case may be) shall have been fully and unconditionally discharged,

the Board shall be released from the Step-in Undertaking on the expiry of the Step-in Period in accordance with Clauses 3.4.1 and 3.4.2. Such release shall not affect the continuation of Project Co's obligations towards the Contractor under the Construction Contract.

## 4 NOVATION

### 4.1 Proposed Substitute

At any time that the Board is entitled to give a Step-in Notice pursuant to Clause 3.1 (*Step-in Notice*) or at any time during the Step-in Period the Board may give notice (copied to the Security Trustee and Intercreditor Agent) (a "**Proposed Novation Notice**") to the Contractor that it wishes itself or another person (a "**Proposed Substitute**") to assume, by way of sale, transfer or other disposal, the rights and obligations of Project Co under the Construction Contract and specifying a date (the "**Proposed Novation Date**"):

- 4.1.1 falling not later than fifteen (15) Business Days after termination of the Project Agreement where this has been terminated by the Board;
- 4.1.2 falling not later than the expiry of the Termination Notice where a Proposed Novation Notice is given by the Board at a time when it is entitled to give a Step-in Notice pursuant to Clause 3.1 (*Step-in Notice*); and
- 4.1.3 falling not later than twenty-eight (28) Business Days after the date of the Proposed Novation Notice, where a Proposed Novation Notice is given during a Step-in Period.

Save as provided in Clause 4.4 (*Consent Withheld*), only one Proposed Novation Notice may be given during the period of this Agreement. Without prejudice to Clauses 3.3 (*Restriction of Right of Termination*) and 5.1 (*Rights of Termination*), the Contractor shall not be entitled to terminate the Construction Contract during the notice period specified in a Proposed Novation Notice.

### 4.2 Information for Consent to Novation

If the Proposed Novation Notice specifies the Board as the Proposed Substitute, the Contractor's consent to the novation shall be deemed to have been given automatically. Where the Proposed Substitute is not the Board, a novation in accordance with a Proposed Novation Notice shall only be effective if the Contractor consents to that novation in writing in accordance with Clause 4.3 (*Grant of Consent*) and the Board shall (as soon as practicable) supply the Contractor with the following information (copied to the Security Trustee and Intercreditor Agent):

- 4.2.1 the name and registered address of the Proposed Substitute;
- 4.2.2 the names of the shareholders in the Proposed Substitute and the share capital owned by each of them;
- 4.2.3 the names of the directors and the secretary of the Proposed Substitute;

- 4.2.4 details of the means by which it is proposed to finance the Proposed Substitute (including the extent to which such finance is committed and any conditions precedent as to its availability for drawing); and
- 4.2.5 the resources (including contractual arrangements) which are to be available to the Proposed Substitute to enable it to perform its obligations under the Construction Contract.

#### 4.3 **Grant of Consent**

The Contractor may withhold or delay consent to a novation only where the Proposed Substitute is not the Board and the Board has failed to show to the Contractor's satisfaction (acting reasonably) that:

- 4.3.1 the Proposed Substitute has the legal capacity, power and authorisation to become a party to and perform the obligations of Project Co under the Construction Contract; and
- 4.3.2 the technical competence and financial standing of and the technical and financial resources available to the Proposed Substitute are sufficient to perform the obligations of Project Co under the Construction Contract.

The Contractor shall notify the Board in writing, within five (5) Business Days of the later of receipt of a Proposed Novation Notice and all information required under Clause 4.2 (*Information for Consent to Novation*), as to whether or not it has decided to grant such consent (together with an explanation of its reasons if it has decided to withhold its consent).

#### 4.4 **Consent withheld**

If, in accordance with Clause 4.3 (*Grant of Consent*), the Contractor withholds its consent to a Proposed Novation Notice, the Board shall be entitled to give one or more subsequent Proposed Novation Notices, pursuant to the provisions of Clause 4.1 (*Proposed Substitute*), containing changed particulars relating to the same Proposed Substitute or particulars relating to another Proposed Substitute which (where the replacement Proposed Substitute is not the Board) the Board has good cause to believe would fulfil the requirements of Clauses 4.3.1 and 4.3.2, provided that only one Proposed Novation Notice may be outstanding at any one time, and provided further that:

- 4.4.1 where a Step-in-Notice has not been issued, any revised Proposed Novation Date shall be a date falling no later than the date specified in Clause 4.1.1 or 4.1.2 as appropriate; and
- 4.4.2 if the Proposed Novation Notice was served during the Step-in Period, any revised Proposed Novation Date shall be a date falling not later than twenty-eight (28) Business Days after the date of the revised Proposed Novation Notice.

#### 4.5 **Implementation of Novation**

- 4.5.1 If the Contractor consents to a novation pursuant to a Proposed Novation Notice (whether automatically or otherwise), then on the Proposed Novation Date and without prejudice to Clause 5.1 (*Rights of Termination*),
- (a) following notification pursuant to Clause 4.1 (*Proposed Substitute*) and in the absence of any prior release in accordance with Clause 3.2.5, the Security Trustee and Intercreditor Agent shall, on or before the Proposed Novation Date, take any action which is necessary unconditionally and irrevocably to release the Construction Contract and the Parent Company Guarantee from the security constituted by the Security Documents; and
  - (b) Project Co shall immediately assign all its rights and powers under the Parent Company Guarantee to the Board in accordance with Clause 17 of the same and on the Proposed Novation Date and without prejudice to Clause 5.1 (*Rights of Termination*).
- 4.5.2 Subject to the prior performance by the Security Trustee and Intercreditor Agent and Project Co of their respective obligations under Clause 4.5.1(a) and Clause 4.5.1(b) the Proposed Substitute shall become a party to the Construction Contract in place of Project Co and, thereafter, shall be treated as if it was and had always been named as a party to the Construction Contract in place of Project Co; and
- (a) the Contractor, Project Co and the Proposed Substitute shall enter into a novation agreement (the "**Novation Agreement**") and any other requisite agreements, in form and substance satisfactory to the Contractor (acting reasonably), pursuant to which:
    - (i) the Proposed Substitute shall be granted all of the rights of Project Co under the Construction Contract (including those arising prior to the end of the Step-in Period);
    - (ii) subject to the Contractor giving to the Proposed Substitute within three (3) Business Days of receipt of the Proposed Novation Notice such notice as is referred to in Clause 3.2.1 and to the provisions of Clauses 3.2.2 and 3.2.3, mutatis mutandis, the Proposed Substitute shall assume all of the obligations and liabilities of Project Co under the Construction Contract (including those arising prior to the end of any Step-in Period and those arising during the period of the Proposed Novation Notice);
- provided that the Contractor will not be in breach of any of its obligations under this Agreement if the Proposed Substitute does not enter into one or other of such agreements.
- 4.5.3 On and after the Novation Effective Date:
- (a) the Contractor shall owe its obligations under the Construction Contract (whether arising before, on or after such date) to the Proposed Substitute and the receipt, acknowledgement or acquiescence of the Proposed Substitute shall be a good discharge;

and

- (b) if the Board shall have entered into a Step-in Undertaking, the Board will be released from the Step-in Undertaking, provided that:
- (i) all obligations of the Board under the Step-in Undertaking which have accrued up to the Novation Effective Date and are identifiable as at that date shall have been fully and unconditionally discharged; and
  - (ii) the Board has performed and discharged in full or procured the performance and discharge in full of the obligations of Project Co under the Construction Contract in relation to the maintenance of records and the provision of reports during the Step-in Period up to the Novation Effective Date so as to permit the Contractor to monitor the performance of Project Co's other obligations under the Construction Contract.

4.5.4 the Board and the Contractor shall use all reasonable endeavours to agree and the Board shall use reasonable endeavours to procure that the Proposed Substitute agrees any amendments to the Construction Contract necessary to reflect Clause 3.2.2 and the fact that the Project Agreement may have terminated at the time of the Novation Effective Date.

#### 4.6 Termination After Novation

After the Novation Effective Date the Contractor shall only be entitled to exercise its rights of termination under the Construction Contract:

- 4.6.1 in respect of any Event of Project Co Default arising after that date in accordance with the Construction Contract; or
- 4.6.2 if the Proposed Substitute does not discharge the obligations and liabilities assumed by it under Clause 4.5.2(a) which relate to matters arising prior to the end of the Step-in Period within fifteen (15) Business Days following the Novation Effective Date.

#### 4.7 Extension of Step-In Period

As at the date of the first anniversary of the Step-in Date, if the Step-in Period has not previously ended, and:

- 4.7.1 the Board is in the course of conducting discussions in good faith with a Proposed Substitute (the novation to whom has been approved by the Contractor whether automatically or otherwise in accordance with Clause 4.3 (*Grant of Consent*)), the Step-in Period shall be extended and shall continue until such date as is proposed by the Board and agreed by the Contractor; or
- 4.7.2 a contract has been entered into between the Board and a Proposed Substitute (which has been approved by the Contractor in accordance with

Clause 4.3 (*Grant of Consent*) as at such date,

the Step-in Period shall be extended and shall continue until the date such contract comes into force, provided that such date shall not be later than thirty (30) Business Days after the last date of execution of such contract.

#### **4A GUARANTEE IN RESPECT OF THE CONSTRUCTION CONTRACT**

For the avoidance of doubt, the exercise of the Board's rights under Clause 3 (*Step-In and Step Out*) or 4 (*Novation*) of this Agreement shall for the purposes of the guarantee to Project Co in respect of the Construction Contract be treated as an assignation or novation as contemplated under Clause 17 of such guarantee.

### **5 RIGHTS AND OBLIGATIONS UNDER THE CONSTRUCTION CONTRACT**

#### **5.1 Rights of Termination**

If:

- 5.1.1 no Step-in Notice or Proposed Novation Notice is given before a Termination Notice expires or within twenty (20) Business Days after termination of the Project Agreement by the Board; or
- 5.1.2 a Step-in Undertaking is not issued on the Proposed Step-in Date; or
- 5.1.3 the Step-in Notice is withdrawn or, pursuant to Clause 3.2.7, deemed to have been withdrawn; or
- 5.1.4 the Step-in Period ends before the occurrence of the Novation Effective Date; or
- 5.1.5 in the absence of a Step-in Undertaking, the Contractor withholds its consent to a novation pursuant to a Proposed Novation Notice, in accordance with Clause 4.3 (*Grant of Consent*), and does not subsequently grant consent to a novation in accordance with Clause 4.4 (*Consent Withheld*) on or before the Proposed Novation Date; or
- 5.1.6 in the absence of a Step-in Undertaking, the obligations of the Proposed Substitute set out in Clause 4.5 (*Implementation of Novation*) are not performed on the Proposed Novation Date; or
- 5.1.7 the Contractor is entitled to terminate the Construction Contract under Clause 3.3 (*Restriction of Right of Termination*) or 4.6 (*Termination after Novation*); or
- 5.1.8 the Board exercises its right to Step-out under Clause 3.4.1,

the Contractor shall, on and from the Step-out Date, be entitled to:

- 5.1.9 exercise all of its rights under the Construction Contract and act upon any



and all grounds for termination available to it in relation to the Construction Contract whenever occurring; and/or

- 5.1.10 pursue any and all claims and exercise any and all rights and remedies against Project Co.

## 5.2 Project Co's Obligations to Continue

Until completion of a novation pursuant to Clause 4.5 (*Implementation of Novation*) (unless the terms of such novation expressly preserve an obligation or liability of Project Co), Project Co shall continue to be liable for all its obligations and liabilities, whenever occurring, under or arising from the Construction Contract notwithstanding:

- 5.2.1 the service of a Step-in Notice or the issue of a Step-in Undertaking or the expiry of the Step-in Period or the release of a Step-in Undertaking; or
- 5.2.2 the service of a Proposed Novation Notice; or
- 5.2.3 any other provision of this Agreement.

## 6 REVOCATION OF NOTICES

A Termination Notice and a Step-in Notice may each be revoked (in writing to the recipient) by the Party giving them before the expiry of their respective notice periods. Upon any such revocation, the rights and obligations of the Parties shall be construed as if the relevant notice had not been given.

## 7 ASSIGNATION

### 7.1 Binding on Successors and Assignees

This Agreement shall be binding on and shall ensure to the benefit of the Parties and their respective successors and permitted assignees. In the case of the Board, its successors shall include any person to which the Scottish Ministers, in exercising their statutory powers to transfer property, rights and liabilities of the Board upon the Board ceasing to exist, transfers the rights and obligations of the Board under this Agreement.

### 7.2 Restriction on Assignment

No Party shall assign or transfer any part of its respective rights or obligations under this Agreement without the prior consent of the others (such consent not to be unreasonably withheld or delayed), provided that:

- 7.2.1 Project Co shall not assign this Agreement to any party other than a party to whom Project Co's interests in the Project Agreement and Construction Contract are assigned in accordance with the terms of the Project Agreement and Construction Contract respectively;

- 7.2.2 the Board shall be entitled, without the consent of any other Party, to transfer all its rights and obligations hereunder, to any person to whom it assigns or otherwise disposes of the benefit of the Project Agreement in accordance with Clause 57 (*Assignment and Sub-Contracting*) of the Project Agreement and, otherwise, with Project Co's and the Contractor's consent (not to be unreasonably withheld or delayed);
- 7.2.3 nothing in this sub-clause shall restrict the rights of the Scottish Ministers to effect a statutory transfer;
- 7.2.4 the Contractor shall assign this Agreement to any party to whom it assigns the Construction Contract (in accordance with the terms of that agreement).
- 7.2.5 the Security Trustee and Intercreditor Agent may assign or transfer its rights and obligations to a successor trustee of the Security Trustee and Intercreditor Agents under the Funding Agreement without the consent of any other Party and this Clause 7.2 shall not prevent any Security Trustee and Intercreditor Agent assigning or transferring its rights under the Senior Funding Agreements and the Security Documents in accordance with the terms of the Senior Funding Agreements.

### 7.3 **No Loss**

The Contractor agrees that it shall not at any time assert that any permitted assignee in terms of this Agreement is precluded from recovering any loss resulting from any breach of this Agreement by reason that such assignee is not an original party to this Agreement or that no loss or a different loss has been suffered by such assignee.

## 8 **CONFIDENTIALITY**

- 8.1 The parties shall be bound to observe, mutatis mutandis, the terms of Clause 61 (*Confidentiality*) of the Construction Contract with respect to any information or document referred to in Clause 61 (*Confidentiality*) of the Construction Contract which shall come into its possession pursuant to this Agreement.
- 8.2 The Contractor agrees that the Board shall be entitled to disclose the terms of this Agreement in accordance with Clause 61 (*Confidentiality*) of the Project Agreement.

## 9 **NOTICES**

Any notice given under this Agreement shall be deemed to be duly given if it is delivered by hand or sent by recorded delivery to the party named therein at the address of such party shown in this Agreement or such other address as such party may by notice in writing nominate for the purpose of service and if sent by recorded delivery shall be deemed (subject to proof to the contrary) to have been received forty eight (48) hours after being posted.

## 10 PAYMENTS AND TAXES

### 10.1 Payments

All payments under this Agreement to any Party shall be made in pounds sterling by electronic transfer of funds for value on the day in question to the bank account of the recipient (located in the United Kingdom) specified to the other Parties from time to time.

### 10.2 VAT

10.2.1 All amounts stated to be payable by any Party under this Agreement shall be exclusive of any VAT properly payable in respect of the supplies to which they relate.

10.2.2 Each Party shall pay any VAT properly payable hereunder in respect of any supply made to it under this Agreement, provided that it shall first have received a valid tax invoice in respect of that supply which complies with the requirements of Part III VAT Regulations 1995.

### 10.3 Deductions from payments

All sums payable by a Party to any other Party under this Agreement shall be paid free and clear of all deductions or withholdings whatsoever in respect of taxation, save as may be required by Law.

## 11 DEFAULT INTEREST

Each Party shall be entitled, without prejudice to any other right or remedy, to receive interest on any payment not made on the due date calculated from day to day at a rate per annum equal to the Default Interest Rate from the day after the date on which payment was due up to and including the date of payment.

## 12 AGGREGATE LIABILITY

Notwithstanding any other provision of this Agreement, the Contractor's aggregate liability from time to time under this Agreement and the Construction Contract shall not at any time exceed its maximum liability as stated in the Construction Contract.

## 13 PROFESSIONAL INDEMNITY INSURANCE

13.1 The Contractor by this Agreement covenants with the Board that it has at its own cost taken out, or procured the taking out of, professional indemnity insurance with reputable insurers carrying on business in the European Union with a limit of indemnity of not less than ten million pounds (£10,000,000) in the annual aggregate with at least one annual reinstatement, in relation to the Works, provided always that:

13.2 such insurance shall be in place from the commencement of the Works until no less

than twelve (12) years after the Actual Completion Date or, if earlier, after the date of termination of the Construction Contract;

- 13.3 the insurance premiums in respect of the insurance shall at all times be the responsibility of the Contractor;
- 13.4 if such insurance is not available to the Contractor (and/or design and build contractors engaged in projects of a similar scope, size, nature and complexity as the Contractor) at commercially reasonable rates and terms (excluding any increase in premiums attributable to the actions, omissions, errors or defaults of the Contractor), the Contractor and the Board will meet and the Contractor will outline the steps it intends to take to manage such risks. If the steps proposed by the Contractor are not acceptable to the Board (acting reasonably), the Contractor and the Board shall agree an alternative method of managing such risk.
- 13.5 The Contractor will, upon request, provide the Board with reasonable evidence that the policy referred to in this Clause 13 (*Professional Indemnity Insurance*) is in full force and effect in accordance with the requirements of this Clause 13 (*Professional Indemnity Insurance*).

#### 14 **THIRD PARTY RIGHTS**

It is agreed that this Agreement is not intended to, and does not, give to any person who is not a party to this Agreement any rights to enforce any provisions contained herein except for any person to whom the benefit of this Agreement is assigned or transferred in accordance with Clause 7 (*Assignment*).

#### 15 **AGENCY**

##### 15.1 **No Delegation**

No provision of this Agreement shall be construed as a delegation by the Board of any of its statutory Board to any other Party.

##### 15.2 **No Agency**

Save as otherwise provided in this Agreement, no other Party shall be or be deemed to be an agent of the other Parties nor shall any party hold itself out as having Board or power to bind the other parties in any way.

##### 15.3 **Independent Contractor**

The Parties shall, at all times, be independent contractors and nothing in this Agreement shall be construed as creating any partnership between the Parties or any relationship of employer and employee between the Parties.

#### 16 **WHOLE AGREEMENT**

16.1 This Agreement (when read together with the Project Agreement, the Construction Contract and the Parent Company Guarantee) supersedes all previous agreements and understandings between the Parties with respect thereto and each of the Parties acknowledges and confirms that it does not enter into this Agreement in reliance on any representation, warranty or other undertaking not fully reflected in the terms of this Agreement.

16.2 Nothing in this Agreement is intended to or shall operate so as to exclude or limit any liability for fraud or fraudulent misrepresentation.

17 **WAIVER**

Failure by any Party at any time to enforce any provision of this Agreement or to require performance by the other Parties of any provision of this Agreement shall not be construed as a waiver of such provision and shall not affect the validity of this Agreement or any part of it or the right of the relevant Party to enforce any provision in accordance with its terms.

18 **SEVERABILITY**

If any condition, Clause or provision of this Agreement not being of a fundamental nature, is held to be illegal or unenforceable, the validity or enforceability of the remainder of this Agreement shall not be affected thereby.

19 **COSTS AND EXPENSES**

Each Party shall be responsible for paying its own costs and expenses incurred in connection with the negotiation, preparation and execution of this Agreement.

20 **AMENDMENTS**

No amendment to this Agreement shall be binding unless in writing and signed by the duly authorised representatives of the Parties.

21 **GOVERNING LAW AND JURISDICTION**

21.1 **Law**

This Agreement shall be governed by and construed in all respects in accordance with Scottish law.

21.2 **Jurisdiction**

The Parties each submit to the jurisdiction of the Scottish Courts as regards any claim or matter arising in relation to this Agreement.



SIGNED for and on behalf of the said **IHS LOTHIAN LIMITED** acting under a power of attorney

at

on

by

.....

Print Full Name

Attorney

and

.....

Print Full Name

Attorney

Signed by  
**PRUDENTIAL TRUSTEE  
COMPANY LIMITED**

at

on

Acting by its duly  
Authorised Sealing Officer

.....  
**Sealing Officer**

Before this witness

.....

.....  
**Witness**

Address

.....

.....

Signed by  
**M&G INVESTMENT  
MANAGEMENT LIMITED**

at

on

Acting by its duly  
Authorised attorney

.....

.....

**(Attorney )**

Before this witness

.....

.....

**(Witness)**

Address

.....

.....



## SECTION 2

## SERVICE PROVIDER COLLATERAL AGREEMENT

## COLLATERAL WARRANTY

## AMONG:

- (1) **LOTHIAN HEALTH BOARD**, a health board constituted in Scotland under the National Health Service (Constitution of Health Boards) (Scotland) Order 1974 (S.I. 1974/267) as amended by the National Health Service (Constitution of Health Boards) (Scotland) Amendment Order 2003 (S.S.I. 2003/217) pursuant to Section 2 of the National Health Service (Scotland) Act 1978 as amended by section 28 of the National Health Service and Community Care Act 1990 and having its principal address at Waverley Gate, 2-4 Waterloo Place, Edinburgh EH1 3EG (the "**Board**");
- (2) **BOUYGUES E&S FM (UK) LIMITED** (registered under number 04243192) whose registered office is at Waterloo Centre Elizabeth House, 39 York Road, London, SE1 7NQ, (the "**Service Provider**");
- (3) **IHS LOTHIAN LIMITED** (registered number SC493676) whose registered office is at Burness Paull LLP, 50 Lothian Road, Festival Square, Edinburgh, EH3 9WJ ("**Project Co**");
- (4) **PRUDENTIAL TRUSTEE COMPANY LIMITED** as agent and trustee for and on behalf of the Secured Creditors ("the **Security Trustee**"); and
- (5) **M&G INVESTMENT MANAGEMENT LIMITED** as agent for and on behalf of the European Investment Bank, The Prudential Assurance Company Limited, Prudential Retirement Income Limited, Hold Co and Top Co ("the **Intercreditor Agent**").

## WHEREAS:

- (A) The Board and Project Co have agreed the terms on which Project Co will design, develop and construct and provide certain services in connection with the reprovision of services from the Royal Hospital for Sick Children, Child and Adolescent Mental Health Service and the Department of Clinical Neurosciences in a single building adjoining the Royal Infirmary of Edinburgh at Little France (the "**Development**") at the Site and Off-Site (as such expressions are defined in the Project Agreement) and, accordingly, have entered into the Project Agreement an agreement ("**Project Agreement**") and the Project Documents.
- (B) Project Co has entered into the Funding Agreement (as defined in the Project Agreement with the Funder.
- (C) The Service Provider and Project Co have entered into an agreement of even date herewith relating to the provision of certain of the Services (as defined in the Project Agreement) by the Service Provider to enable Project Co to discharge its obligations to the Board regarding such Services under the Project Agreement and the Project Documents (the "**Service Contract**").
- (D) This Service Provider's Collateral Agreement (the "**Agreement**") is one of the Service Providers' Collateral Agreements contemplated by the Project Agreement.

**NOW IT IS HEREBY AGREED** as follows:

## 1 DEFINITIONS AND INTERPRETATION

### 1.1 Definitions

In this Agreement, the following terms shall, unless the context otherwise requires, have the following meanings:

<b>“Ancillary Documents”</b>	has the meaning given in the Project Agreement;
<b>“Business Day”</b>	means a day other than a Saturday, Sunday or a bank holiday in Scotland;
<b>“Event of Project Co Default”</b>	has the meaning given in the Service Contract;
<b>“Funders”</b>	means the Senior Lenders and the Senior Subordinated Lenders, as such terms are defined respectively in the Common Terms Agreement;
<b>“Funders' Direct Agreement”</b>	is the agreement of even date herewith between, amongst others, the Board,. Project Co, and the Security Trustee and the Intercreditor Agent;
<b>“Funders’ Service Provider Direct Agreement”</b>	means the agreement of even date herewith between, amongst others, Project Co, the Service Provider , the Security Trustee and the Intercreditor Agent;
<b>“Senior Funding Agreements”</b>	has the meaning given in the Project Agreement;
<b>“Novation Agreement”</b>	has the meaning given in Clause 4.5.3(b);
<b>“Novation Effective Date”</b>	means the date of performance of the obligations set out in Clause 4 ( <i>Novation</i> );
<b>“Parent Company Guarantee”</b>	has the meaning given in the Service Contract;
<b>“Project Agreement”</b>	means the project agreement of even date herewith between (1) the Board and (2) Project Co;
<b>“Proposed Novation Date”</b>	has the meaning given in Clause 4.1 ( <i>Proposed Substitute</i> );
<b>“Proposed Novation Notice”</b>	has the meaning given in Clause 4.1 ( <i>Proposed Substitute</i> );
<b>“Proposed Step-in Date”</b>	has the meaning given in Clause 3.1 ( <i>Step-in Notice</i> );
<b>“Proposed Substitute”</b>	has the meaning given in Clause 4.1 ( <i>Proposed Substitute</i> );
<b>“Secured Creditors”</b>	means has the meaning given to it in the Intercreditor Agreement;
<b>“Security Documents”</b>	has the meaning given in the Funders' Direct Agreement;
<b>“Service Contract”</b>	has the meaning given in the Project Agreement;
<b>“Step-in Date”</b>	means the date of issue of the Step-in Undertaking;
<b>“Step-in Notice”</b>	has the meaning given in Clause 3.1 ( <i>Step-in Notice</i> );

<b>"Step-in Period"</b>	means the period commencing on the Step-in Date and ending on the earliest of: <ul style="list-style-type: none"> <li>(a) the date of the first anniversary of the Step-in Date (but subject always to Clause 4.7 (<i>Extension of Step-in Period</i>));</li> <li>(b) the Step-out Date;</li> <li>(c) the Novation Effective Date; and</li> <li>(d) termination of the Service Contract under Clause 3.3 (<i>Restriction of Right of Termination</i>);</li> </ul>
<b>"Step-in Undertaking"</b>	has the meaning given in Clause 3.2.4 ( <i>Notice of Obligation and Step-In Understanding</i> );
<b>"Step-out Date"</b>	has the meaning given in Clause 3.4.1 ( <i>Step-Out</i> );
<b>"Termination Notice"</b>	has the meaning given in Clause 2.4 ( <i>Termination Notice</i> ).

## 1.2 Interpretation

Save to the extent that the context or the express provisions of this Agreement otherwise require:

- 1.2.1 headings and sub-headings are for ease of reference only and shall not be taken into consideration in the interpretation or construction of this Agreement;
- 1.2.2 all references to Clauses are references to Clauses of this Agreement;
- 1.2.3 all references to agreements, documents or other instruments include (subject to all relevant approvals) a reference to that agreement, document or instrument as amended, supplemented, substituted, novated or assigned from time to time;
- 1.2.4 all references to any statute or statutory provision shall include references to any statute or statutory provision which amends, extends, consolidates or replaces the same or which has been amended, extended, consolidated or replaced by the same and shall include any orders, regulations, codes of practice, instruments or other subordinate legislation made under the relevant statute or statutory provision;
- 1.2.5 any reference to time of day shall be a reference to Edinburgh time;
- 1.2.6 the words "herein", "hereto" and "hereunder" refer to this Agreement as a whole and not to the particular Clause in which such word may be used;

- 1.2.7 words importing the singular include the plural and vice versa;
- 1.2.8 words importing a particular gender include all genders;
- 1.2.9 "person" includes any individual, partnership, firm, trust, body corporate, government, governmental body, authority, agency, unincorporated body of persons or association;
- 1.2.10 any reference to a public organisation shall be deemed to include a reference to any successor to such public organisation or any organisation or entity which has taken over the functions or responsibilities of such public organisation;
- 1.2.11 references to "Party" means a party to this Agreement and references to "Parties" shall be construed accordingly;
- 1.2.12 all monetary amounts are expressed in pounds sterling;
- 1.2.13 references to the word "includes" or "including" are to be construed without limitation;
- 1.2.14 the obligations of any Party under this Agreement are to be performed at that Party's own cost and expense;
- 1.2.15 terms used in this Agreement that are defined in the Project Agreement or the Ancillary Documents shall have the meanings given to them in the Project Agreement or the Ancillary Documents, as appropriate.

## **2 TERMINATION NOTICE AND BOARD TERMINATION**

### **2.1 Service Provider's Warranties and Undertakings**

The Service Provider warrants and undertakes to the Board that it has complied with and fulfilled and shall continue to comply with and fulfil its duties and obligations arising under or by virtue of the Service Contract, provided that the Board shall only be entitled to make a claim against the Service Provider under this Clause 2.1 (*Service Provider's Warranties and Undertakings*) if the Project Agreement has terminated and shall not be entitled to do so during the Step-in Period or after the Service Contract has been novated under Clause 4 (*Novation*).

### **2.2 Liability of Service Provider**

Any liability arising from any claim for breach of the warranty under or pursuant to Clause 2.1 (*Service Provider's warranties and Undertakings*) shall be in addition to and without prejudice to any other present or future liability of the Service Provider to the Board (including, without prejudice to the generality of the foregoing, any liability in negligence) and shall not be released, diminished or in any other way be affected by any independent enquiry into any relevant matter which may be made or carried out

by or on behalf of the Board by any person nor by any action or omission of any person whether or not such action or omission might give rise to an independent liability of such person to the Board provided always that the Service Provider shall owe no greater duties or obligations to the Board under this Agreement than it owes or would have owed to Project Co under the Service Contract. Without prejudice to Clause 12 (*Aggregate Liability*), the Service Provider shall be entitled in any action or proceedings brought by the Board under this Agreement to rely on any limitation or exclusion of liability in the Service Contract and to raise equivalent rights in defence of liability (but excluding retention, set-offs and counterclaims) as it would have against Project Co under the Service Contract.

### 2.3 Not Used

### 2.4 Termination Notice

2.4.1 The Service Provider undertakes not to terminate the Service Contract on account of an Event of Project Co Default without first giving the Board not less than twenty (20) Business Days' prior written notice specifying the grounds for that termination. Subject to Clause 2.4.2 below any such notice shall be a "**Termination Notice**".

2.4.2 Where the Service Provider's right to terminate is subject to the terms of the Funders' Service Provider's Direct Agreement then the Service Provider shall notify the Board of the same as soon as reasonably practicable upon becoming aware of the provisions of the Funders' Service Provider Direct Agreement applying. Thereafter as soon as the Service Provider becomes entitled to terminate the Service Contract free from the constraints contained in the Funders' Service Provider's Direct Agreement, whether upon the expiry of the Step-in Period (as such term is defined in the Funders' Service Provider's Direct Agreement) or otherwise, then the Service Provider undertakes to the Board not to terminate the Service Contract on account of an Event of Project Co Default (whether occurring before or after the Service Provider's right to terminate the Service Contract was free from the constraints of the Funders' Service Provider's Direct Agreement) without first giving the Board not less than fifteen (15) Business Days' prior notice specifying the grounds for that termination and noting that the Service Provider's right of termination is not subject to the Funders' Service Provider's Direct Agreement. Any such notice, other than one given in circumstances where there is no default under the Service Contract by Project Co or the Service Provider, shall for the purposes of this Agreement also be a Termination Notice and the provisions of this Agreement shall apply accordingly.

2.4.3 Notwithstanding any provision of the Service Contract to the contrary, and subject to the exercise by the Board of its rights under paragraph 3 (*Step-in and Step-out*) of this Agreement, the parties agree that following termination of the Project Agreement the Service Contract shall come to an end.

2.4.4 The Board acknowledges that it shall not be entitled to exercise its rights under Clauses 3 (*Step-in and Step-out*) and 4 (*Novation*) where the event giving rise to termination of the Project Agreement is a Service Provider Event of Default (as that term is defined in the Service Contract) whether or not at the relevant time there has been notice to terminate the Service Contract for such Service Provider Event of Default.

### 3 STEP-IN AND STEP-OUT

#### 3.1 Step-in Notice

- 3.1.1 If the Board has terminated the Project Agreement in accordance with the terms of the Project Agreement or if the Board has received a Termination Notice, then subject to the provisions of this Agreement, the Board may give written notice to the Service Provider (copied to the Security Trustee and Intercreditor Agent) (a "**Step-in Notice**") of the intention of the Board to issue a Step-in Undertaking on a specified date (the "**Proposed Step-in Date**") provided that such Proposed Step-in Date shall be:
- (a) no later than five (5) Business Days after termination of the Project Agreement where this has been terminated by the Board; and
  - (b) no earlier than the date falling five (5) Business Days prior to the date of expiry of the Termination Notice and no later than the date of expiry of the Termination Notice where a Termination Notice has been given by the Service Provider.
- 3.1.2 Unless the Service Provider otherwise consents, only one Step-in Notice may be given during the period of this Agreement. Subject to Clause 5.1 (*Rights of Termination*) below, the Service Provider shall not be entitled to terminate the Service Contract until after the Proposed Step-in Date.

#### 3.2 Notice of Obligations and Step-in Undertaking

- 3.2.1 Within three (3) Business Days of receipt of any Step-in Notice, the Service Provider shall give written notice to the Board of any sums of which the Service Provider has actual knowledge which are due and payable but unpaid by Project Co and of any other material obligations or liabilities, of which the Service Provider has actual knowledge, which should have been performed or discharged by Project Co under the Service Contract, in each case, as at the date of the Step-in Notice.
- 3.2.2 The Service Provider shall inform the Board in writing as soon as reasonably practicable of:
- (a) any change in such sums, obligations or liabilities referred to in Clause 3.2.1; and
  - (b) any further sums, obligations or liabilities thereafter falling due and payable but unpaid or falling due for performance or discharge and unperformed or undischarged (as the case may be);
- in each case of which the Service Provider has actual knowledge, before the Step-in Date.

- 3.2.3 The Service Provider shall give the Board the information referred to in Clauses 3.2.1 and 3.2.2 in good faith and may not give any further

notifications pursuant to Clause 3.2.2 less than two (2) Business Days prior to the Proposed Step-in Date. The Board shall not be required to assume any liability under a Step-in Undertaking for any outstanding obligations or liabilities of Project Co to the Service Provider which are not notified to the Board pursuant to Clauses 3.2.1 or 3.2.2.

3.2.4 Not later than the Proposed Step-in Date the Board shall decide if it is prepared to issue a Step-in Undertaking. If it does so decide, the Board shall promptly give the Service Provider written notification of such decision and, at the same time, provide a copy of such notification to the Security Trustee and Intercreditor Agent. The Board shall deliver to the Service Provider on the Proposed Step-in Date, a written undertaking in form and substance agreed with the Service Provider (both the Board and the Service Provider acting reasonably) (the "**Step in Undertaking**"), incorporating a clause in terms similar to Clause 11 (*Default Interest*) (but only to the extent that there will not be double counting of default interest accruing under the Service Contract and this Agreement), and undertaking to the Service Provider:

- (a) to pay or procure the payment to the Service Provider, within twenty (20) Business Days of demand by the Service Provider, of any sum due and payable but unpaid by Project Co to the Service Provider under the Service Contract before the Step-in Date and which has been notified by the Service Provider to the Board in accordance with Clause 3.2.1 or 3.2.2;
- (b) to perform or discharge or procure the performance or discharge of any unperformed or undischarged obligations of Project Co under the Service Contract which shall have fallen due for performance or discharge before the Step-in Date and which have been notified by the Service Provider to the Board in accordance with Clause 3.2.1 or 3.2.2 within such period as the Service Provider may reasonably require;
- (c) to pay or procure the payment of any sum due and payable by Project Co under the Service Contract as a result of any act or omission occurring during the Step-in Period which shall arise from any act or omission occurring after the Step-in Date (but subject to Clauses 3.4 (*Step-Out*) and 4.5.3(b)) but not, to avoid doubt, any sum due in respect of any Services provided before the Step-in Date; and
- (d) to perform or discharge or procure the performance or discharge of any obligations of Project Co under the Service Contract as a result of any act or omission occurring during the Step-in Period which shall arise from any act or omission occurring after the Step-in Date (but subject to Clauses 3.4 (*Step-Out*) and 4.5.3(b)) but not, to avoid doubt, to perform or discharge or to procure the performance or discharge of any obligations in respect of any Services provided before the Step-in Date.

3.2.5 Following notification of the Board's decision pursuant to Clause 3.2.4, the Security Trustee and Intercreditor Agent shall, on or before the Proposed Step-in Date, take any action which is necessary unconditionally and irrevocably to release the Service Contract and the Parent Company Guarantee from the security constituted by the Security Documents.

- 3.2.6 Upon release by the Security Trustee and Intercreditor Agent of its security over the Parent Company Guarantee in accordance with Clause 3.2.5 Project Co shall immediately assign all its rights and powers under the Parent Company Guarantee to the Board in accordance with Clause 19 of the same.
- 3.2.7 If the Board shall not have issued the Step-in Undertaking on or before the Proposed Step-in Date the Step-in Notice shall be deemed to have been withdrawn and the rights and obligations of the Parties shall be construed as if the Step-in Notice had not been given.

### 3.3 Restriction of Right of Termination

During or in respect of the Step-in Period, the Service Provider confirms to the Board that it shall continue to observe and perform its duties and obligations under the Service Contract and shall, without prejudice to Clause 5.1 (*Rights of Termination*), only be entitled to exercise its rights of termination under the Service Contract:

- 3.3.1 by reference to an Event of Project Co Default arising during the Step-in Period provided that no event of default by Project Co under the Project Agreement (whether resulting in termination of the Project Agreement or otherwise, and notwithstanding that it has occurred during the Step-in Period) shall entitle the Service Provider to exercise such rights of termination during the Step-in Period; or
- 3.3.2 if the Board, in breach of the terms of the Service Contract, fails to pay when due any amount owed to the Service Provider or fails to perform or discharge when falling due for performance or discharge any obligation under the Step-in Undertaking or fails to procure such payment or performance or discharge; or
- 3.3.3 if such rights of termination arise in circumstances where there is no default under the Service Contract by the Board or the Service Provider.

### 3.4 Step-Out

- 3.4.1 the Board may, at any time, give the Service Provider at least twenty (20) days' prior written notice to terminate the Step-in Period on a date specified in the notice (the "**Step-out Date**");
- 3.4.2 the Board shall give the Service Provider at least twenty (20) days' prior written notice that (subject to Clause 4.4.2) the Step-in Period will end due to the occurrence (subject to Clause 4.7 (*Extension of Step-In Period*)) of the first anniversary of the Step-in Date;

provided that:

- (a) the Board has performed and discharged in full or procured the performance and discharge in full of any obligations of Project Co under the Service Contract in relation to the maintenance of records and the provision of reports during the Step-in Period so as to permit



the Service Provider to monitor the performance of Project Co's other obligations under the Service Contract; and

- (b) all liability under the Step-in Undertaking pursuant to any claims made up to the date specified in either Clause 3.4.1 or Clause 3.4.2 (as the case may be) shall have been fully and unconditionally discharged,

the Board shall be released from the Step-in Undertaking on the expiry of the Step-in Period in accordance with Clauses 3.4.1 and 3.4.2. Such release shall not affect the continuation of Project Co's obligations towards the Service Provider under the Service Contract.

## 4 NOVATION

### 4.1 Proposed Substitute

At any time that the Board is entitled to give a Step-in Notice pursuant to Clause 3.1 (*Step-in Notice*) or at any time during the Step-in Period the Board may give notice (copied to the Security Trustee and Intercreditor Agent) (a "**Proposed Novation Notice**") to the Service Provider that it wishes itself or another person (a "**Proposed Substitute**") to assume, by way of sale, transfer or other disposal, the rights and obligations of Project Co under the Service Contract and specifying a date (the "**Proposed Novation Date**"):

- 4.1.1 falling not later than fifteen (15) Business Days after termination of the Project Agreement where this has been terminated by the Board;
- 4.1.2 falling not later than the expiry of the Termination Notice where a Proposed Novation Notice is given by the Board at a time when it is entitled to give a Step-in Notice pursuant to Clause 3.1 (*Step-in Notice*); and
- 4.1.3 falling not later than twenty-eight (28) Business Days after the date of the Proposed Novation Notice, where a Proposed Novation Notice is given during a Step-in Period.

Save as provided in Clause 4.4 (*Consent withheld*), only one Proposed Novation Notice may be given during the period of this Agreement. Without prejudice to Clauses 3.3 (*Restriction of Right of Termination*) and 5.1 (*Rights of Termination*), the Service Provider shall not be entitled to terminate the Service Contract during the notice period specified in a Proposed Novation Notice.

### 4.2 Information for Consent to Novation

If the Proposed Novation Notice specifies the Board as the Proposed Substitute, the Service Provider's consent to the novation shall be deemed to have been given automatically. Where the Proposed Substitute is not the Board, a novation in accordance with a Proposed Novation Notice shall only be effective if the Service Provider consents to that novation in writing in accordance with Clause 4.3 (*Grant of Consent*) and the Board shall (as soon as practicable) supply the Service Provider with the following information (copied to the Security Trustee and Intercreditor Agent):

- 4.2.1 the name and registered address of the Proposed Substitute;
- 4.2.2 the names of the shareholders in the Proposed Substitute and the share capital owned by each of them;
- 4.2.3 the names of the directors and the secretary of the Proposed Substitute;
- 4.2.4 details of the means by which it is proposed to finance the Proposed Substitute (including the extent to which such finance is committed and any conditions precedent as to its availability for drawing); and
- 4.2.5 the resources (including contractual arrangements) which are to be available to the Proposed Substitute to enable it to perform its obligations under the Service Contract.

#### 4.3 **Grant of Consent**

The Service Provider may withhold or delay consent to a novation only where the Proposed Substitute is not the Board and the Board has failed to show to the Service Provider's satisfaction (acting reasonably) that:

- 4.3.1 the Proposed Substitute has the legal capacity, power and authorisation to become a party to and perform the obligations of Project Co under the Service Contract; and
- 4.3.2 the technical competence and financial standing of and the technical and financial resources available to the Proposed Substitute are sufficient to perform the obligations of Project Co under the Service Contract.

The Service Provider shall notify the Board in writing, within five (5) Business Days of the later of receipt of a Proposed Novation Notice and all information required under Clause 4.2 (*Information for Consent to Novation*), as to whether or not it has decided to grant such consent (together with an explanation of its reasons if it has decided to withhold its consent).

#### 4.4 **Consent withheld**

If, in accordance with Clause 4.3 (*Grant of Consent*), the Service Provider withholds its consent to a Proposed Novation Notice, the Board shall be entitled to give one or more subsequent Proposed Novation Notices, pursuant to the provisions of Clause 4.1 (*Proposed Substitute*), containing changed particulars relating to the same Proposed Substitute or particulars relating to another Proposed Substitute which (where the replacement Proposed Substitute is not the Board) the Board has good cause to believe would fulfil the requirements of Clauses 4.3.1 and 4.3.2, provided that only one Proposed Novation Notice may be outstanding at any one time, and provided further that:

- 4.4.1 where a Step-in-Notice has not been issued, any revised Proposed Novation Date shall be a date falling no later than the date specified in Clause 4.1.1 or 4.1.2 as appropriate; and

- 4.4.2 if the Proposed Novation Notice was served during the Step-in Period, any revised Proposed Novation Date shall be a date falling not later than twenty-eight (28) Business Days after the date of the revised Proposed Novation Notice.

#### 4.5 Implementation of Novation

- 4.5.1 If the Service Provider consents to a novation pursuant to a Proposed Novation Notice (whether automatically or otherwise), then on the Proposed Novation Date and without prejudice to Clause 5.1 (*Rights of Termination*):

- (a) following notification pursuant to Clause 4.1 (*Proposed Substitute*) and in the absence of any prior release in accordance with Clause 3.2.5, the Security Trustee and Intercreditor Agent shall, on or before the Proposed Novation Date, take any action which is necessary unconditionally and irrevocably to release the Service Contract and the Parent Company Guarantee from the security constituted by the Security Documents; and
- (b) Project Co shall immediately assign all its rights and powers under the Parent Company Guarantee to the Board in accordance with Clause 19 of the same, and on the Proposed Novation Date and without prejudice to Clause 5.1 (*Rights of Termination*).

- 4.5.2 Subject to the prior performance by the Security Trustee and Intercreditor Agent and Project Co of their respective obligations under Clause 4.5.1(a) and Clause 4.5.1(b) the Proposed Substitute shall become a party to the Service Contract in place of Project Co and, thereafter, shall be treated as if it was and had always been named as a party to the Service Contract in place of Project Co; and

- (a) the Service Provider, Project Co and the Proposed Substitute shall enter into a novation agreement (the "**Novation Agreement**") and any other requisite agreements, in form and substance satisfactory to the Service Provider (acting reasonably), pursuant to which:
- (i) the Proposed Substitute shall be granted all of the rights of Project Co under the Service Contract (including those arising prior to the end of the Step-in Period);
- (ii) subject to the Service Provider giving to the Proposed Substitute within three (3) Business Days of receipt of the Proposed Novation Notice such notice as is referred to in Clause 3.2.1 and to the provisions of Clauses 3.2.2 and 3.2.3 mutatis mutandis, the Proposed Substitute shall assume all of the obligations and liabilities of Project Co under the Service Contract (including those arising prior to the end of any Step-in Period and those arising during the period of the Proposed Novation Notice);

provided that the Service Provider will not be in breach of any of its obligations under this Agreement if the Proposed Substitute does not enter into one or other of such agreements.

4.5.3 On and after the Novation Effective Date:

- (a) the Service Provider shall owe its obligations under the Service Contract (whether arising before, on or after such date) to the Proposed Substitute and the receipt, acknowledgement or acquiescence of the Proposed Substitute shall be a good discharge; and
- (b) if the Board shall have entered into a Step-in Undertaking, the Board will be released from the Step-in Undertaking, provided that:
  - (i) all obligations of the Board under the Step-in Undertaking which have accrued up to the Novation Effective Date and are identifiable as at that date shall have been fully and unconditionally discharged; and
  - (ii) the Board has performed and discharged in full or procured the performance and discharge in full of the obligations of Project Co under the Service Contract in relation to the maintenance of records and the provision of reports during the Step-in Period up to the Novation Effective Date so as to permit the Service Provider to monitor the performance of Project Co's other obligations under the Service Contract.

4.5.4 the Board and the Service Provider shall use all reasonable endeavours to agree and the Board shall use reasonable endeavours to procure that the Proposed Substitute agrees any amendments to the Service Contract necessary to reflect Clause 3.2.2 and the fact that the Project Agreement may have terminated at the time of the Novation Effective Date.

**4.6 Termination After Novation**

After the Novation Effective Date the Service Provider shall only be entitled to exercise its rights of termination under the Service Contract:

- 4.6.1 in respect of any Event of Project Co Default arising after that date in accordance with the Service Contract; or
- 4.6.2 if the Proposed Substitute does not discharge the obligations and liabilities assumed by it under Clause 4.5.2 which relate to matters arising prior to the end of the Step-in Period within fifteen (15) Business Days following the Novation Effective Date.

**4.7 Extension of Step-In Period**

As at the date of the first anniversary of the Step-in Date, if the Step-in Period has not previously ended, and:

- 4.7.1 the Board is in the course of conducting discussions in good faith with a Proposed Substitute (the novation to whom has been approved by the

Service Provider whether automatically or otherwise in accordance with Clause 4.3 (*Grant of Consent*), the Step-in Period shall be extended and shall continue until such date as is proposed by the Board and agreed by the Service Provider; or

- 4.7.2 a contract has been entered into between the Board and a Proposed Substitute (which has been approved by the Service Provider in accordance with Clause 4.3 (*Grant of Consent*)) as at such date,

the Step-in Period shall be extended and shall continue until the date such contract comes into force, provided that such date shall not be later than thirty (30) Business Days after the last date of execution of such contract.

## 5 RIGHTS AND OBLIGATIONS UNDER THE SERVICE CONTRACT

### 5.1 Rights of Termination

If:

- 5.1.1 no Step-in Notice or Proposed Novation Notice is given before a Termination Notice expires or within twenty (20) Business Days after termination of the Project Agreement by the Board; or
- 5.1.2 a Step-in Undertaking is not issued on the Proposed Step-in Date; or
- 5.1.3 the Step-in Notice is withdrawn or, pursuant to Clause 3.2.7, deemed to have been withdrawn; or
- 5.1.4 the Step-in Period ends before the occurrence of the Novation Effective Date; or
- 5.1.5 in the absence of a Step-in Undertaking, the Service Provider withholds its consent to a novation pursuant to a Proposed Novation Notice, in accordance with Clause 4.3 (*Grant of Consent*), and does not subsequently grant consent to a novation in accordance with Clause 4.4 (*Consent Withheld*) on or before the Proposed Novation Date; or
- 5.1.6 in the absence of a Step-in Undertaking, the obligations of the Proposed Substitute set out in Clause 4.5 (*Implementation of Novation*) are not performed on the Proposed Novation Date; or
- 5.1.7 the Service Provider is entitled to terminate the Service Contract under Clause 3.3 (*Restriction of Right of Termination*) or 4.6 (*Termination after Novation*); or
- 5.1.8 the Board exercises its right to Step-out under Clause 3.4.1,

the Service Provider shall, on and from the Step-out Date, be entitled to:

- 5.1.9 exercise all of its rights under the Service Contract and act upon any and all grounds for termination available to it in relation to the Service Contract whenever occurring; and/or
- 5.1.10 pursue any and all claims and exercise any and all rights and remedies against Project Co.

## 5.2 Project Co's Obligations to Continue

Until completion of a novation pursuant to Clause 4.5 (*Implementation of Novation*) (unless the terms of such novation expressly preserve an obligation or liability of Project Co), Project Co shall continue to be liable for all its obligations and liabilities, whenever occurring, under or arising from the Service Contract notwithstanding:

- 5.2.1 the service of a Step-in Notice or the issue of a Step-in Undertaking or the expiry of the Step-in Period or the release of a Step-in Undertaking; or
- 5.2.2 the service of a Proposed Novation Notice; or
- 5.2.3 any other provision of this Agreement.

## 6 REVOCATION OF NOTICES

A Termination Notice and a Step-in Notice may each be revoked (in writing to the recipient) by the Party giving them before the expiry of their respective notice periods. Upon any such revocation, the rights and obligations of the Parties shall be construed as if the relevant notice had not been given.

## 7 ASSIGNATION

### 7.1 Binding on Successors and Assignees

This Agreement shall be binding on and shall enure to the benefit of the Parties and their respective successors and permitted assignees. In the case of the Board, its successors shall include any person to which the Scottish Ministers, in exercising their statutory powers to transfer property, rights and liabilities of the Board upon the Board ceasing to exist, transfers the rights and obligations of the Board under this Agreement.

### 7.2 Restriction on Assignment

No Party shall assign or transfer any part of its respective rights or obligations under this Agreement without the prior consent of the others (such consent not to be unreasonably withheld or delayed), provided that:

- 7.2.1 Project Co shall not assign this Agreement to any party other than a party to whom Project Co's interests in the Project Agreement and Service Contract are assigned in accordance with the terms of the Project Agreement and

Service Contract respectively;

- 7.2.2 the Board shall be entitled, without the consent of any other Party, to transfer all its rights and obligations hereunder, to any person to whom it assigns or otherwise disposes of the benefit of the Project Agreement in accordance with Clause 57 (*Assignment and Sub-Contracting*) of the Project Agreement and, otherwise, with Project Co's and the Service Provider's consent (not to be unreasonably withheld or delayed);
- 7.2.3 nothing in this sub-clause shall restrict the rights of the Scottish Ministers to effect a statutory transfer;
- 7.2.4 the Service Provider shall assign this Agreement to any party to whom it assigns the Service Contract (in accordance with the terms of that agreement).
- 7.2.5 the Security Trustee and Intercreditor Agent may assign or transfer its rights and obligations to a successor trustee of the Security Trustee and Intercreditor Agents under the Funding Agreement without the consent of any other Party and this Clause 7.2 (*Restriction on Assignment*) shall not prevent any Security Trustee and Intercreditor Agent assigning or transferring its rights under the Senior Funding Agreements and the Security Documents in accordance with the terms of the Senior Funding Agreements.

### 7.3 **No Loss**

The Services Provider agrees that it shall not at any time assert that any permitted assignee in terms of this Agreement is precluded from recovering any loss resulting from any breach of this Agreement by reason that such assignee is not an original party to this Agreement or that no loss or a different loss has been suffered by such assignee.

## 8 **CONFIDENTIALITY**

- 8.1 The parties shall be bound to observe, mutatis mutandis, the terms of Clause 61 (*Confidentiality*) of the Service Contract with respect to any information or document referred to in Clause 61 (*Confidentiality*) of the Service Contract which shall come into its possession pursuant to this Agreement.
- 8.2 The Service Provider agrees that the Board shall be entitled to disclose the terms of this Agreement in accordance with Clause 61 (*Confidentiality*) of the Design Build, Finance and Maintain Agreement.

## 9 **NOTICES**

Any notice given under this Agreement shall be deemed to be duly given if it is delivered by hand or sent by recorded delivery to the party named therein at the address of such party shown in this Agreement or such other address as such party may by notice in writing nominate for the purpose of service and if sent by recorded delivery shall be deemed (subject to proof to the contrary) to have been received forty eight (48) hours after being posted.

## 10 PAYMENTS AND TAXES

### 10.1 Payments

All payments under this Agreement to any Party shall be made in pounds sterling by electronic transfer of funds for value on the day in question to the bank account of the recipient (located in the United Kingdom) specified to the other Parties from time to time.

### 10.2 VAT

10.2.1 All amounts stated to be payable by any Party under this Agreement shall be exclusive of any VAT properly payable in respect of the supplies to which they relate.

10.2.2 Each Party shall pay any VAT properly payable hereunder in respect of any supply made to it under this Agreement, provided that it shall first have received a valid tax invoice in respect of that supply which complies with the requirements of Part III VAT Regulations 1995.

### 10.3 Deductions from payments

All sums payable by a Party to any other Party under this Agreement shall be paid free and clear of all deductions or withholdings whatsoever in respect of taxation, save as may be required by Law.

## 11 DEFAULT INTEREST

Each Party shall be entitled, without prejudice to any other right or remedy, to receive interest on any payment not made on the due date calculated from day to day at a rate per annum equal to the Default Interest Rate from the day after the date on which payment was due up to and including the date of payment.

## 12 AGGREGATE LIABILITY

Notwithstanding any other provision of this Agreement, the Service Provider's aggregate liability from time to time under this Agreement and the Service Contract shall not at any time exceed its maximum liability as stated in the Service Contract.

## 13 THIRD PARTY RIGHTS

It is agreed that this Agreement is not intended to, and does not, give to any person who is not a party to this Agreement any rights to enforce any provisions contained herein except for any person to whom the benefit of this Agreement is assigned or transferred in accordance with Clause 7 (*Assignment*).

## 14 AGENCY



**14.1 No Delegation**

No provision of this Agreement shall be construed as a delegation by the Board of any of its statutory authority to any other Party.

**14.2 No Agency**

Save as otherwise provided in this Agreement, no other Party shall be or be deemed to be an agent of the other Parties nor shall any party hold itself out as having authority or power to bind the other parties in any way.

**14.3 Independent Contractor**

The Parties shall, at all times, be independent contractors and nothing in this Agreement shall be construed as creating any partnership between the Parties or any relationship of employer and employee between the Parties.

**15 WHOLE AGREEMENT**

15.1 This Agreement (when read together with the Project Agreement, the Service Contract and the Parent Company Guarantee) contains or supersedes all previous agreements and understandings between the Parties with respect thereto and each of the Parties acknowledges and confirms that it does not enter into this Agreement in reliance on any representation, warranty or other undertaking not fully reflected in the terms of this Agreement.

15.2 Nothing in this Agreement is intended to or shall operate so as to exclude or limit any liability for fraud or fraudulent misrepresentation.

**16 WAIVER**

Failure by any Party at any time to enforce any provision of this Agreement or to require performance by the other Parties of any provision of this Agreement shall not be construed as a waiver of such provision and shall not affect the validity of this Agreement or any part of it or the right of the relevant Party to enforce any provision in accordance with its terms.

**17 SEVERABILITY**

If any condition, Clause or provision of this Agreement not being of a fundamental nature, is held to be illegal or unenforceable, the validity or enforceability of the remainder of this Agreement shall not be affected thereby.

**18 COSTS AND EXPENSES**

Each Party shall be responsible for paying its own costs and expenses incurred in connection with the negotiation, preparation and execution of this Agreement.

19 **AMENDMENTS**

No amendment to this Agreement shall be binding unless in writing and signed by the duly authorised representatives of the Parties.

20 **GOVERNING LAW AND JURISDICTION**

20.1 **Law**

This Agreement shall be governed by and construed in all respects in accordance with Scottish law.

20.2 **Jurisdiction**

The Parties each submit to the jurisdiction of the Scottish Courts as regards any claim or matter arising in relation to this Agreement.

**IN WITNESS WHEREOF** these presents consisting of this and the [ ] preceding pages are executed as follows:-

**SIGNED** for and on behalf of  
**LOTHIAN HEALTH BOARD**

at

on the                      day

of                              2015

by

.....

Authorised Signatory

..... Full Name

Before this witness

.....Witness

..... Full Name

..... Address

.....

**SUBSCRIBED** for and on behalf of **BOUYGUES E&S FM (UK) LIMITED**

at



Signed by  
**M&G INVESTMENT  
MANAGEMENT LIMITED**

at

on

Acting by its duly  
Authorised attorney

.....

.....

**(Attorney )**

Before this witness

.....

.....

**(Witness)**

Address

.....

.....

## SECTION 3

## KEY SUB-CONTRACTOR COLLATERAL AGREEMENT

## COLLATERAL WARRANTY

## AMONG:

**LOTHIAN HEALTH BOARD**, a health board constituted in Scotland under the National Health Service (Constitution of Health Boards) (Scotland) Order 1974 (S.I. 1974/267) as amended by the National Health Service (Constitution of Health Boards) (Scotland) Amendment Order 2003 (S.S.I. 2003/217) pursuant to Section 2 of the National Health Service (Scotland) Act 1978 as amended by section 28 of the National Health Service and Community Care Act 1990 and having its principal address at Waverley Gate, 2-4 Waterloo Place, Edinburgh EH1 3EG (the "**Beneficiary**" which expression shall include its successors in title or permitted assignees under this Agreement and for the Project Agreement and/or the Beneficiary's appointee);

and

**BROOKFIELD MULTIPLEX CONSTRUCTION EUROPE LIMITED**, a company incorporated in England and Wales under the Companies Acts (Registered Number 03808946) registered office at 99 Bishopsgate, Second Floor, London, EC2M 3XD (the "**Contractor**" which expression shall include its successors in title or permitted assignees under this Agreement);

and

[ ] **LIMITED**, a company incorporated in [Scotland/England and Wales/Northern Ireland] under the Companies Acts (Registered Number [ ]) and having its Registered Office at [ ] (the "**Subcontractor**").

## WHEREAS:

- (A) The Beneficiary and IHS Lothian Limited, a company incorporated in Scotland under the Companies Acts (Registered Number SC493676) and having its Registered Office at 50 Lothian Road, Festival Square, Edinburgh, EH3 9WJ ("**Project Co**") have entered into an agreement for the design, build, finance and maintenance of a project to re-provide services from the Royal Hospital for Sick Children, Child and Adolescent Mental Health Service and the Department of Clinical Neurosciences in a single building adjoining the Royal Infirmary of Edinburgh at Little France (the "**Project**") on [ ]<sup>1</sup> (the "**DBFM Agreement**").
- (B) Project Co and the Contractor have entered into a contract (the "**Construction Contract**") on or about the date of the DBFM Agreement for the design and construction of the Project (the "**Contract Works**").
- (C) The Contractor has entered or intends to enter into an agreement with the Subcontractor whereby the Subcontractor will provide certain works (the "**Subcontract Works**") in connection with the Project ("**the Subcontract**") as more particularly described in the Subcontract.

<sup>1</sup> Insert date of signature of Project Agreement

- (D) It is a condition of the Subcontract that the Subcontractor enters this Agreement with the Beneficiary.
- (E) The Beneficiary shall be entitled to rely and is deemed to have relied on the Subcontractor's reasonable skill, care and diligence in respect of all matters covered by this Agreement insofar as they relate to the Subcontract Works provided by the Subcontractor under the Subcontract.

**NOW IT IS AGREED** as follows:

## **1 WARRANTY AND UNDERTAKING**

- 1.1 The Subcontractor warrants and undertakes to the Beneficiary that it has complied and will continue to comply with all the terms and obligations and duties under or arising out of the Subcontract on the Subcontractor's part to be performed and observed and shall complete the Subcontract Works in accordance with the Subcontract.
- 1.2 Without prejudice to Clause 1.1 of this Agreement, the Subcontractor further warrants and undertakes to the Beneficiary that:
- 1.2.1 it has exercised and will continue to exercise all the due skill, care and diligence of a properly qualified and competent subcontractor experienced in providing design of works on projects similar in nature, size and complexity to the Project in:
- (a) the design of the Subcontract Works; and
  - (b) the materials selected or specified by or on its behalf for use in the Subcontract Works (or any part or parts thereof) are in accordance with the guidance contained in the Good Practice Guidance and this Clause 1.21(b); and
  - (c) only materials and goods which are new and of sound and satisfactory quality shall be specified for use in connection with the Subcontract Works; and
  - (d) there shall not be specified for use in connection with the Subcontract Works any materials or substances which are expressly prohibited by the Subcontract or which are generally known not to be in accordance with British or European Standards and Codes of Practice at the time of specification or use (as applicable), or any materials or substances which are deleterious to health and safety or to the durability of buildings and/or other structures and/or finishes and/or plant and machinery in the particular circumstances in which they are used, or any materials or substances identified as deleterious, unsatisfactory or unsuitable in the relevant circumstances in the Good Practice Guidance and, in addition to and separate from the foregoing, any substances or combination of substances publicised prior to the time of construction in any Building Research Establishment Limited ("**BRE**") publications issued as part of

the BRE Professional development service which the BRE recommend are not used for building purposes or for the type of buildings comprised in the Project; and

- (e) the performance of the Subcontract Works to the Contractor under the Subcontract;

For the purposes of Clause 1.2.1, "**Good Practice Guidance**" means the edition of the publication entitled "Good practice in the selection of construction materials" (British Council for Offices (BCO): 2011) or any amended or updated version as at the Commencement Date (as such term is defined in the DBFM Agreement); and

- 1.2.2 the final design and all materials and goods specified therein will correspond as to description, quality and condition with the requirements of the Subcontract; and
- 1.2.3 the final design will at practical completion or its equivalent under the Subcontract, as the case may be, comply with all relevant legislation and Good Industry Practice.

## 2 INSURANCE

- 2.1 The Subcontractor shall maintain throughout the duration of provision of the Subcontract Works and for a period of 12 years after the date of practical completion or its equivalent under the Construction Contract, professional indemnity insurance in an amount of not less than [ five] million pounds (£[ 5 ,000,000])<sup>2</sup> sterling on an each and every claim basis and for any one occurrence or series of occurrences arising out of any one event with insurers of good repute carrying on business in the European Union provided always that such insurance is available at rates which are commercially reasonable to subcontractors.
- 2.2 In determining whether or not insurance is available as aforesaid, the financial characteristics and claims' record of the Subcontractor shall be ignored.
- 2.3 The Subcontractor shall immediately inform the Beneficiary if such insurance ceases to be available at rates which are commercially reasonable in order that the Subcontractor and the Beneficiary can consider alternative means of best protecting their respective positions in respect of the Project in the absence of such insurance provided that the Beneficiary shall be entitled to require the Subcontractor to maintain such lesser amount of Professional Indemnity Insurance as is available to the Subcontractor at rates which are commercially reasonable.
- 2.4 As and when it is reasonably requested to do so by the Beneficiary the Subcontractor shall produce for inspection documentary evidence satisfactory to the Beneficiary (acting reasonably) that its Professional Indemnity Insurance is being maintained.
- 2.5 The Subcontractor confirms that this Agreement has been disclosed to and has been approved by the Subcontractor's Professional Indemnity Insurers or Underwriters.

<sup>2</sup> The exact amount shall be an appropriate amount on a case by case basis having regard to the scope, value and importance of works package.

- 2.6 Should the Subcontractor be in breach of any of its obligations under this Clause **Error! Reference source not found. (Error! Reference source not found.)**, the Beneficiary may itself insure against any risk with respect to which the breach shall have occurred and may recover such sum or sums from the Subcontractor as a debt.

### 3 COPYRIGHT

- 3.1 The Subcontractor hereby grants to the Beneficiary or its appointee and all those authorised by the Beneficiary an irrevocable, transferable, non-exclusive and royalty-free licence (which shall be capable of assignation) to use and reproduce all information (whether or not stored in computer systems), drawings, models, bills of quantities, specifications, schedules, details, plans, programmes, budgets, reports, calculations or other documents, work or things including all applicable passwords or access codes whatsoever provided or to be provided by the Subcontractor in connection with the Subcontract Works (the “**Documents**”) for such purposes as the Beneficiary may at its sole discretion require.
- 3.2 Such licence shall carry the right to grant sub-licences and shall subsist notwithstanding that the Subcontract is terminated or the obligations and duties there under have been completed. For the avoidance of doubt, the grant of such licence or sub-licences shall not impose any additional liability on the Subcontractor.
- 3.3 The Subcontractor shall on reasonable demand provide to the Beneficiary or its appointee and those authorised by the Beneficiary additional copies of any documents on receipt of reasonable copying costs. The Subcontractor will not be liable for any use by the Beneficiary or any appointee or sub-licensee of any of the Documents for any purpose other than that for which the same were prepared and provided by the Subcontractor or for any improper or negligent use by the Beneficiary or any appointee or sub-licensee.
- 3.4 The Subcontractor agrees to indemnify and keep indemnified the Beneficiary from and against all loss, damage, cost, expense, liability or claim in respect of breach of the copyright or other intellectual property rights of any third party caused by or arising out of the carrying out of the Subcontract Works or the use of the licence.

### 4 ASSIGNATION

- 4.1 This Agreement may be assigned or otherwise transferred, novated, in whole or in part by the Beneficiary to any successor to the Beneficiary’s interest in the Project or any part thereof without the consent of the Subcontractor being required and such assignation shall be effective upon written notice thereof being given to the Subcontractor. No assignation of this Agreement by any other party shall be permitted.
- 4.2 The Subcontractor agrees that it shall not at any time assert that any permitted assignee in terms of this Agreement is precluded from recovering any loss resulting from any breach of this Agreement by reason that such assignee is not an original party to this Agreement or that no less or a different loss has been suffered by such assignee.

### 5 NO WAIVER OR VARIATION



- 5.1 No failure, approval, act or forbearance on the part of the Beneficiary in respect of any right of the Beneficiary pursuant to this Agreement shall constitute any waiver of any right of the Beneficiary under or arising out of this Agreement nor relieve the Subcontractor of any of its duties or obligations under or arising out of this Agreement.
- 5.2 The Subcontractor will not seek to modify or vary any of the obligations for which it is responsible under the Subcontract in any respect if that modification or variation will be detrimental to the Beneficiary or affects the Beneficiary's rights or obligations under the DBFM Agreement, the Construction Contract or this Agreement or affects the Subcontractor's obligations under this Agreement.

## 6 EQUIVALENT RIGHTS

The obligations of the Subcontractor under this Agreement shall be no greater in extent or quantity than if the Beneficiary had been named as joint employer with the Contractor under the Subcontract. The Subcontractor shall be entitled in any action or proceedings by the Beneficiary to rely on any limitation in the Subcontract and to raise the equivalent rights in defence of liability as it would have against the Contractor under the Subcontract (other than retention, counterclaim, set-off or to state a defence of no loss or a different loss has been suffered by the Contractor).

## 7 NOTICES

- 7.1 Any notice, consent or demand to be given or made by any party under this Agreement (hereinafter called a "Notice") shall only be validly served if in writing and delivered personally or sent by pre-paid first class recorded delivery post to the following address and marked for the attention of the following person in the case of each party:

Party	Address	Person
The Beneficiary	Lothian Health Board Waverley Gate 2-4 Waterloo Place Edinburgh EH1 3EG	The Chief Executive
The Contractor	[•]	[•]
The Subcontractor	[•]	[•]

Any party may by Notice to the other party/parties change its address or the title of the person for whose attention Notices are to be given or made pursuant to this Clause. Any such Notice shall be deemed to have been received:

- 7.1.1 if delivered personally, at the time of delivery; and
- 7.1.2 in the case of pre-paid first class recorded delivery post, on the first Business Day after the date of posting.
- 7.2 If any Notice is delivered after 5 p.m. on a Business Day, or at any time during a day which is not a Business Day, that Notice shall be deemed to have been received at 9 a.m. on the next Business Day.

- 7.3 For the purposes of this Clause 7 (*Notices*), "Business Day" means any day which is not a Saturday, a Sunday or a public holiday in Scotland. In proving service it shall be sufficient to prove that the envelope containing such Notice was properly addressed to the relevant party and either delivered personally to that address or delivered into the custody of the postal authorities as a pre-paid first class recorded delivery letter. For the avoidance of doubt, Notices shall not be validly served if sent by e-mail or fax.
- 7.4 The definitions of words and phrases used in this Agreement shall be those set out in the Construction Contract and the Subcontract except where expressly defined in this Agreement.
- 7.5 This Agreement shall be governed by and construed in accordance with Scots Law and the parties hereto submit to the exclusive jurisdiction of the Scottish Courts.



Witness .....

Full name .....

Address .....

.....

.....

SUBSCRIBED for and on behalf of the  
said [**SUBCONTRACTOR**]

at

on

By

Print Full Name  
before this witness

Authorised Signatory

Print Full Name  
Address

Witness

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**SCHEDULE PART 10****OUTLINE COMMISSIONING PROGRAMME****1 PRE-COMPLETION COMMISSIONING**

- 1.1 Project Co's Pre-Completion Commissioning shall comprise the activities described as such in Table A of Appendix A of this Schedule Part 10 (*Outline Commissioning Programme*) and more fully set out in Appendix C of this Schedule Part 10 (*Outline Commissioning Programme*).
- 1.2 Project Co shall give written notice to the Independent Tester and the Board's Representative of the commencement of Project Co's Pre-Completion Commissioning not less than five (5) Business Days prior to the date when Project Co (acting reasonably) considers that it shall commence Project Co's Pre-Completion Commissioning.
- 1.3 The Board's Pre-Completion Commissioning shall comprise the activities identified as such in Table A of Appendix A of this Schedule Part 10 (*Outline Commissioning Programme*) and more fully set out in Appendix C of this Schedule Part 10 (*Outline Commissioning Programme*).
- 1.4 Project Co shall give written notice to the Board's Representative of the date upon which the Board shall be entitled to commence the Board's Pre-Completion Commissioning, such notice to be given at least one (1) month prior to the date when Project Co (acting reasonably) considers that the Board should commence the Board's Commissioning in accordance with the Final Commissioning Programme.

**2. POST-COMPLETION COMMISSIONING**

- 2.1 Project Co's Post-Completion Commissioning shall comprise the activities identified as such in Table A of Appendix A of this Schedule Part 10 (*Outline Commissioning Programme*) and more fully set out in Appendix C of this Schedule Part 10 (*Outline Commissioning Programme*).
- 2.2 The Board's Post-Completion Commissioning shall comprise the activities identified as such in Table A of Appendix A of this Schedule Part 10 (*Outline Commissioning Programme*) and more fully set out in Appendix C of this Schedule Part 10 (*Outline Commissioning Programme*).

**3. EQUIPMENT AND TRAINING**

- 3.1 Project Co shall not clean, or move to enable general cleaning, items of equipment so identified by the Board unless in agreement with the Board's Representative. This shall include but not be limited to:
  - 3.1.1 physiological monitoring equipment;
  - 3.1.2 department based computers, visual display units and radiographic equipment or machine consoles including anything bearing radiation or hazard Warning signs; and
  - 3.1.3 equipment that is plugged in for re-charging.
- 3.2 The Board shall ensure that any equipment of the Board that is transferred from an existing site is cleaned and disinfected prior to being transferred to the Facilities.

**SCHEDULE PART 10: OUTLINE COMMISSIONING PROGRAMME**

**Appendix A: Commissioning Responsibilities**

Table A:

Area	Pre-Completion Commissioning		Post-Completion Commissioning	
	Project Co's	Board's	Project Co's	Board's
Rooms/areas which contain Equipment to be installed by Project Co and contains Equipment to be installed/commissioned by the Board prior to the Completion Date.	<p>Project Co to install, commission, test and asset tag Group 1 Equipment as required in accordance with Schedule Part 11 (<i>Equipment</i>) and the Final Commissioning Programme.</p> <p>Project Co to install commission and test Group 2A Equipment as required in accordance with Schedule Part 11 (<i>Equipment</i>) and the Final Commissioning Programme.</p> <p>Equipment to be protected by Project Co until after the Actual Completion Date.</p> <p>Completion of Works after Equipment installation.</p> <p>Project Co to carry out Handover Clean in accordance with the Final Commissioning Programme.</p>	<p>Board to install, commission, test and asset tag Group 2B Equipment in accordance with Schedule Part 11 (<i>Equipment</i>) and the Final Commissioning Programme.</p>	<p>None required.</p>	<p>Board to install, commission, test and asset tag remaining Group 2B Equipment and to install, commission, test and asset tag Group 3 Equipment as required pursuant to Schedule Part 11 (<i>Equipment</i>) and the Final Commissioning Programme.</p> <p>Board to carry out Clinical Clean in accordance with the Final Commissioning Programme.</p> <p>Board transfer of patients to be carried out in accordance with the Final Commissioning Programme.</p>

	Programme.			
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Area	Pre-Completion Commissioning		Post-Completion Commissioning	
	Project Co's	Board's	Project Co's	Board's
Rooms/areas which contain Equipment to be installed by Project Co and contain Equipment to be installed/commissioned by the Board following the Completion Date.	<p>Project Co to install, commission, test and asset tag Group 1 Equipment as required in accordance with Schedule Part 11 (<i>Equipment</i>) and the Final Commissioning Programme.</p> <p>Project Co to install commission and test Group 2A Equipment as required in accordance with Schedule Part 11 (<i>Equipment</i>) and the Final Commissioning Programme.</p>	None required.	Notwithstanding Project Co's obligations under the Service Level Specification, Project Co shall support the Board in the Board achieving a "clinically clean" standard to the satisfaction of the Board's Head of Service Infection Control Facilities pursuant to the NHSScotland National Cleaning Services Specification through the provision of relevant cleaning and maintenance of the Plant or Group 1 Equipment as required.	<p>Board to install, commission, test and asset tag, Group 2B Equipment and Group 3 Equipment as required pursuant to Schedule Part 11 (<i>Equipment</i>) and the Final Commissioning Programme.</p> <p>Board to carry out Clinical Clean in accordance with the Final Commissioning Programme.</p> <p>Board transfer of patients to be carried out in accordance with the Final Commissioning Programme.</p>



Area	Pre-Completion Commissioning		Post-Completion Commissioning	
	Project Co's	Board	Project Co's	Board's
ICT	<p>Project Co infrastructure installed, commissioned and tested in accordance with the Final Commissioning Programme.</p> <p>Project Co to carry out Handover Clean in accordance with the Final Commissioning Programme.</p>	<p>Board hardware installed, commissioned and tested (this being the network, servers and workstations in clinical and non clinical areas) in accordance with the Final Commissioning Programme.</p>	<p>None required.</p>	<p>Board hardware installed, commissioned and tested.</p> <p>Board to carry out Clinical Clean in accordance with the Final Commissioning Programme.</p>

## APPENDIX B – COMPLETION CRITERIA

### 1. GENERAL

#### 1.1 General Requirements

- 1.1.1 Project Co shall provide such labour, materials, stores, test equipment, tools, instruments, apparatus and assistance as are reasonably required for the purpose of any inspection and where appropriate testing by the Independent Tester and shall be responsible for the provision of such electricity, fuel, water and other consumables and materials as may be reasonably required for the same. Invitations shall be furnished by Project Co to the Board and its technical advisers to witness such inspections, testing and commissioning activities of the Works as the Board deems necessary at least fourteen (14) Business Days' prior to the date of any such inspections, testing and commissioning activities of the Works. If the Board and/or its technical advisers are unable to attend such inspections, testing and commissioning activities of the Works then the Independent Tester shall carry out such inspections, testing and commissioning activities of the Works at the date previously notified to the Board.
- 1.1.2 Project Co shall ensure that major items of Plant shall be tested during the Works for both performance and safety prior to dispatch and provide documentary evidence that testing has been carried out if requested by the Independent Tester. For the purposes of this paragraph "major items of Plant" shall include, but not be limited to, boilers, air handling units, generators, chillers, HV/MV switchgear and pressure vessels. Project Co shall arrange for the Board and its technical advisers to witness specific unit factory testing of major items of Plant and shall furnish the Board and its technical advisers with the opportunity to witness all such factory testing. The Board and its technical advisers shall be given at least fourteen (14) Business Days' prior notice, or such reasonable notice as may be agreed, of such testing of major items of Plant. If the Board and/or its technical advisers are unable to attend such testing of major items of Plant the Independent Tester shall carry out such testing of major items of Plant at the date previously notified to the Board.

### 2. WORKS INSPECTION, TESTING AND ACCEPTANCE ACTIVITIES

#### 2.1 Completion Criteria

Project Co shall demonstrate that the following criteria (the "**Completion Criteria**") has been achieved:

- 2.1.1 The building is structurally complete, all external fabric is complete, wind and watertight and air pressure testing complete. Internally all the finishes are complete in accordance with the Room Data Sheets;
- 2.1.2 The Joint between the Link Building and the Facilities has been constructed in accordance with this Agreement;
- 2.1.3 All incoming Utilities including but not limited to power, water, gas and all relevant back up systems are tested, commissioned and operational;
- 2.1.4 All mechanical and electrical Plant and systems shall be tested, commissioned and operate satisfactorily in accordance with the specified design criteria, any manufacturers' operating requirements and the Room Data Sheets;
- 2.1.5 The building management system is complete, tested, commissioned and operational including the setting up of graphs, logs or equivalent;

- 2.1.6 All furniture and Equipment shown on the loaded room layout drawings (as supplemented by Schedule Part 11 (Equipment)) as Project Co's responsibility have been installed (and commissioned if appropriate);
- 2.1.7 All keys, access cards, access codes and other access devices along with any associated suiting, for access to all relevant areas of the Facilities, complete with all relevant schedules, including agreed suiting schedules are ready for handover to the Board;
- 2.1.8 Safe access and egress to and within the Facilities has been established;
- 2.1.9 The Works shall be free from all surplus materials, plant and equipment and shall comply with the standards and requirements of paragraph 3 (Handover Clean);
- 2.1.10 All internal, external and below ground drainage systems are installed and are operational including connections to the drainage as operated by Consort;
- 2.1.11 All external works as appropriate have been completed and are available for use by the Board;
- 2.1.12 All hard-landscaped external works, including roads, car parks, pavements and boundary walls/fences are complete and available for use by the Board;
- 2.1.13 All lift systems are complete, commissioned and operational; including connection and monitoring of lift car emergency call device;
- 2.1.14 All, building, directional, departmental, general information, room numbering and external signage as indicated within Project Co's Proposals and/or Reviewable Design Data and necessary to allow the operational Services to commence has been provided and installed. This includes both internal and external signage for the Facilities and areas outwith the Site to include the access routes and buildings on the Retained Site;
- 2.1.15 Those elements of the fire management strategy and fire safety risk assessment in accordance with the Fire (Scotland) Act 2005, for which Project Co is responsible, have been produced;
- 2.1.16 All fire detection, alarm and suppression systems including the interconnection with the existing RIE Facilities are complete, tested commissioned and operational;
- 2.1.17 All external lighting, including specialist lighting for the helipad, is installed, tested, commissioned and operational;
- 2.1.18 All IT, communication and security systems to be installed by Project Co including the interconnection with the existing RIE Facilities (where relevant), are complete, tested and test results submitted to the Board (and if appropriate commissioned);
- 2.1.19 All security and surveillance systems, access controls and call alarms are complete, tested, commissioned, operational and available for use by the Board;
- 2.1.20 All acoustic testing has been completed to prove compliance with the Board's Construction Requirements and Project Co's Proposals;
- 2.1.21 All medical gas and vacuum systems are complete, tested, commissioned and witnessed by the Board's chief pharmacist and medical gases approved person;
- 2.1.22 All pneumatic tube systems including the elements within the RIE Facilities are complete, tested, commissioned, operational and available for use by the Board;
- 2.1.23 Project Co has provided all documentation to the Independent Tester in accordance with this Agreement and paragraph 4 (*Indicative Testing and Commissioning Documentation*) below;

- 2.1.24 A final draft Operational Manual for the Facilities, in accordance with Clause 18.5 (*Operational Manuals*) of this Agreement, (containing, as a minimum, all the testing and commissioning information including as-built drawings / test results so far as it is reasonably practicable) have been made available by the Contractor to Project Co to allow the Facilities to be operated safely;
- 2.1.25 All tests undertaken in accordance with Section 7 (*Thermal & Energy Efficiency Testing Procedures*) of Schedule Part 6 (*Construction Matters*);
- 2.1.26 Updated Schedule Part 12 (*Service Requirements*) Section 4 (*Energy Strategy*) incorporating final plant selection sizing and efficiencies as identified by Manufacturer's data sheets and commissioning activities and as reviewed and agreed with the Board as per Schedule Part 8 (*Review Procedure*);
- 2.1.27 All elements of the Handover Clean, set out in paragraph 3 (*Handover Clean*) below are complete;
- 2.1.28 Testing and commissioning of all access systems;
- 2.1.29 Project Co shall ensure the following finishing Works are completed;
- (a) Removal of Site establishment;
  - (b) Cap off and completely remove temporary site services and record position;
  - (c) Removal of temporary materials, including surfacing, complete with full reinstatement; and
- 2.1.30 Project Co shall reinstate any damage to Car Park E and/or the relevant part and/or any service media, buildings, structures and others erected thereon and any plant, machinery and equipment at Car Park E in accordance with paragraph 3 of Part 3 (*General Matters*) and shall comply with the requirements in paragraphs 3 and 4 of Section 3 (*General Matters*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*).
- 2.1.31 Project Co shall demonstrate that the following areas shall comply with the requirements of paragraph 8.60 of SHTM 03-01 for conventional operating rooms:
- (a) Operating Theatre suites including;
    - (i) Anaesthetic room;
    - (ii) Theatre;
    - (iii) Preparation room;
    - (iv) Scrub up room; and
    - (v) Utility room.
  - (b) Digital Angiography including:
    - (i) Procedures room
    - (ii) Control room; and
    - (iii) Sterile supplies
  - (c) Intra Operative MRI including:
    - (i) MRI room;
    - (ii) Clean utility;
    - (iii) MR control room; and
    - (iv) Induction area;

The aforementioned areas are as defined in the Schedule of Accommodation.

- 2.1.31 Project Co shall provide completed Section 6 (Room Data Sheets) of Schedule Part 6 (Construction Matters) for all rooms and areas within the Facilities including the

environmental data contained in the Environmental Matrix. These Room Data Sheets shall be complete in all respects;

- 2.1.32 Project Co shall provide Environmental Matrix including Commissioning data test sheets as commissioned in accordance with CIBSE Commissioning Code C and demonstrating compliance with the Environmental Matrix;
- 2.1.33 To the extent not already provided, Project Co shall provide the Collateral Agreements referred to in Clauses 57.8A.3 and 57.8A.4 of this Agreement together with copies certified by Project Co of the sub-contracts for Key Sub-Contractors executed by the parties to such agreements for the relevant sub-contract between the Contractor and each Key Sub-contractor required to provide a Collateral Agreement pursuant to Clauses 57.8A.3 and 57.8A.4 of this Agreement, and evidence that the professional indemnity insurance (or product liability insurance, in the case of the work package referred to in Clause 57.8A.4), to be maintained by the Key Sub-Contractor in terms of the relevant sub-contract and Collateral Agreement as applicable is in place.

### **3. HANDOVER CLEAN**

On completion of the Works, Project Co shall remove builders debris, and clean all areas of the Facilities including plant rooms, to the standard defined below:

#### **3.1 Floors**

- 3.1.1 The floor is cleaned to remove paint, plaster, grit and litter, water and other liquids;
- 3.1.2 The floor is cleaned to remove stains, spots and scuffs;
- 3.1.3 Inaccessible areas (edges and corners) cleaned to remove grit and lint;
- 3.1.4 All carpets, vinyl's and the like floor coverings are clean and vacuumed;
- 3.1.5 Barrier matting zones are vacuumed and wells free of debris;
- 3.1.6 Toilets, Sinks, Basins, Baths, Taps and Fixtures free of all labels, tape and sticky marks to be removed;
- 3.1.7 Porcelain, cubicle rails and plastic surfaces are wiped clean;
- 3.1.8 Metal surfaces, shower screens and mirrors are wiped clean;
- 3.1.9 Wall tiles and wall fixtures (including dispensers, toilet holders, paper dispensers, grab rails and the like) wiped clean to remove grit;
- 3.1.10 Inaccessible areas (edges, corners, folds and crevices) are cleaned to remove grit and lint;
- 3.1.11 All pieces of fixed furniture, equipment and appliances free of all labels, tape and sticky marks and litter, cleaned inside and out;
- 3.1.12 All high surfaces are wiped clean;
- 3.1.13 Blinds, curtains, screens including hanging rails, hooks and fixings cleaned to remove all dust and wiped clean;
- 3.1.14 Shelves, bench tops, cupboards and wardrobes are wiped clean inside and out and are free of litter;
- 3.1.15 Protective film is removed from all hard surfaces and equipment unless otherwise requested by the Service Provider.

### 3.2 Low Level Surfaces

- 3.2.1 Internal walls cleaned to remove paint splashes, grit, soil and graffiti;
- 3.2.2 Skirtings, covings and the like are cleaned to remove paint or plaster splashes;
- 3.2.3 Light switches and electrical sockets are wiped clean; and
- 3.2.4 All windows (glass internal and external), ironmongery, vents window frames and sills are cleaned.

### 3.3 High Level Surfaces

- 3.3.1 Walls and ceilings are cleaned to remove plaster splashes, paint splashes, grit, soil, film and graffiti;
- 3.3.2 Ceilings and light fittings and are cleaned to remove surface markings, dust and dirt;
- 3.3.3 Doors and doorframes are cleaned to remove grit, soil, and film;
- 3.3.4 Air vents, grilles and other ventilation outlets are unblocked and cleaned to remove grit, soil, scuffs and other marks; and
- 3.3.5 Door tracks and door jambs are cleaned to remove grit and other debris.

## 4. INDICATIVE TESTING AND COMMISSIONING DOCUMENTATION

### 4.1 Documentation

The following list is indicative of the test documentation expected to be provided

- 4.1.1 Building warrant completion certificates;
- 4.1.2 Evidence that all conditions for which Project Co is responsible attached to the detailed Planning Approval have been discharged to the satisfaction of the relevant local authority;
- 4.1.3 Not Used;
- 4.1.4 Flushing cleaning and chlorination test certificates;
- 4.1.5 Boiler Plant manufacturer's factory test and commissioning sheets in accordance with CIBSE Commissioning Code B, including all steam systems;
- 4.1.6 Ductwork systems pressure test and volume flow rate certificates if appropriate;
- 4.1.7 Kitchen equipment commissioning certificate if appropriate;
- 4.1.8 Electrical installation completion and inspection certificates in accordance with (BS 7671 and NICEIC requirements);
- 4.1.9 Lighting and power certificate of test;
- 4.1.10 Fire and intruder alarms commissioning certificates, including intruder detection and alarm, access control system(s);
- 4.1.11 General electrical earth loop and insulation resistance test sheets;
- 4.1.12 Testing of all hot water service thermostatic mixing valves ("**TMV's**") in accordance with BS6700 and tests to comply with HSE Document L8 and HGN 'Safe Hot Water and Surface Temperatures;

- 4.1.13 Emergency lighting completion and test certificates;
- 4.1.14 Security systems commissioning certificates;
- 4.1.15 Certificate of soundness testing of gas installation;
- 4.1.16 Gas pipework pressure test and purge certificates;
- 4.1.17 Fire suppression system certificates (in accordance with BS6266 and tests to comply with CIBSE Guidance E;
- 4.1.18 Fire alarm sound record sheets;
- 4.1.19 Lighting calculation sheets and lux level test results;
- 4.1.20 Machine (generator/ups etc) specialist commissioning and factory test sheets;
- 4.1.21 Acoustic test sheets (in accordance with BS EN ISO 717 – 1: 1997);
- 4.1.22 Lift Commissioning in accordance with BS EN 81;
- 4.1.23 Lightning protection risk analysis and test/commissioning sheets in accordance with BS EN 62305 (2008);
- 4.1.24 Works pressure test certificates for all pressure vessels;
- 4.1.25 Mechanical pipework systems pressure tests;
- 4.1.26 A/C Equipment performance tests;
- 4.1.27 Condensate clearance tests for A/C Equipment;
- 4.1.28 BMS/EMS tests/commissioning records in accordance with CIBSE Commissioning Code C;
- 4.1.29 Air distribution systems in accordance with CIBSE Commissioning Code A;
- 4.1.30 Water systems (heating and domestic water) in accordance with CIBSE Commissioning Code W and SHTM 04-01;
- 4.1.31 Legionella testing (to include an organic check on the incoming mains) within tolerances given in HSE ACOP test sheets;
- 4.1.32 Domestic water systems bacteriological quality test sheets;
- 4.1.33 All medical gas and medical and dental vacuum systems test and commissioning certificates as witnessed by the Board's chief pharmacist and medical gases approved person in accordance with SHTM 02-01: Medical gas pipeline systems, Vol 1 – Design, installation, validation and verification;
- 4.1.34 Anaesthetic gas scavenging system test and commissioning certificates in accordance with SHTM 02-01: Medical gas pipeline systems, Vol 1 – Design, installation, validation and verification;
- 4.1.35 Plant (Calorific, Treatment etc.) specialist commissioning and factory test sheets, if applicable;
- 4.1.36 Nurse call test certificate;
- 4.1.37 Disabled Toilet Alarm test certificate;

- 4.1.38 Fire Alarm Test Certificate;
- 4.1.39 CCTV and access control test certificate;
- 4.1.40 Telephone and data structured cable scheme test certificate, test results and copy of manufacturer's warranty;
- 4.1.41 Pneumatic tube system test certificate;
- 4.1.42 Induction loop test certificate;
- 4.1.43 Pipeline Pressure and flow rate test certificates including drainage and all steam systems;
- 4.1.44 Steam boiler/generator test factory test and commissioning certificates in accordance with CIBSE Commissioning Code B;
- 4.1.45 Chiller factory test and commissioning certificates in accordance with CIBSE Commissioning Code R;
- 4.1.46 Chemical clean and inhibitor dosing certification to heating/chilled water systems;
- 4.1.47 Ductwork physical cleaning certification in accordance with SHTM 03-01 and the HVCA (2005) 'TR/19 – Guide to good practice';
- 4.1.48 Proving of isolation rooms differential pressure;
- 4.1.49 Air tests and test records for the Facilities drains and drainage network;
- 4.1.50 Test certificates and sufficient written evidence covering the design, construction and repair etc for all protective devices such as pressure relief valves and the like. Specific reference is made to compliance with Regulation 5 of The Pressure Systems Safety Regulations 2000; and
- 4.1.51 Project Co has provided documentation relating to the acceptance of the helipad for operation by the CAA and Air Ambulance operators, including the lighting and Rescue and Fire Fighting provision.

## 5. **RETAINED ESTATE HANDBACK WORKS COMPLETION CRITERIA.**

Prior to handing back the Retained Estate Handback Works to the Board, at a point in the programme agreed between both parties, Project Co shall ensure the following "**Retained Estate Handback Works Completion Criteria**" have occurred for the Retained Estate Handback Works:

- 5.1.1 All furniture and Equipment shown on the loaded room layout drawings (as supplemented by Schedule Part 11 (*Equipment*)) as Project Co's responsibility have been installed (and commissioned if appropriate);
- 5.1.2 Safe access and egress to, from and within land associated with the Retained Estate Handback Works has been established;
- 5.1.3 The Retained Estate Handback Works shall be free from all surplus materials, plant and equipment;
- 5.1.4 All external drainage systems associated with the Retained Estate Handback Works are installed and are operational including connections to the drainage as operated by Consort;
- 5.1.5 All external works as appropriate for the Retained Estate Handback Works have been completed and are available for use by the Board;



- 5.1.6 All hard-landscaped external works, including roads, pavements and boundary walls/fences within land associated with the Retained Estate Handback Works are complete and available for use by the Board;
- 5.1.7 All external signage as indicated within Project Co's Proposals and/or Reviewable Design Data and necessary to allow the Retained Estate Handback Works to operate has been provided and installed;
- 5.1.8 Those elements of the fire management strategy and fire safety risk assessment in accordance with the Fire (Scotland) Act 2005, for which Project Co is responsible, have been provided;
- 5.1.9 All external lighting as appropriate for the Retained Estate Handback Works is installed, tested, commissioned and operational;
- 5.1.10 All security and surveillance systems associated with the Retained Estate Handback Works is tested, commissioned, operational and available for use by the Board;
- 5.1.11 Reinstatement of damage in accordance with paragraph 3 (*Reinstatement of Damage*) of Part 3 (*General Matters*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) insofar as is relevant to the Retained Estate Handback Works;
- 5.1.12 Project Co shall ensure the following finishing works are undertaken for land associated with the Retained Estate Handback Works;
  - (a) Removal of any Site establishment;
  - (b) Cap off and completely remove temporary site services and record position; and
  - (c) Removal of temporary materials, including surfacing, complete with full reinstatement.

## 6. PETROL STATION SITE WORKS COMPLETION CRITERIA

- 6.1 Prior to handing back the Petrol Station Site Works to the Board, Project Co shall ensure the following "**Petrol Station Site Works Completion Criteria**" have occurred for the Petrol Station Site Works:
  - 6.1.1 All furniture and Equipment shown on Project Co's Proposals' external works drawings and/or Reviewable Design Data (as supplemented by Schedule Part 11 (*Equipment*)) as Project Co's responsibility have been installed (and commissioned if appropriate);
  - 6.1.2 Safe access and egress to, from and within land associated with the Petrol Station Site Works has been established;
  - 6.1.3 The Petrol Station Site Works shall be free from all surplus materials, plant and equipment;
  - 6.1.4 All external drainage systems associated with the Petrol Station Site Works are installed and are operational including connections to the drainage as operated by Consort;
  - 6.1.5 All external works as appropriate for the Petrol Station Site Works have been completed and are available for use by the Board;
  - 6.1.6 All hard-landscaped external works, including roads, pavements and boundary walls/fences within land associated with the Petrol Station Site Works are complete and available for use by the Board;

- 6.1.7 All external signage as indicated within Project Co's Proposals and/or Reviewable Design Data and necessary to allow the Petrol Station Site Works to operate has been provided and installed;
- 6.1.8 Those elements of the fire management strategy and fire safety risk assessment in accordance with the Fire (Scotland) Act 2005, for which Project Co is responsible, have been provided;
- 6.1.9 All external lighting as appropriate for the Petrol Station Site Works is installed, tested, commissioned and operational;
- 6.1.10 All security and surveillance systems associated with the Petrol Station Site Works is tested, commissioned, operational and available for use by the Board;
- 6.1.11 Reinstatement of damage in accordance with paragraph 3 (*Reinstatement of Damage*) of Part 3 (*General Matters*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) insofar as is relevant to the Petrol Station Site Works.
- 6.1.12 Project Co shall ensure the following finishing works are undertaken for land associated with the Petrol Station Site Works;
- (a) Removal of any Site establishment;
  - (b) Cap off and completely remove temporary site services and record position; and
  - (c) Removal of temporary materials, including surfacing, complete with full reinstatement;
- 6.1.13 Remedial measures associated with the proposed public open space land use at the Petrol Station Site Works are completed and shall be independently verified by the Environmental Consultant and certified in accordance with the City of Edinburgh Council Planning Requirements and Regulations;
- 6.1.14 Project Co shall provide all documentation relating to remediation of the Petrol Station Site Works for proposed temporary uses (e.g. construction access road) and final use as an area of public open space. This shall include contaminated land risk assessments, remedial options appraisal reports, remedial strategy reports, detailed design documents and completion/validation reports produced in line with Part IIA of the Environmental Protection Act (1990) and following best practice guidelines detailed in CLR11 (2004), BS10175:2011+A1:2013 and PAN 33; and
- 6.1.15 Project Co shall provide evidence that the ground conditions within the Petrol Station Site Works have not deteriorated as a result of the construction activities.

**Appendix C**

**Outline Commissioning Programme**

The Outline Commissioning Programme is the Outline Commissioning Programme as set out on the disc in the Agreed Form identified and executed as the Appendix C (*Outlook Commissioning Programme*) of Schedule Part 10 (*Outline Commissioning Programme*) of this Agreement, referred to and forming part of this Agreement.

## SCHEDULE PART 11

### EQUIPMENT

#### 1 GROUP 1 EQUIPMENT

1.1 Subject to paragraph 1.3, Project Co shall at its own cost procure, install and commission the Group 1 Equipment at the Facilities as part of the Works in accordance with the Board's Construction Requirements, the Final Commissioning Programme, Project Co's Proposals and any other relevant provisions of this Agreement.

1.2 Project Co shall at its own cost repair, maintain, replace, decommission and dispose of the Group 1 Equipment in accordance with the Service Level Specification and the Method Statements and in accordance with paragraphs 1A (*Standards for Replacement Board Specified Group 1 Equipment*) and 1B (*Commissioning of Replacement Board Specified Group 1 Equipment*).

1.3 The Board shall at its own cost install and commission or procure the installation and the commissioning of Group 1 Equipment set out in the rooms referred to in Appendix 5 (*Board's installation responsibility for rooms with Group 1 Equipment*).

1.4 If at the time of the Board installing the Group 1 Equipment referred to in paragraph 1.3 above, such Group 1 Equipment is:

1.4.1 damaged by the Board; or

1.4.2 is defective or does not properly function due to the acts or omissions of the Board or any Board Party,

then Project Co shall repair or replace such Group 1 Equipment and the Board shall reimburse Project Co for any costs reasonably and properly incurred by Project Co in repairing or replacing any item of Group 1 Equipment referred to in paragraph 1.3 above within twenty (20) Business Days of receipt of a demand thereof together with supporting information, provided that, to avoid doubt, where such Group 1 Equipment referred to in paragraph 1.3 above is damaged or is defective or does not function properly due to the acts or omissions of Project Co or any Project Co Party, then the costs associated with any repair and/or replacement of Group 1 Equipment referred to in paragraph 1.3 above shall be borne by Project Co.

#### 1A PROCUREMENT OF REPLACEMENT BOARD SPECIFIED GROUP 1 EQUIPMENT

1A.1 In accordance with Clause 23A.4.4 (*Lifecycle Replacement*), the Board shall prepare any relevant Replacement Board Specified Group 1 Equipment Specifications.

1A.2 In terms of the procurement of any Replacement Board Specified Group 1 Equipment, Project Co shall use the Replacement Board Specified Group 1 Equipment Specifications provided by the Board pursuant to paragraph 1A.1 above and shall comply with all Laws applicable at the time of procurement of any item of Replacement Board Specified Group 1 Equipment.

1A.3 Project Co shall involve the Board in all aspects of the procurement of Replacement Board Specified Group 1 Equipment in relation to the Replacement Board Specified Group 1 Equipment Specifications, including the tendering process and selection process of the supplier of the Replacement Board Specified Group 1 Equipment.

1A.4 Project Co shall comply with paragraph 1(ii) of Section 4.21 (*Equipment Strategy*) of the Project Co Proposals in relation to the procurement of the Replacement Board Specified Group 1 Equipment.

#### 1B COST OF REPLACEMENT BOARD SPECIFIED GROUP 1 EQUIPMENT

1B.1 Each item of Replacement Board Specified Group 1 Equipment to be supplied by Project Co shall be in accordance with the relevant Replacement Board Specified Group 1 Equipment Specifications:

1B.1.1 at no additional cost to the Board where any such Replacement Board Specified Group 1 Equipment Specifications:

- (a) fulfil the technical and other specifications and functionality of the relevant item of Board Specified Group 1 Equipment as detailed in the Board Specified Group 1 Equipment Specifications; and
- (b) incorporate all technological advances made after the date of execution of this Agreement to the relevant item of Board Specified Group 1 Equipment which have been accepted as standard features for such item of Board Specified Group 1 Equipment of that specification at the time of procurement of that item of Replacement Board Specified Group 1 Equipment;

provided that:

- (i) Project Co shall only be obliged to incorporate technological advances under paragraph 1B.1.1(a) above which require a change to the design, physical structure or layout of the Facilities where either:
  - (A) the Board Specified Group 1 Equipment and/or Board Specified Group 1 Equipment Specifications have become obsolete; or
  - (B) the Board has instructed a Board Change Notice.

1B.1.2 at no additional cost to Project Co where any such Replacement Board Specified Group 1 Equipment Specifications exceed the requirements set out in paragraph 1B.1.1 above. In such an event, the Board shall instruct a Board Change Notice in relation to each item of Replacement Board Specified Group 1 Equipment to be supplied by Project Co being in accordance with the relevant Replacement Board Specified Group 1 Equipment Specifications.

1B.2 In order to avoid double counting the costs of any item of Replacement Board Specified Group 1 Equipment, in the event that the Board issues a Board Change Notice in respect of any item of Replacement Board Specified Group 1 Equipment and/or Board Specified Group 1 Equipment Specifications, the Estimated Change in Project Costs (subsequently calculated by Project Co in respect of such Board Change Notice) shall deduct Project Co's original estimated cost of the Replacement Board Specified Group 1 Equipment set out in the Financial Model.

## 1C **Commissioning of Replacement Board Specified Group 1 Equipment**

1C.1 During the Operational Term, Project Co agrees that:

1C.1.1 the commissioning of any item of Replacement Board Specified Group 1 Equipment shall be carried out against the Replacement Board Specified Group 1 Equipment Commissioning Tests; and

1C.1.2 Project Co shall invite the Board, upon reasonable prior notice, to witness any commissioning carried out pursuant to this paragraph 1C. The Board's response or non-response to Project Co's invitation shall not delay or postpone the commissioning process.

## 1D **Standards for Replacement Group 1 Equipment**

1D.1 Subject to paragraph 1E (*Commissioning of Replacement Group 1 Equipment*) Project Co shall ensure that any item of Replacement Group 1 Equipment which:

- 1C.1.1 is within the public realm areas of the Facilities;
- 1C.1.2 may impact upon health and safety within the Facilities; and/or

1C.1.3 may impact upon the reputation of the Board,

at least meets the original specification for that item of Group 1 Equipment and is (without limitation) of a colour, shape and style so that it is appropriate for its context, location and environment and Project Co shall agree such item of Replacement Group 1 Equipment with the Board (the Board's consent shall not be unreasonably withheld or delayed) prior to installation at the Facilities.

## 1E Commissioning of Replacement Group 1 Equipment

1E.1 During the Operational Term, Project Co agrees that:

1E.1.1 the commissioning of any item of Replacement Group 1 Equipment referred to in paragraph 1D (*Standards for Replacement Group 1 Equipment*) shall be carried out against the Replacement Group 1 Equipment Commissioning Tests; and

1E.1.2 Project Co shall invite the Board, upon reasonable prior notice, to witness any commissioning carried out pursuant to paragraph 1E.1.1. The Board's response or non-response to Project Co's invitation shall not delay or postpone the commissioning process.

## 2 GROUP 2A EQUIPMENT

2.1 The Board shall at its own cost:

2.1.1 procure and make available to Project Co the Group 2A Equipment for installation by Project Co at the Facilities in accordance with the Final Commissioning Programme; and

2.1.2 without prejudice to paragraph 2.1.1, ensure that the relevant items are delivered to the Facilities during the relevant periods set out in the Final Commissioning Programme and in accordance with paragraph 2.6.

2.2 Project Co shall install the Group 2A Equipment at the Facilities in accordance with the Final Commissioning Programme, the Board's Construction Requirements and Project Co's Proposals.

2.3 The Board shall be responsible for the maintenance, replacement, decommissioning and disposal of the Group 2A Equipment and Project Co shall have no responsibility to maintain, replace, decommission or dispose of the Group 2A Equipment save for the installation of lifecycle replacements.

2.4 Project Co shall give the Board not less than three (3) Months prior written notice of the date upon which Project Co requires the Board to procure the delivery of Group 2A Equipment to be installed and commissioned by Project Co in accordance with paragraph 2.2.

2.5 Each notice given pursuant to paragraph 2.4 shall specify;

2.5.1 the item or items of Group 2A Equipment be delivered by the Board;

2.5.2 the location on the Site to which that Group 2A Equipment is to be delivered by the Board; and

2.5.3 the date upon which Project Co requires the Board to deliver the relevant item or items of Group 2A Equipment.

2.6 Without prejudice to paragraph 2.1, the Board shall deliver, or shall procure delivery of the relevant item or items of and/or pertaining to the Group 2A Equipment on the date specified in the relevant notice issued by Project Co pursuant to paragraph 2.4 to such location as set out in paragraph 2.5.2 (which for the avoidance of doubt, must be safely accessible by those persons delivering the relevant item or items of Equipment).

2.7 Following delivery of the Group 2A Equipment pursuant to paragraph 2.6, Project Co shall

procure the safe and appropriate storage of the same until the completion of installation of the Group 2A Equipment by Project Co.

- 2.8 If at the time of installing or commissioning the Group 2A Equipment, such Group 2A Equipment is found to be damaged, does not properly function or otherwise does not correspond with the items to be procured by the Board pursuant to paragraph 2.1 to allow successful completion of commissioning to occur, then the Board shall procure the repair or replacement of such Group 2A Equipment as soon as reasonably practicable, having regard to the length of time generally taken to procure such Group 2A Equipment or procure repairs to such Group 2A Equipment provided that, to avoid doubt, where such Group 2A Equipment is damaged or does not function properly to allow commissioning to occur due to the acts or omissions of Project Co or any Project Co Party, then Project Co shall reimburse the Board for any costs reasonably and properly incurred by the Board in procuring the repair of a replacement item of Group 2A Equipment within twenty (20) Business Days of receipt of a demand thereof together with supporting information.

### **3 GROUP 2B EQUIPMENT**

- 3.1 The Board shall at its own cost:
- 3.1.1 procure the Group 2B Equipment for installation by its own contractors at the Facilities in accordance with the Final Commissioning Programme; and
- 3.1.2 without prejudice to paragraph 3.1.1, ensure that the Group 2B Equipment is delivered to and installed at the Facilities during the relevant periods set out in the Final Commissioning Programme in accordance with paragraph 3.6.
- 3.2 The Board shall procure the installation of the Group 2B Equipment at the Facilities in accordance with the Final Commissioning Programme, the Board's Construction Requirements and Project Co's Proposals.
- 3.3 The Board shall be responsible for the maintenance, replacement, decommissioning and disposal of the Group 2B Equipment and Project Co shall have no responsibility to maintain, replace, decommission or dispose of the Group 2B Equipment.
- 3.4 Project Co shall give the Board not less than twenty five (25) Business Days prior written notice to the Board's Representative of the date upon which Project Co requires the Board to procure the delivery and installation of the Group 2B Equipment by the Board and its contractors in accordance with paragraph 3.2.
- 3.5 Each notice given pursuant to paragraph 3.4 shall specify;
- 3.5.1 the item or items of Group 2B Equipment be delivered and installed by the Board;
- 3.5.2 the location on the Site to which that Group 2B Equipment is to be delivered and installed by the Board; and
- 3.5.3 the date upon which Project Co requires the Board to deliver and install the relevant item or items of Group 2B Equipment.
- 3.6 Without prejudice to paragraph 3.1, the Board shall deliver, or shall procure delivery of the relevant item or items of and/or pertaining to the Group 2B Equipment on the date specified in the relevant notice issued by Project Co pursuant to paragraph 3.4 to such location as set out in paragraph 3.5.2 (which for the avoidance of doubt, must be safely accessible by those persons delivering the relevant item or items of Equipment).
- 3.7 Following delivery of the Group 2B Equipment pursuant to paragraph 3.6, Project Co shall procure the safe and appropriate storage of the same until the completion of installation by or procured by the Board.
- 3.8 If at the time of installing or commissioning the Group 2B Equipment, such Group 2B Equipment is found to be damaged, does not properly function or otherwise does not correspond with the

items to be procured by the Board pursuant to paragraph 3.1 to allow successful completion of commissioning to occur, then the Board shall procure the repair or replacement of such Group 2B Equipment as soon as reasonably practicable, having regard to the length of time generally taken to procure such Group 2B Equipment or procure repairs to such Group 2B Equipment provided that, to avoid doubt, where such Group 2B Equipment is damaged or does not function properly to allow commissioning to occur due to the acts or omissions of Project Co or any Project Co Party, then Project Co shall reimburse the Board for any costs reasonably and properly incurred by the Board in procuring the repair of a replacement item of Group 2B Equipment within twenty (20) Business Days of receipt of a demand thereof together with supporting information.

#### **4 GROUP 3 EQUIPMENT**

- 4.1 Without prejudice to paragraph 1, the Board shall at its own cost procure, install and commission the Group 3 Equipment at the Facilities as part of the Board's Post Completion Commissioning.
- 4.2 The Board shall be responsible for the maintenance, replacement, decommission and disposal of the Group 3 Equipment and Project Co shall have no responsibility to maintain, replace, decommission or dispose of the Group 3 Equipment. If such Group 3 Equipment is damaged or does not function properly to allow commissioning to occur due to the acts or omissions of Project Co or any Project Co Party, then Project Co shall reimburse the Board for any costs reasonably and properly incurred by the Board in procuring the repair of a replacement item of Group 3 Equipment within twenty (20) Business Days of receipt of a demand thereof together with supporting information.

#### **5 GENERAL**

- 5.1 Each Party shall at its own expense perform its obligations described in this Schedule Part 11 (*Equipment*).



**Appendix 1: Equipment Schedule**

The Appendix 1 (*Equipment Schedule*) is the Appendix 1 (*Equipment Schedule*) as set out on the disc in the Agreed Form identified and executed as the Appendix 1 (*Equipment Schedule*) of Schedule Part 11 (*Equipment*) of this Agreement, referred to in and forming part of this Agreement.

**Appendix 2**

**Not Used**

## Appendix 3

## Board Specified Group 1 Equipment

Item	Code	Quantity	Description	Group
1	AUT900	1	Autoclave	1
2	CAB200	2	CABINET: Class II tissue culture cabinet	1
3	CAN010	7	CANOPY: ultra clean ventilation (UCV) operating theatre, 2000mm clear from floor level to underside, 3200W x3200D, sliding screens.	1
4	HOI006	45	HOIST PATIENT; electric; 24V; straight track ceiling mounted (Length of the track to suit the individual needs).	1
5	HOI906	4	HOIST PATIENT; BARIATRIC, electric; 24V; H-frame track ceiling mounted. (Length of the track to suit the individual needs.)	1
6	HOI907	75	HOIST, patient, electric, 24V, H-frame track ceiling mounted. (Length of the track to suit the individual needs)	1
7	LIG2502	4	LUMINAIRE; double arm; operating theatre; table with satellite; shadowless; lux 140000 and lux 110000.	1
8	LIG2505	6	LIGHT; Operating 3 arm	1
9	LIG2506	6	LIGHT; green blue light source.	1
10	LSU003	1	SINK laboratory; 300H 450W 420D; HTM67/S3.	1
11	PAN053	10	PANEL operating theatre; to meet the theatre requirements.	1
12	PEN002	35	PENDANT; Anaesthetic; medical & power supply unit; vertical movement; ceiling mounted; outlets comprising.	1
13	PEN006	2	PENDANT SURGICAL; touch screen monitor; medical and power supply unit; lateral and vertical movement; ceiling mounted; outlets comprising:	1
14	PEN006A	4	PENDANT SURGICAL; medical and power supply unit; lateral and vertical movement; ceiling mounted; outlets comprising:	1
15	PEN1000L	20	PENDANT; critical care; twin arm; left hand monitor arm, with elbow joints; multi movement.	1
16	PEN1004	24	PENDANT; critical care; CIS; single arm with elbow joints; multi movement (to NHS specification).	1
17	PEN1005	4	PENDANT; critical care; single arm (to NHS specification).	1
18	PEN2504	1	PENDANT; Anaesthetic; medical & power supply unit; vertical movement; ceiling mounted; outlets comprising:	1

19	PEN900	8	PENDANT RESUSCITATION, medical gases and power supply unit, fixed location, ceiling mounted, medical gases and power outlets comprising:	1
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**Appendix 4**

**Board Specified Group 1 Equipment Specifications**

The Board Specified Group 1 Equipment Specifications are the Board Specified Group 1 Equipment Specifications as set out on the disc in the Agreed Form identified and executed as the Appendix 4 (*Board Specified Group 1 Equipment Specifications*) of Schedule Part 11 (*Equipment*) of this Agreement, referred to in and forming part of this Agreement.

## Appendix 5

## Board's installation responsibility for rooms with Group 1 Equipment

Ref	Department	Sub Department	Room No	Room Name	Comment
C2	RHSC Wards Support Areas		3-C2-002	Grab & Go	
D05	Paediatric Dentistry		G-D5-002	Laboratory	
D05	Paediatric Dentistry		G-D5-004	Surgery - Multi-Disciplinary	
D05	Paediatric Dentistry		G-D5-008	Surgery - Standard	
D05	Paediatric Dentistry		G-D5-009	Surgery - Standard	
D05	Paediatric Dentistry		G-D5-010	Surgery - Standard	
I1	RHSC Entrance		G-I1-006	Retail Shop	
I1	RHSC Entrance		G-I1-007	Catering Shop	
K1	Family Support		G-K1-022	Radio Lollipop Broadcasting Studio	
N2	DCN Wards / Health Records Support		2-N2-003	Grab & Go	
P1	Theatres & RHSC SDCU	Intra Operative MRI	1-P1-064	MRI Room	Clarification re group 1 items to be issued to NHSL sub-contractor provided in Transmittal 000052.
P1	Theatres & RHSC SDCU	Digital Angiography	1-P1-093	Angiography Procedures Room	Clarification re group 1 items to be issued to NHSL sub-contractor provided in Transmittal 000052.
Q1	Radiology	RHSC Main Department	G-Q1-016	Screening Room (fluoroscopy)	Clarification re group 1 items to be issued to NHSL sub-contractor provided in Transmittal 000052.
Q1	Radiology	Gamma Camera	G-Q1-039	Gamma Camera 1	Clarification re group 1 items to be issued to NHSL sub-contractor provided in Transmittal 000052.
Q1	Radiology	Gamma Camera	G-Q1-044	Gamma Camera 2	Clarification re group 1 items to be issued to NHSL sub-contractor provided in Transmittal 000052.
Q1	Radiology	DCN CT	G-Q1-059	CT Room	Clarification re group 1 items to be issued to NHSL sub-contractor provided in Transmittal 000052.
Q1	Radiology	DCN MRI (NHS 2 Scanners)	G-Q1-110	MRI Room	Clarification re group 1 items to be issued to NHSL sub-contractor provided in Transmittal 000052.

Ref	Department	Sub Department	Room No	Room Name	Comment
Q1	Radiology	DCN MRI (NHS 2 Scanners)	G-Q1-123	MRI Room	Clarification re group 1 items to be issued to NHSL sub-contractor provided in Transmittal 000052.
Q1	Radiology	RHSC MRI/CT	G-Q1-134	MRI Room	Clarification re group 1 items to be issued to NHSL sub-contractor provided in Transmittal 000052.
Q1	Radiology	RHSC MRI/CT	G-Q1-136	CT Room	Clarification re group 1 items to be issued to NHSL sub-contractor provided in Transmittal 000052.
Q1	Radiology	RHSC Main Department	G-Q1-141	Dental Room	Clarification re group 1 items to be issued to NHSL sub-contractor provided in Transmittal 000052.

**SCHEDULE PART 12**  
**SERVICE REQUIREMENTS**

**SECTION 1**  
**SERVICE LEVEL SPECIFICATION**

The Service Level Specification is the Service Level Specification as set out on the disc in the Agreed Form identified and executed as the Section 1 (*Service Level Specification*) of Schedule Part 12 (*Service Requirements*) of this Agreement, referred to in and forming part of this Agreement.



**SECTION 2**

**METHOD STATEMENTS**

The Method Statements are the Method Statements as set out on the disc in the Agreed Form identified and executed as the Section 2 (*Method Statements*) of Schedule Part 12 (*Service Requirements*) of this Agreement, referred to in and forming part of this Agreement.

**SECTION 3**

**SERVICES QUALITY PLAN**

The Services Quality Plan is the Services Quality Plan as set out on the disc in the Agreed Form identified and executed as the Section 3 (*Services Quality Plan*) of Schedule Part 12 (*Service Requirements*) of this Agreement, referred to in and forming part of this Agreement.

**SECTION 4**

**ENERGY STRATEGY**

The Energy Strategy is Energy Strategy as set out on the disc in the Agreed Form identified and executed as the Section 4 (*Energy Strategy*) of Schedule Part 12 (*Service Requirements*) of this Agreement, referred to in and forming part of this Agreement.

## SCHEDULE PART 13

## INDEPENDENT TESTER CONTRACT

## AGREEMENT

## AMONG:

- (1) **LOTHIAN HEALTH BOARD**, a health board constituted in Scotland under the National Health Service (Constitution of Health Boards) (Scotland) Order 1974 (S.I. 1974/267) as amended by the National Health Service (Constitution of Health Boards) (Scotland) Amendment Order 2003 (S.S.I. 2003/217) pursuant to Section 2 of the National Health Service (Scotland) Act 1978 as amended by section 28 of the National Health Service and Community Care Act 1990 and having its principal address at Waverley Gate, 2-4 Waterloo Place, Edinburgh EH1 3EG (together with its successors, assignees and/or transferees is referred to as the "**Board**");
- (2) **IHS LOTHIAN LIMITED**, (registered under number SC493676 whose registered office is at Burness Paull LLP, 50 Lothian Road, Festival Square, Edinburgh, EH3 9WJ) ("**Project Co**");
- (3) **EC HARRIS LLP** (registered under number OC368843) whose registered office is at ECHQ, 34 York Way, London N1 9AB (the "**Independent Tester**");
- (4) **PRUDENTIAL TRUSTEE COMPANY LIMITED**, as agent and trustee for and on behalf of the Secured Creditors ("the **Security Trustee**");
- (5) **M&G INVESTMENT MANAGEMENT LIMITED**, as agent for and on behalf of the European Investment Bank, The Prudential Assurance Company Limited, Prudential Retirement Income Limited, Hold Co and Top Co (the "**Intercreditor Agent**"); and
- (6) **BROOKFIELD MULTIPLEX CONSTRUCTION EUROPE LIMITED** (registered under number 03808946) whose registered office is at 99 Bishopsgate, Second Floor, London, EC2M 3XD (the "**Contractor**");

## WHEREAS:

- (A) Project Co and the Board have entered into an agreement for the financing, design and construction of and the provision of certain services in connection with a project to re-provide services from the Royal Hospital for Sick Children, Child and Adolescent Mental Health Service and the Department of Clinical Neurosciences in a single building adjoining the Royal Infirmary of Edinburgh at Little France at the Site and Off-Site (the "**Project**") pursuant to the Government's private finance initiative (the "**Project Agreement**") under the terms of which they have jointly agreed to appoint an independent tester.
- (B) Project Co has entered into the Construction Contract with the Contractor for the development of the Project at the Site and Off-Site.
- (C) Project Co has entered into the Senior Funding Agreements with the Funders.
- (D) The Independent Tester is an independent adviser willing to provide services to Project Co and the Board and for the benefit of the Secured Creditors and the Funders.
- (E) Project Co and the Board have jointly agreed to engage the Independent Tester to carry out the duties and obligations ascribed to the Independent Tester in the Project Agreement upon the terms of this Agreement.

IT IS AGREED as follows:

## 1 INTERPRETATION

- 1.1 Unless the context otherwise requires, words and expressions defined in the Project Agreement have the same meanings in this Agreement as in the Project Agreement.

**"Completion Process"** means the process and procedures for carrying out the notification, testings, inspections and completion certification as set out in Schedule Part 10 (*Outline Commissioning Programme*) of the Project Agreement as may be applicable to the Works.

- 1.2 The headings in this Agreement do not affect its interpretation.

Unless the context otherwise requires, all references to Clauses and Appendices are references to clauses of and appendices to this Agreement.

## 2 APPOINTMENT

- 2.1 Project Co and the Board jointly appoint the Independent Tester to perform the services obligations and tasks which are ascribed to the Independent Tester under the Project Agreement and which are set out in Appendix 1 upon the terms and conditions set out below. The Contractor is a party to this Agreement solely to make the commitments on its part as expressly made in this Agreement and, for the avoidance of doubt, the Independent Tester shall have no liability to the Contractor.
- 2.2 The Independent Tester shall provide the services, obligation and tasks under Clause 2.1 above (the **"Services"**) independently, fairly and impartially to and as between Project Co and the Board in relation to the Project Agreement at such times and at such locations as the parties shall agree from time to time. In performing the Services in accordance with the terms of this Agreement, the Independent Tester shall have regard to the interest of and shall perform the same for the benefit of and with a duty of care to the Funders, the Secured Creditors, the Security Trustee and the Intercreditor Agent. Whilst the Independent Tester shall take account of any representations made by Project Co and the Board and the Contractor (as appropriate) the Independent Tester shall not be bound to comply with any representations made by any of them in connection with any matter on which the Independent Tester is required to exercise his professional judgement.

## 3 VARIED SERVICES

- 3.1 The Independent Tester shall carry out and perform any additional and/or varied services required for the implementation of the Project reasonably required by the Board and Project Co which are not included in, or which are omitted from, the Services (the **"Varied Services"**), subject to prior agreement by the Board and Project Co to the costs thereof. The written agreement by the Board and Project Co pursuant to this Clause 3.1 shall state whether (and where applicable in what proportions) the Board and/or Project Co will be responsible for the payment of the fee agreed for the Varied Services. The Independent Tester acknowledges that the liability of Project Co and the Board to pay the Independent Tester for the Varied Services shall be several and not joint.
- 3.2 If the Independent Tester shall at any time be required to perform Varied Services, it shall give to the Board and Project Co a written estimate of the cost thereof (taking into account any reduction in work or other expense which might also occur as a result of the circumstances giving rise to the Varied Services).

- 3.3 Where a change to the Project occurs pursuant to the terms of the Project Agreement (whether by virtue of a Delay Event, Change, change to the Programme or otherwise) which may materially impact on the Services or otherwise on the Independent Tester, the Board and Project Co shall promptly notify the Independent Tester of such change. The Independent Tester shall within five (5) Business Days of receiving such notification, notify the Board and Project Co of the impact of such change, if any, on the Services, including whether such change gives rise to any Varied Services and the provisions of this Clause 3.3 shall apply accordingly.
- 3.4 The Independent Tester shall promptly and efficiently provide the Services and the Varied Services:
- 3.4.1 with the reasonable care, skill and diligence to be expected of a properly qualified and competent professional adviser who has held itself out as competent and experienced in rendering such services for projects of a similar size, nature, scope and complexity to the Project; and
- 3.4.2 in accordance with all applicable Law and NHS Requirements.
- 3.5 All instructions to the Independent Tester must be given signed and given jointly by the Board's Representative and Project Co's Representative or such other person appointed pursuant to Clause 8 (*Representatives*) of the Project Agreement and, for the avoidance of doubt, the Independent Tester shall not act in accordance with any instructions given to him by either the Board or Project Co (or any other person) not given in accordance with the provisions of this Clause 3.5.
- 3.6 The Independent Tester shall comply with all reasonable instructions given to it by Project Co and the Board pursuant to Clause 3.5 except and to the extent that the Independent Tester reasonably considers that any such instructions vary or might vary the Services or its authority or responsibilities under this Agreement or prejudices or might prejudice the exercise by the Independent Tester of its professional judgement in accordance with Clauses 2.2 and 3.4 above. The Independent Tester shall promptly confirm in writing to Project Co and the Board whether or not it shall comply with any such instruction setting out the grounds upon which the decision is made.
- 3.7 The Board, Project Co and the Contractor agree to co-operate with and provide reasonable assistance to the Independent Tester to familiarise the Independent Tester with all necessary aspects of the Project to enable the Independent Tester to carry out its obligations under this Agreement.
- 3.8 The Independent Tester shall be deemed to have full knowledge of the provisions of the Project Agreement, the Construction Contract, the Service Contracts, the Senior Funding Agreements and the Interface Agreement (as defined in the Construction Contract) such as relates to the Services and shall be deemed to be aware of and to have taken full account of all the undertakings and warranties, both expressed and implied, on the part of Project Co and the Board which are set out in the Project Agreement provided always that true and accurate copies have been delivered to the Independent Tester.
- 3.9 Subject to Clause 3.10, the Independent Tester shall use the following partners, directors or employees:

Ed Baldwin – Partner

John Edwards – Lead Independent Certifier

Christian Darbyshire – Independent Certifier

Glen Thompson – Independent Certifier

Gio Credali – Independent Certifier

in connection with the performance of the Services and such persons' services shall be available when necessary and for so long as may be necessary to ensure the proper performance by the Independent Tester of the Services. Such persons shall have full authority to act on behalf of the Independent Tester for all purposes in connection with the Services.

- 3.10 The Independent Tester may by written notice to the Board and Project Co replace the staff identified in Clause 3.9 taking into account the need for liaison, continuity, level of qualification and availability of personnel in respect of the Project. Such replacement shall be subject to approval in writing by Project Co and the Board (not to be unreasonably withheld or delayed).

#### 4 DURATION

- 4.1 The Services shall commence on the last date of execution of the Project Agreement
- 4.2 The parties hereby agree that this Agreement governs all of the Services (including the Varied Services, if any) provided by the Independent Tester in relation to the Project whether before or after the date hereof.

#### 5 FEE

- 5.1 Project Co shall pay to the Independent Tester a fee of one hundred and ninety thousand five hundred and twenty pounds (£190,520.00) for the Services provided under this Agreement. The fee is exclusive of value added tax and inclusive of disbursements. The Independent Tester shall issue an invoice to Project Co on a monthly basis in accordance with Appendix 2 Section 1 (*Schedule of Drawdown of Fees*) (the “**Application for Payment**”). Five (5) days after the date on which the invoice is received by Project Co shall constitute the due date (the “**Due Date**”). The final date for payment by Project Co shall be thirty (30) days after receipt of the Independent Tester's invoice (the “**Final Date**”). If Varied Services are provided then they shall be paid for in accordance with the agreement between the Independent Tester and the Board and Project Co pursuant to Clause 3.1.
- 5.2 Not later than five (5) days after the Due Date ascertained in accordance with Clause 5.1, Project Co shall give written notice to the Independent Tester stating the amount which Project Co considers to be or have been due at the Due Date and the basis on which the amount is calculated (the “**Payment Notice**”). It is immaterial that the sum referred to in this notice may be zero. If Project Co fails to give a Payment Notice in accordance with this Clause 5.2 and the Independent Tester has given an Application for Payment in accordance with Clause 5.1, subject to any Pay Less Notice given under Clause 5.3, the sum to be paid to the Independent Tester shall be the sum specified in the Application for Payment.
- 5.3 Where Project Co intends to pay less than the sum stated as due pursuant to this

Agreement, Project Co shall, not later than two (2) days before the relevant Final Date, give a written notice to the Independent Tester (a “**Pay Less Notice**”). Such Pay Less Notice shall specify both the sum that Project Co considers to be due to the Independent Tester at the date the notice is given and the basis on which that sum is calculated. It is immaterial that the sum referred to in this Clause 5.3 may be zero. Where any Pay Less Notice is given, the payment to be made on or before the relevant Final Date shall be not less than the amount stated as due in such notice.

- 5.4 If Project Co fails to pay a sum, or any part of it, properly due to the Independent Tester under this Agreement by the relevant Final Date, Project Co shall, in addition to any unpaid amount that should properly have been paid, pay the Independent Tester simple interest on that amount from the Final Date until the actual date of payment at the Default Interest Rate.
- 5.5 If Project Co fails to pay any amount properly due pursuant to this Agreement by the relevant Final Date and the failure continues for twenty one (21) days after the Independent Tester has given notice to Project Co of its intention to suspend performance of all or any of the Services and the ground or grounds on which it is intended to suspend performance, the Independent Tester may suspend performance of any or all of its obligations until payment of the amount properly due is made in full. Any period of suspension of the Services in accordance with this Clause 5.5 shall be disregarded in computing any contractual time limit to complete work directly or indirectly affected by the exercise of the rights conferred by this Clause 5.5 or as the case may be, the time for completion of such work shall be extended by a period equal to the period of suspension.

Where the Independent Tester exercises its right of suspension under this Clause 5.5, it shall be entitled to a reasonable amount in respect of costs and expenses reasonably incurred by it as a result of the exercise of that right. Any such costs and expenses shall be included in the Independent Tester's next Application for Payment and the Independent Tester shall, with its application, submit such details of the costs and expenses as are reasonably necessary to enable the Independent Tester's entitlement to be ascertained.

- 5.6 Without prejudice to Clause 3.5, neither the Board nor Project Co shall issue instructions or do anything which does or is reasonably likely materially to increase the fees payable to the Independent Tester without the prior approval of the other (such approval not to be unreasonably withheld or delayed).
- 5.7 As soon as the Independent Tester becomes aware of the same and before acting on the same the Independent Tester shall inform the Board and Project Co of any instructions given to him pursuant to Clause 3.5 which will or could reasonably be expected to increase the fees payable to the Independent Tester under the terms of this Agreement. The Independent Tester shall if requested by either Project Co or the Board provide both the Board and Project Co with as detailed an estimate as is reasonably practicable of the increase to the fees payable to it if it carries out such instructions. The estimate of increased fees shall be based upon the rates contained in Appendix 2, Section 2 (*Schedule of Daily Rates*).

## 6 LIMITATIONS ON AUTHORITY

- 6.1 The Independent Tester shall not:

6.1.1 make or purport to make any alteration or addition to or omission from the



design of the Facilities and/or the Retained Estate Handback Infrastructure, (including, without limitation, the setting of performance standards) or issue any instruction or direction to any contractor or professional consultant employed or engaged in connection with the Project; or

- 6.1.2 (unless both Project Co and the Board consent in writing) consent or agree to any waiver or release of any obligation of Project Co or the Board under the Project Agreement or of any contractor or professional consultant employed or engaged in connection with the Project.
- 6.2 For the avoidance of doubt, the Independent Tester shall not express an opinion on and shall not interfere with or give any advice, opinion or make any representation in relation to any matters which are beyond its role and responsibilities under this Agreement.

## 7 TERMINATION

- 7.1 Project Co and the Board may by joint notice in writing (a “**Joint Notice**”) immediately terminate this Agreement if the Independent Tester:
- 7.1.1 is in breach of any of the terms of this Agreement which, in the case of a breach capable of remedy, shall not have been remedied by the Independent Tester within twenty one (21) days of receipt by the Independent Tester of a Joint Notice specifying the breach and requiring its remedy;
- 7.1.2 is incompetent, guilty of gross misconduct and/or any material failure, negligence or delay in the provision of the Services and/or its other duties under this Agreement;
- 7.1.3 fails or refuses after written warning to provide the Services and/or its other duties under this Agreement reasonably and as properly required of him; or
- 7.1.4 is subject to an event analogous to any of the events set out in Clause 40.1.1 (*Insolvency*) of the Project Agreement.
- 7.2 If the Project Agreement is rescinded, terminated or repudiated for any reason and, notwithstanding that the validity of such rescission, termination or repudiation may be disputed, this Agreement may be terminated by Joint Notice and with immediate effect.
- 7.3 Following any termination of this Agreement, but subject to any set-off or deductions which Project Co or the Board may be entitled properly to make as a result of any breach of this Agreement by the Independent Tester, the Independent Tester shall be entitled to be paid in full and final settlement of any valid claim which the Independent Tester may have in consequence thereof, any fees due under Clause 5 (*Fee*) above in respect of the Services carried out in accordance with this Agreement prior to the date of termination.
- 7.4 Termination of this Agreement shall be without prejudice to any accrued rights and obligations under this Agreement as at the date of termination (including the right of

Project Co and the Board to recover damages from the Independent Tester).

- 7.5 If this Agreement is terminated in accordance with Clause 7.1, Project Co and the Board shall use reasonable endeavours to engage an alternative Independent Tester within thirty (30) days, subject to Law and public procurement rules. If within such period Project Co and the Board are unable to procure the appointment of an alternative Independent Tester on reasonable commercial terms, the Independent Tester shall pay to Project Co and/or the Board, as the case may be, any reasonable incremental loss, damage or extra costs suffered by each of them.
- 7.6 If Project Co fails to make a payment of any undisputed sum to the Independent Tester within twenty (20) Business Days of the expiry of any notice issued pursuant to Clause 5.5. in respect of such sum, the Independent Tester may issue a further written notice to the Board and Project Co specifying that the payment remains outstanding (the “**Second Notice**”) and if payment is not made within fifteen (15) Business Days of receipt of the Second Notice the Independent Tester may issue a further written notice terminating this Agreement with immediate effect. Failure by Project Co to pay, following receipt of a Second Notice pursuant to this Clause 7.6, shall be the Independent Tester’s sole ground for terminating this Agreement by reason of breach of this Agreement by the Board and/or Project Co.
- 7.7 Termination of this Agreement shall not affect the continuing rights and obligations of Project Co, the Board and the Independent Tester under Clauses 6 (*Limitations on Authority*), 8 (*Confidential Information and Copyright*), 9 (*Professional Indemnity Insurance*), 18 (*Dispute Resolution Procedure*) and this Clause or under any other Clause which is expressed to survive termination or which is required to give effect to such termination or the consequences of such termination.

## 8 CONFIDENTIAL INFORMATION AND COPYRIGHT

- 8.1 The Independent Tester shall treat as secret and confidential and shall not at any time for any reason disclose or permit to be disclosed to any person or otherwise make use of or permit to be made use of any unpublished information relating to Project Co’s or the Board’s or the Contractor’s (if appropriate) technology or other know-how business plans or finances or any such information relating to a subsidiary, supplier, customer or client of Project Co or the Board or the Contractor (if appropriate) where the information was received during the period of this Agreement except as may be reasonably necessary in the performance of the Services. Upon termination of this Agreement for whatever reasons the Independent Tester shall offer to deliver up to Project Co or the Board (as appropriate) all working papers, computer disks and tapes or other material and copies provided to or prepared by him pursuant either to this Agreement or to any previous obligation owed to Project Co or the Board provided always that the Independent Tester shall be entitled to retain copies of all such items where such offer is accepted.
- 8.2 The obligation to maintain confidentiality does not apply to any information or material to the extent that the Independent Tester is compelled to disclose any such information or material by law or any regulatory or Government authority.
- 8.3 The copyright in all reports, and other documents produced by the Independent Tester in connection with the Project shall remain vested in the Independent Tester but the Independent Tester grants to Project Co and Board and their nominees with full title guarantee a non-exclusive irrevocable royalty free licence to copy and use such reports, and other documents and to reproduce the information contained in them for any purpose related to the Project including (but without limitation) the construction,

completion, maintenance, letting, promotion, advertisement, reinstatement, extension and repair of the Project. Such licence shall include a licence to grant sub-licences and to transfer the same to third parties.

- 8.4 The Independent Tester shall not be liable for use by any person of the documents, (including reports, details, plans, specifications, schedules, computer programs, software, consents and any other papers, works, reports and inventions produced by the Independent Tester) for any purpose other than that for which the same were prepared by or on behalf of the Independent Tester.

## **9 PROFESSIONAL INDEMNITY INSURANCE**

- 9.1 Without prejudice to its obligations under this Agreement, or otherwise at law, the Independent Tester shall maintain professional indemnity insurance with a limit of indemnity of not less than ten million pounds (£10,000,000) for any one claim in respect of any neglect, error or omission on the Independent Tester's part in the performance of its obligations under this Agreement for the period commencing on the date of this Agreement and expiring twelve (12) years after:

9.1.1 the date of final certification of the Works; or

9.1.2 the termination of this Agreement,

whichever is the earlier, provided that such insurance is available in the market place at commercially reasonable rates.

- 9.2 The Independent Tester shall maintain such insurance with reputable insurers carrying on business in the United Kingdom.
- 9.3 Any increased or additional premium required by insurers by reason of the Independent Tester's own claims record or other acts, omissions, matters or things particular to the Independent Tester shall be deemed to be within commercially reasonable rates.
- 9.4 The Independent Tester shall as soon as reasonably practicable inform Project Co and the Board if such insurance ceases to be available at commercially reasonable rates in order that the Independent Tester and Project Co and the Board can discuss means of best protecting the respective positions of Project Co and the Board and the Independent Tester in respect of the Project in the absence of such insurance.
- 9.5 The Independent Tester shall fully co-operate with any measures reasonably required by Project Co and the Board including (without limitation) completing any proposals for insurance and associated documents, maintaining such insurance at rates above commercially reasonable rates if Project Co and the Board undertake in writing to reimburse the Independent Tester in respect of the net cost of such insurance to the Independent Tester above commercially reasonable rates.
- 9.6 The Independent Tester shall, prior to commencing the provision of the Services and as soon as reasonably practicable following renewal dates, produce for inspection by Project Co and the Board documentary evidence that such insurance is being properly maintained.

- 9.7 The above obligations in respect of professional indemnity insurance shall continue notwithstanding termination of this Agreement for any reason whatsoever, including (without limitation) breach by Project Co and the Board.

## 10 LIMITATION OF LIABILITY

- 10.1 With the exception of liability for death, personal injury and/or any other liability that cannot lawfully be excluded or limited, the Independent Tester's maximum aggregate liability to all parties, under or in connection with this Agreement, whether in contract or in delict, or for breach of statutory duty is limited to ten million (£10,000,000).
- 10.2 Not Used.
- 10.3 No action or proceedings under or in connection with this Agreement shall be commenced against the Independent Tester after the expiry of twelve years from the earlier of: (a) the completion of the Services; and (b) the termination of this Agreement.

## 11 SUB-CONTRACTOR LOSSES AND NO LOSS AVOIDANCE

- 11.1 Without prejudice to Clause 10 (*Limitation of Liability*) the Independent Tester hereby acknowledges and accepts (a) that a breach or failure on the part of the Independent Tester could have adverse financial consequences for the Sub-Contractors (or any of them) and (b) any losses, damages, costs and/or other liabilities suffered or incurred by the Sub-Contractors (or any of them) (as the case may be) arising from or in connection with any breach or failure on the part of the Independent Tester under this Agreement shall, for the purposes of this Agreement and notwithstanding the provisions of any Sub-Contract, be deemed to be losses, damages, costs and/or liabilities suffered or incurred by Project Co arising from or in connection with such breach or failure.
- 11.2 Where the Independent Tester would otherwise be liable to make a payment by way of compensation to Project Co including amounts which, in turn, comprise compensation to any Sub-Contractor which is payable by Project Co and/or which would be payable by way of compensation to any Sub-Contractor by Project Co the Independent Tester shall not be entitled to withhold, reduce or avoid any such payment to Project Co in reliance (in whole or in part) on the fact that payment of the amount which is or would be due from Project Co to the Sub-Contractor or the entitlement of the Sub-Contractor to receive payment of such amount (as a result of the circumstances giving rise to the Independent Tester's obligation to pay such compensation) is conditional on receipt by Project Co of such amount from the Independent Tester.

## 12 NOTICES

All notices or other communications required in connection with this Agreement shall be in writing and sent by hand, by first class pre-paid post or by facsimile transmission to the relevant address or facsimile number set out in the Project Agreement or in the case of the Independent Tester to its registered office for the attention of the company secretary or to such other address or facsimile number as a party to this Agreement may notify to another party to this Agreement in writing.

**13 ASSIGNATION**

- 13.1 The Independent Tester shall not assign or transfer any of its rights or obligations under this Agreement or sub-contract the whole or any part of the Services.
- 13.2 Neither Project Co nor the Board shall be entitled to assign or transfer any of their respective rights or obligations under this Agreement save that the parties hereby consent to any such assignment or transfer which is contemporaneous to the assignment or transfer of the Project Agreement and is made to the same assignee or transferee. In the event that the Project Agreement is novated to a third party, the term "Project Agreement" shall include any replacement contract arising from such novation.
- 13.3 The Independent Tester shall not be entitled to contend that any person to whom this Agreement is assigned in accordance with Clause 13.2 is precluded from recovering under this Agreement any loss incurred by such assignee resulting from any breach of this Agreement (whenever happening) by reason that such person is an assignee and not a named party under this Agreement.

**14 CUMULATIVE RIGHTS AND ENFORCEMENT**

- 14.1 Any rights and remedies provided for in this Agreement whether in favour of Project Co or the Board or the Independent Tester are cumulative and in addition to any further rights or remedies which may otherwise be available to the parties.
- 14.2 The duties and obligations of the Independent Tester arising under or in connection with this Agreement are owed to Project Co and the Board both jointly and severally and Project Co and the Board may accordingly enforce the provisions hereof and pursue their respective rights hereunder in their own name, whether separately or with each other.
- 14.3 Project Co and the Board covenant with each other that they shall not waive any rights, remedies or entitlements or take any other action under this Agreement which would or might reasonably be expected to adversely affect the rights, remedies or entitlements of the other without the other's prior written consent, such consent not to be unreasonably withheld or delayed.

**15 WAIVER**

The failure of any party at any one time to enforce any provision of this Agreement shall in no way affect its right thereafter to require complete performance by any other party, nor shall the waiver of any breach or any provision be taken or held to be a waiver of any subsequent breach of any provision or be a waiver of the provision itself.

**16 SEVERABILITY**

In the event that any term, condition or provision contained in this Agreement shall be held to be invalid, unlawful or unenforceable to any extent, such term, clause or provision shall, to that extent, be omitted from this Agreement and the rest of this Agreement shall stand, without affecting the remaining clauses.



..... Address

.....

SIGNED for and on behalf of the said **IHS LOTHIAN LIMITED** acting under a power of attorney

at

on

by

.....  
Print Full Name

.....  
Attorney

and

.....  
Print Full Name

.....  
Attorney

SUBSCRIBED for and on behalf  
of the said **EC HARRIS LLP**

at

on

by

.....  
Print Full Name

.....  
Member

.....  
Print Full Name

.....  
Member

Address

.....

.....

.....

Signed by  
**PRUDENTIAL TRUSTEE  
COMPANY LIMITED**

at

on





Before this witness: -

Witness .....

Full name .....

Address .....

.....

.....

SUBSCRIBED for and on behalf of the  
said **BROOKFIELD MULTIPLEX**  
**CONSTRUCTION EUROPE LIMITED**

at

on

by

\_\_\_\_\_  
Print Full Name

before this witness

\_\_\_\_\_  
Director

\_\_\_\_\_  
Print Full Name

Address

\_\_\_\_\_  
Witness

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## APPENDIX 1

## SCOPE OF SERVICES - INDEPENDENT TESTER CONTRACT

The Independent Tester shall perform the role of Independent Tester as referred to in Clauses 17 (*Pre-Completion Commissioning and Completion*), 18 (*Post Completion Commissioning*) and 19 (*Fossils and Antiquities*) (including complying with any time limits specified in such Clauses) and Schedule Part 6 (*Construction Matters*), Schedule Part 7 (*The Programme*), Schedule Part 8 (*Review Procedure*), Schedule Part 10 (*Outlining Commissioning Programme*), Schedule Part 11 (*Equipment*) and Schedule Part 17 (*Compensation on Termination*) of the Project Agreement, by providing the following scope of Services:

## 1 MONTHLY REPORT AND COMPLETION CERTIFICATION

The Independent Tester shall:

- 1.1 During the Works, attend monthly site progress meetings and provide the Board and Project Co with a monthly report on the activities carried out by the Independent Tester.
- 1.2 Undertake regular inspections during the Works, as necessary, in accordance with the Project Agreement. Report on the completion status of the Project, identifying any work that is not compliant with the Board's Construction Requirements, Project Co's Proposals, the Approved Reviewable Design Data (Approved RDD) and/or the Completion Criteria.
- 1.3 Provide details of any tests carried out by Project Co together with results obtained during that period.
- 1.4 Certify the Actual Completion Date and issue a Certificate of Practical Completion in accordance with the Project Agreement.
- 1.5 Within five (5) Business Days of issue of the Certificate of Practical Completion, issue a Snagging Notice specifying any Snagging Matters. Monitor and review rectification of such Snagging Matters in accordance with the Project Agreement.
- 1.6 Review the programme for the rectification of all Snagging Matters to be carried out and advise Project Co and the Board as appropriate.
- 1.7 And in order to enable the Independent Tester to discharge these primary functions which are to be performed independently, fairly and impartially to and as between Project Co and the Board and having regard to the interests of Funders, the Secured Creditors, the Security Trustee and the Intercreditor Agent, the Independent Tester shall discharge the further duties described below.
- 1.8 Monitor the Works against the required standards of construction quality and Reviewable Design Data.
- 1.9 Monitor the Works for compliance with the Board Construction Requirements and Project Co's Proposals and compliance with Law.

1.10 Provide details of Project Co's compliance with the Quality Plans.

## 2 GENERAL

The Independent Tester shall:

- 2.1 Familiarise itself with the Project Agreement (including the Design Data, the Design Quality Plan, the Construction Quality Plan, Schedule Part 11 (*Equipment*) of the Project Agreement and any Changes issued from time to time and any other relevant documentation or information referred to in the Project Agreement, relevant Service Level Specification and Method Statements) and the Construction Contract to the extent necessary to enable it to provide a report to the Board and Project Co on any contradictory requirements contained within the same and to be in a position to carry out the Services in accordance with the terms of the Project Agreement and this Agreement. Prior to the Commencement Date the Independent Tester shall prepare and issue to the Board and Project Co a project execution plan ("PEP") to include a detailed execution methodology for undertaking the Services including the following; (i) proposed team and duties for each team member; (ii) proposed programme for site visits detailing key inspections; (iii) monthly report template including standard format and items to be covered; and (iv) detailed project specific procedures for undertaking the Services.
- 2.2 Following notification by Project Co, pursuant to Clauses 17.8 (*Commissioning prior to Completion Date*) and 17.10 (*Pre-Completion inspection*) of the Project Agreement, inspect and comment as required on the Works as required by the Completion Process.
- 2.3 Undertake monthly inspections in accordance with the Programme and Final Commissioning Programme.
- 2.4 Identify any delays in the Programme and/or Final Commissioning Programme, any non-compliance by Project Co and any other quality control matters.

## 3 DESIGN REVIEW

The Independent Tester shall:

- 3.1 Monitor and report upon the implementation of the Design Quality Plan for the construction, structural and engineering services design for the Project.
- 3.2 Monitor the detailed working drawings and specifications for a sample number and type of rooms which in his professional judgment is appropriate to be selected by the Independent Tester to verify that they comply with the Approved RDD as described in the Project Agreement. The Independent Tester has indicated that in normal circumstances twenty-five percent (25%) of rooms should be sampled. If in the professional judgment of the Independent Tester, because of the results of its sample or other circumstances a different sampling percentage is appropriate, he shall provide a detailed report in respect of that and, if so agreed (or determined as between Project Co and the Board by the Dispute Resolution Procedure) any change in the percentage sampling resulting in a change in fees will be borne by Project Co and the Board as they shall agree or as determined by the Dispute Resolution Procedure.

- 3.3 Review the detailed design information for any approved design or specification variations for compliance with the performance and quality standards of the Project Agreement, and quality standards as set out in the and the Contractor's Quality Plan.

#### 4 PROCEDURE REVIEW

The Independent Tester shall:

- 4.1 Monitor the operation of the quality assurance procedures of the Contractor at monthly intervals during the execution of the Works.
- 4.2 The Independent Tester shall familiarise itself with the proposed procedures and programmes for the testing and commissioning of the Mechanical and Electrical engineering services prior to the Board's occupation.
- 4.3 Monitor the procedures for the identification, approval and recording of agreed Changes to the Works in accordance with the Project Agreement.
- 4.4 Review any samples or mock ups as required by Section 5 (*Reviewable Design Data*) of Schedule Part 6 (*Construction Matters*) and Schedule Part 8 (*Review Procedure*) and check that they have been approved in accordance with the Project Agreement.

#### 5 CONSTRUCTION REVIEW

The Independent Tester shall:

- 5.1 Visit the Site and Off-Site and monitor the Works for their compliance with the Project Agreement, the Completion Criteria, the Board's Construction Requirements, Project Co's Proposals and the Approved RDD. The frequency and timing of the Independent Tester's visits are dependent on the progress of construction on Site and Off-Site. The Contractor shall agree a programme with the Independent Tester for the inspection of key construction processes and the completed Works and shall give the Independent Tester advance notice of these Works being carried out on Site and Off-Site. The Independent Tester shall identify any aspect of the Works which needs to be inspected before being covered over by subsequent activity so that he may satisfy himself that these have been constructed in accordance with the Contractor's Quality Plan without the need for opening up.
- 5.2 Randomly check that the Works are being undertaken in accordance with the Construction Quality Plan that has been agreed by the Board and Project Co.
- 5.3 Review the written Mechanical and Electrical engineering services testing and commissioning procedure. Undertake selective witnessing of the Mechanical and Electrical services testing and commissioning. The Independent Tester has indicated that these sampling proportions should amount to approximately fifty percent (50%). The Independent Tester shall review one hundred percent (100%) of all test results. If in the professional judgment of the Independent Tester, because of the results of witnessing (or because of other circumstances) a different sampling percentage is appropriate he shall provide a detailed report in respect of that and any change in the percentage sampling resulting in a change of fees will be borne by Project Co, the Board or the Contractor as they shall agree, failing such agreement, as determined by

the Dispute Resolution Procedure.

- 5.4 Inspect rectification works which have previously prevented the Independent Tester from certifying the Project as complete. Concurrent with the issue of the Certificate of Practical Completion, agree a list of Snagging Matters with the Board and Project Co together with its programme for implementation and issue a Snagging Notice in accordance with Clause 17.14 (*Completion Certificate*) of the Project Agreement.
- 5.5 Check the production of the relevant operating manuals, relevant approvals, test results, inspection records and as built drawings and monitor the timely handover of this documentation.

## **6 PARTICIPATION IN DISPUTE RESOLUTION**

As and when required by the Board or Project Co, the Independent Tester shall participate in the Dispute Resolution Procedure of the Project Agreement (as such term is defined in the Project Agreement) to the extent that issues under the Project Agreement which have been referred to the said Dispute Resolution Procedure relate to the Independent Tester's other obligations and tasks as set out in this Appendix 1 and this Agreement.

## APPENDIX 2

## SECTION 1

## SCHEDULE OF DRAWDOWN OF FEES

**FEE BREAKDOWN  
(excluding VAT)**

Drawdown Fee per Month

<b>Month 1</b>	<b>£ 5,850</b>
<b>Month 2</b>	<b>£ 11,310</b>
<b>Month 3</b>	<b>£ 11,860</b>
<b>Month 4</b>	<b>£ 7,020</b>
<b>Month 5</b>	<b>£ 5,920</b>
<b>Month 6</b>	<b>£ 7,570</b>
<b>Month 7</b>	<b>£ 6,370</b>
<b>Month 8</b>	<b>£ 5,270</b>
<b>Month 9</b>	<b>£ 10,210</b>
<b>Month 10</b>	<b>£ 3,320</b>
<b>Month 11</b>	<b>£ 3,030</b>
<b>Month 12</b>	<b>£ 3,030</b>
<b>Month 13</b>	<b>£ 3,110</b>
<b>Month 14</b>	<b>£ 3,110</b>
<b>Month 15</b>	<b>£ 3,110</b>
<b>Month 16</b>	<b>£ 3,110</b>
<b>Month 17</b>	<b>£ 3,110</b>
<b>Month 18</b>	<b>£ 3,110</b>
<b>Month 19</b>	<b>£ 3,110</b>
<b>Month 20</b>	<b>£ 3,110</b>
<b>Month 21</b>	<b>£ 3,150</b>
<b>Month 22</b>	<b>£ 3,150</b>
<b>Month 23</b>	<b>£ 3,150</b>
<b>Month 24</b>	<b>£ 9,660</b>
<b>Month 25</b>	<b>£ 9,660</b>
<b>Month 26</b>	<b>£ 9,660</b>
<b>Month 27</b>	<b>£ 11,930</b>
<b>Month 28</b>	<b>£ 11,930</b>
<b>Month 29</b>	<b>£ 13,240</b>
<b>Month 30</b>	<b>£ 3,990</b>
<b>Month 31</b>	<b>£ 2,680</b>
<b>Month 32</b>	<b>£ 2,680</b>
<b>Month 33</b> -	
<b>Month 34</b> -	
<b>Month 35</b> -	
<b>Month 36</b> -	
	<b>Total £ 190,520</b>

## SECTION 2

## SCHEDULE OF DAILY RATES

**Daily Rates for Provision of Additional Services****Grade Daily Rate (£)**

Partner	£ 1,240.00
Lead Independent Tester	£ 1,064.00
Independent Tester	£ 712.00
Service Expert (Structural Engineering, ICT, Medical Equipment)	£ 768.00
Technical Support	£ 352.00



**SCHEDULE PART 14**

**PAYMENT MECHANISM**

**SECTION 1  
INTERPRETATION**

In this Schedule Part 14 (*Payment Mechanism*) and elsewhere in this Agreement (save where Schedule Part 1 (*Definitions and Interpretation*) provides to the contrary) the following words shall have the following meanings:

- “Annual Service Payment”** means the sum in pounds sterling calculated in accordance with paragraph 2 (*Annual Service Payment*) of Section 2 (*Calculation of Service Payments*) of this Schedule Part 14 (*Payment Mechanism*);
- “Availability Failure”** subject to Section 4 (*Temporary Repairs*) of this Schedule Part 14 (*Payment Mechanism*), means a Service Event which has not been Rectified within the relevant Rectification Period and which causes a Functional Area to be Unavailable;
- “Availability Standards”** means the service requirements identified as such, set out in the Service Level Specification;
- “Consequential Unavailable Areas”** means, in relation to a Functional Area affected by an Availability Failure, the Functional Area(s) (if any) listed against that Functional Area in the column headed “Consequential Unavailable Areas” in Appendix 2 to this Schedule Part 14 (*Payment Mechanism*);
- “Deduction Period” or “DP”**
- (a) where the relevant Performance Failure or Availability Failure arises following a Service Event in respect of which a Rectification Period is specified in the Availability Standards or the Performance Standards, as applicable, the Deduction Period shall equal the number of Sessions that elapse from and including the Session during which the Service Failure Time occurs to, and including, the Session on which the Logged Rectification Time occurs; and
  - (b) where the relevant Performance Failure arises following a Service Event in respect of which no Rectification Period is specified in the Performance Standards, as applicable, the Deduction Period shall equal 1;
- “External Utility Failure”** means a failure in:
- (a) the supply of gas, electricity, water, telephone or telecommunications services to the Site; or
  - (b) the service and facility of discharging water and sewerage from the Site,
- where such failure originates on the side of the relevant Utility Point that is owned or controlled by the relevant utility provider and provided that such failure has not arise as a result of an act or omission of Project Co or a Project Co Party;
- “Gross Monthly Availability Deduction”** means, for Contract Month "n", the amount in pounds sterling calculated by the formula:

$SUR \times SUF \times Sessions_n$

where  $Sessions_n$  is the number of Sessions in Contract Month $_n$ ;

<b>“Gross Service Units” or “GSUs”</b>	means the number of service units attributed to each Functional Area as set out in Appendix 2 to this Schedule Part 14 ( <i>Payment Mechanism</i> );
<b>“Helpdesk”</b>	means the helpdesk facilities established by Project Co Pursuant to the Service Level Specification;
<b>“Indexation Factor” or “IF”</b>	means 26%;
<b>“Logged Rectification Time”</b>	means the time which is shown in the Helpdesk records maintained by Project Co in accordance with the Service Level Specification as being the time when a Service Event was Rectified or Remedied, as the case may be, or, in the event that a failure affecting the Helpdesk occurs, as shown on the manual Helpdesk records maintained by Project Co;
<b>“Logged Report Time”</b>	means the date and time which is shown in the Helpdesk records maintained by Project Co in accordance with the Service Level Specification as being the date and time at which a Service Report was received by the Helpdesk or, if a failure affecting the Helpdesk occurs, as shown on the manual Helpdesk records maintained by Project Co;
<b>“Major Performance Failure”</b>	means a Performance Failure which has been designated as such in the Service Level Specification or in this Schedule Part 14 ( <i>Payment Mechanism</i> );
<b>“Medium Performance Failure”</b>	means a Performance Failure which has been designated as such in the Service Level Specification or in this Schedule Part 14 ( <i>Payment Mechanism</i> );
<b>“Minimum Agreed Availability Standards”</b>	means the minimum standards with which a Functional Area must comply, as agreed between the Board and Project Co, for the period until a Permanent Repair can be undertaken;
<b>“Minimum Availability Deduction”</b>	means, in any Contract Year "n", an amount in pounds sterling calculated using the following formula:

$$MAD_n = MAD_o \times (1 - IF) + \left( (MAD_o \times IF) \times \left( 1 + \frac{(RPI_n - RPI_o)}{RPI_o} \right) \right)$$

where

**MAD<sub>n</sub>** is the Minimum Availability Deduction applicable for the relevant Contract Year;

**MAD<sub>o</sub>** is £50 or, where the relevant Functional Area is Unavailable but Used, is £25;

**RPI<sub>n</sub>** is the value of the Retail Price Index published or determined with respect to the month of February which most recently precedes the relevant Contract Year; and

**RPI<sub>o</sub>** is the value of the Retail Price Index published or

determined with respect to the Base Date;

- “Minor Performance Failure”** means a Performance Failure which has been designated as such in the Service Level Specification or in this Schedule Part 14 (*Payment Mechanism*);
- “Monthly Service Payment”** means the sum in pounds sterling calculated in accordance with paragraph 1 of Section 2 (*Calculation of Service Payments*) of this Schedule Part 14 (*Payment Mechanism*);
- “Patient Bed Lifts”** means those Functional Areas identified as such in Appendix 2 to this Schedule Part 14 (*Payment Mechanism*) including rooms BD-003, BD-004, BD-005, BD-001, and BD-002;
- “Pass Through Costs” or “PTC”** means costs payable to Project Co pursuant to Section 6 (*Pass Through Costs*) of this Schedule Part 14 (*Payment Mechanism*);
- “Performance Failure”** subject to Section 4 (*Temporary Repairs*) of this Schedule Part 14 (*Payment Mechanism*), means a Service Event relating to a Performance Standard which has not been Rectified within the relevant Rectification Period (if any);
- “Performance Standards”** means the service requirements identified as such, set out in the Service Level Specification;
- “Permanent Repair”** means Rectification following the agreement of a Temporary Repair;
- “Permanent Repair Deadline”** has the meaning given in paragraph 1.2 of Section 4 (*Temporary Repairs*) of this Schedule Part 14 (*Payment Mechanism*);
- “Rectification”** means, following the occurrence of a Service Event, making good the Service Event so that the subject matter of the Service Event complies with the levels of Service required pursuant to this Agreement which shall, without prejudice to the generality of the foregoing, include (a) restoring all functional capability and (b) ensuring that any Functional Area which has been affected by the relevant Service Event complies with the Availability Standards and the Performance Standards, as applicable, and “Rectify” and “Rectifying” shall be construed accordingly;
- “Rectification Period”** means, where applicable, the period of time specified in the Availability Standards or the Performance Standards, as the case may be, allowed for the Rectification of the relevant Service Event, which period shall commence at the Logged Report Time, provided that, subject to Project Co having promptly notified the Board’s Representative of the fact and having recorded the same on the Helpdesk system, the Rectification Period shall be extended by any period during which Project Co was prevented or interrupted by the Board and/or any Board Party from Rectifying any failure to meet the Availability Standards or Performance Standards;
- “Remedial Period”** means, where applicable, the period of time specified in the Performance Standards within which Project Co must Remedy a Service Event;
- “Remedy”** means the actions or tasks, detailed in the column headed Remedial Period/Remedy in the Performance Standards, required to remedy a Performance Failure and “**Remedied**” shall be construed accordingly;

<b>“Service Event”</b>	means an incident or state of affairs which does not meet or comply with the Performance Standards and/or does not satisfy the Availability Standards;
<b>“Service Failure Time”</b>	means the date and time when a Service Event becomes a Performance Failure or an Availability Failure, as the case may be;
<b>“Service Report”</b>	has the meaning given in Section 1 ( <i>Service Level Specification</i> ) of Schedule Part 12 ( <i>Service Requirements</i> );
<b>“Service Unit Rate” or “SUR”</b>	means, for Contract Year “n”, the amount in pounds sterling calculated by the formula:

$$SUR = \left( \frac{ASP_n}{SUF \times TSS} \right)$$

where:

**ASP<sub>n</sub>** is the Annual Service Payment for Contract Year “n” calculated in accordance with paragraph 2 of Section 2 (*Calculation of Service Payments*) of this Schedule Part 14 (*Payment Mechanism*); and

**TSS** is the number of Sessions in Contract Year “n”;

<b>“Service Units Affected” or “SUA”</b>	means the aggregate of the GSUs of the Functional Areas affected by an Availability Failure and the GSUs of the Consequential Unavailable Areas (if any) related to those Functional Areas, as determined by Appendix 2 to this Schedule Part 14 ( <i>Payment Mechanism</i> );
<b>“Service Units of the Facilities” or “SUF”</b>	means a value equal to 12,917;
<b>“Session”</b>	means a period of 8 hours, beginning at 6am, 2pm and 10pm in each 24-hour period;
<b>“Temporary Repair”</b>	means, in respect of the occurrence of a Service Event, works of a temporary nature that do not constitute Rectification but satisfy the Minimum Agreed Availability Standards and substantially make good the relevant Service Event for the period until a Permanent Repair can be undertaken;
<b>“Unavailable”</b>	means in relation to a Functional Area that such Functional Area is in a state or condition which does not comply with any one or more of the Availability Standards;
<b>“Unavailable but Used”</b>	means in relation to any Functional Area that it is Unavailable but is used by the Board for its normal purpose at any time (apart from the purposes of evacuating the Functional Areas and the time taken for such evacuation) including for the avoidance of doubt, for the provision of Board Services during which it would otherwise be Unavailable;
<b>“Utility Point”</b>	means the point at which ownership and/or control of each relevant utility passes from Project Co or a Project Co Party to the relevant utility provider as shown on the drawing:

- (a) proposed site plan "Gas, MWS & Fire Mains Services Layout (drawing reference WW-EW-XX-PL-750-001-Rev

01); and

- (b) proposed new Scottish Power substation and high voltage cable route (drawing reference WW-EW-XX-PL-755-001 Rev 02),

both as set out in Section 4.9.of Part 4 (*Project Co's Proposals*) of Schedule Part 6 (*Construction Matters*).

## SECTION 2

## CALCULATION OF SERVICE PAYMENTS

## 1. MONTHLY SERVICE PAYMENT

- 1.1 Calculate the Monthly Service Payment payable in respect of a Contract Month “n” using the following formula:

$$MSP_n = \left( \frac{ASP_n}{12} \right) - \sum D_{n-2} + PTC$$

where:

**MSP<sub>n</sub>** is the Monthly Service Payment for the Contract Month n;

**ASP<sub>n</sub>** is the Annual Service Payment for the Contract Year in which Contract Month n occurs, calculated in accordance with paragraph 1.2 below;

**ΣD** is the sum of Deductions in respect of performance of the Services during the Contract Month that was 2 months prior to Contract Month n as shown in the Monthly Service Report for that Contract Month and calculated in accordance with the provisions set out in Section 3 (*Deductions from Monthly Service Payments*) of this Schedule Part 14 (*Payment Mechanism*);

**PTC** means any Pass Through Costs due for which supporting uncontested invoices from Project Co’s suppliers are available;

- 1.2 In the Contract Month in which the Payment Commencement Date falls, unless the Payment Commencement Date is the first day of that Contract Month, and in the last Contract Month of the Project Term, unless the last day of the Project Term is the last day of that Contract Month, adjust  $ASP_n$  for the purposes of paragraph 1.1 above pro rata to reflect the actual number of days in the relevant Contract Month from and including the Payment Commencement Date (for the first month) and (for the last month) up to and including the last day of the Project Term (for the last month).

## 2. ANNUAL SERVICE PAYMENT

Calculate the Annual Service Payment for any Contract Year “n” using the following formula:

$$ASP_n = ASP_0 x (1 - IF) + \left[ (ASP_0 x IF) x \left[ 1 + \frac{(RPI_n - RPI_0)}{RPI_0} \right] \right]$$

where:

**ASP<sub>n</sub>** is the Annual Service Payment for the relevant Contract Year;

**ASP<sub>0</sub>** is the value for ASP<sub>0</sub> stated in Appendix 1 to this Schedule Part 14 (*Payment Mechanism*) (being the Annual Service Payment at the Base Date), subject to any

adjustments made from time to time in accordance with any express provision of this Agreement;

$RPI_n$  is the value of the Retail Prices Index published or determined with respect to the month of February which most recently precedes the relevant Contract Year; and

$RPI_0$  is the value of the Retail Prices Index published or determined with respect to the Base Date.

## SECTION 3

### DEDUCTIONS FROM MONTHLY SERVICE PAYMENTS

#### 1. ENTITLEMENT TO MAKE DEDUCTIONS

- 1.1 If at any time after the Payment Commencement Date an Availability Failure or a Performance Failure occurs the Board will be entitled, subject to paragraphs 1.2 and 1.4 of this Section 3 (*Deductions from Monthly Service Payments*) and paragraph 1 of Section 4 (*Temporary Repairs and Alternative Accommodation*), to make Deductions in calculating the Monthly Service Payment in respect of that Availability Failure or Performance Failure, calculated in accordance with this Section 3 (*Deductions from Monthly Service Payments*) of Schedule Part 14 (*Payment Mechanism*).
- 1.2 In calculating the Monthly Service Payment for Contract Month "n", the maximum aggregate of all Deductions that the Board may make in respect of Contract Month "n-2" is the Gross Monthly Availability Deduction for Contract Month "n-2".
- 1.3 In any Contract Month where the value of  $\sum D_{n-2}$  exceeds the value of  $ASP_n/12$ , the Monthly Service Payment due by the Board shall be an amount equal to PTC for that Contract Month but the Board shall, in calculating the Monthly Service Payment in respect of the following and (to the extent necessary) any subsequent Contract Months, be entitled to carry forward and set off the amount of such excess against the amount by which the value of  $ASP_n/12$  exceeds the value of  $\sum D_{n-2}$  (as such values are calculated in the following Contract Month and (to the extent necessary) any subsequent Contract Months) until the amount of such excess has been set-off in full. To the extent that any such excess has not been set off as at the earlier to occur of the Expiry Date and the Termination Date, then an amount equal to such excess shall be immediately due and payable by Project Co to the Board.
- 1.4 To the extent that an Availability Failure or a Performance Failure:
- 1.4.1 is the result of an Excusing Cause; or
- 1.4.2 is the result of an External Utility Failure,
- the Board shall not be entitled to make Deductions.
- 1.5 To the extent that an Availability Failure or a Performance Failure is the result of:
- 1.5.1 a Relief Event; or
- 1.5.2 an event of Force Majeure,
- the Board shall be entitled to make Deductions but any such Deductions shall be disregarded for the purposes of Clause 24.3 (*Grounds for Warning Notices*) and Clause 40.1.8 (*Deductions*).

#### 2. DEDUCTIONS FOR PERFORMANCE FAILURES

- 2.1 Subject to paragraphs 1 (*Entitlement to make Deductions*) and 5 (*Repeated Failures*) of this Section 3 (*Deductions from Monthly Service Payments*), the amount of the Deduction in respect of a Performance Failure is calculated using the following formula:

$$D = PFD \times DP$$

where:



**D** means the amount (in pounds sterling) of the Deduction in respect of the Performance Failure; and

**PFD** means:

- (a) in the case of a Minor Performance Failure, the sum of £30, index linked;
- (b) in the case of a Medium Performance Failure, the sum of £75, index linked;
- (c) in the case of a Major Performance Failure, the sum of £200, index linked;

2.2 In the case of a Service Event for which no Rectification Period is specified in the Performance Standard, a Performance Failure occurs immediately upon the occurrence of the Service Event and, if it is not Remedied within the relevant Remedial Period, it will reoccur at the expiry of the Remedial Period and the Remedial Period shall recommence and so on until such time as the Performance Failure has been Remedied.

2.3 No Deduction may be made by the Board from the Monthly Service Payment for the relevant Contract Month in respect of any Minor Performance Failure if the total number of Minor Performance Failures which have occurred in the relevant Contract Month is not more than 5. Where two or more Performance Failures occur in a Functional Area during a Session, only the Performance Failure that results in the highest Deduction will apply.

### 3. DEEMED PERFORMANCE FAILURES

If Project Co fails to monitor or accurately report a Service Event, a Performance Failure or an Availability Failure then, without prejudice to the Deduction to be made in respect of the relevant Performance Failure or Availability Failure (if any), the failure to monitor or report the Service Event, Performance Failure or Availability Failure will be deemed to be a new Medium Performance Failure unless the circumstances set out in paragraph 6 of Section 5 (*Failure by Project Co to Monitor or Report*) apply, in which case there shall be deemed to be a new Major Performance Failure.

### 4. DEDUCTIONS FOR AVAILABILITY FAILURES

4.1 Subject to paragraphs 1 (Entitlement to make Deductions) and 5 (*Repeated Failures*) of this Section 3 (*Deductions from Monthly Service Payments*), and subject also to paragraph 4.2, paragraph 4.3 and paragraph 4.4 below where applicable, the amount of the Deduction in respect of an Availability Failure is the higher of:

4.1.1 the Minimum Availability Deduction x DP; and

4.1.2 an amount calculated in accordance with the following formula:

$$D = SUA \times SUR \times DP$$

where:

**D** means the amount (in pounds sterling) of the Deduction in respect of the Availability Failure

- 4.2 Where the relevant Functional Area is Unavailable but Used the Deduction for the Availability Failure shall be reduced by 50%.
- 4.3 The number of GSUs applicable to a Patient Bed Lift that is affected by an Availability Failure shall be multiplied by 1.5 in each Session in which (whether resulting from the same Service Event or different Service Events) 2 or 3 other Patient Bed Lifts have also been affected by an Availability Failure.
- 4.4 The number of GSUs applicable to a Patient Bed Lift that is affected by an Availability Failure shall be multiplied by 3 in each Session in which (whether resulting from the same Service Event or different Service Events) 4 other Patient Bed Lifts have also been affected by an Availability Failure.

## 5. REPEATED FAILURES

Subject to paragraph 1 (*Entitlement to make Deductions*) of this Section 3 (*Deductions from Monthly Service Payments*) and paragraph 5A below if:

- 5.1 a Performance Failure in respect of the same Performance Standard (other than a Performance Failure in respect of Performance Standard FM71 that relates to a Service Event that is either Routine or Important); or
- 5.2 an Availability Failure in respect of the same Availability Standard,

occurs 3 or more times in a rolling period of 3 consecutive Contract Months, then the Deduction calculated pursuant to paragraph 2 (*Deductions for Performance Failures*) or paragraph 4 (*Deductions for Availability Failures*) of this Section 3 (*Deductions from Monthly Service Payments*) for the 4th and each subsequent such Performance Failure and/or the 4th and each subsequent such Availability Failure during the relevant period of 3 consecutive Contract Months shall be multiplied by 1.5.

- 5A Subject to paragraph 1 (*Entitlement to make Deductions*) of this Section 3 (*Deductions from Monthly Service Payments*) if in respect of Performance Standard FM71 21 or more Performance Failures relating to Service Events that are Routine and/or 15 or more Performance Failures relating to Service Events that are Important occur in a rolling period of 3 consecutive Contract Months, then the Deduction calculated pursuant to paragraph 2 (*Deductions for Performance Failures*) of this Section 3 (*Deductions from Monthly Service Payments*) for the 22<sup>nd</sup> or 16<sup>th</sup> (respectively) and each subsequent such Performance Failure during the relevant period of 3 consecutive Contract Months shall be multiplied by 1.5.

## 6. REPEATED RECTIFICATION

If four or more Service Events occur in any rolling seven day period and:

- 6.1 each such Service Event is in connection with the same Performance Standard or Availability Standard;
- 6.2 each such Service Event affects the same Functional Area; and
- 6.3 there is good reason to believe that the root cause of each such Service Event is the same

then, notwithstanding paragraph 2.3 and notwithstanding that Project Co achieves Rectification of the Service Events within the relevant Rectification Period, there will be deemed to be a Major Performance Failure.

## 7. EFFECT OF UNAVAILABILITY ON OTHER DEDUCTIONS

- 7.1 Subject to paragraphs 7.2 and 7.3, if a Performance Failure occurs affecting a Functional Area and the Service Event giving rise to the Performance Failure also gives rise to an Availability

Failure affecting that Functional Area, only the deductions for the Availability Failure apply.

- 7.2 If an Availability Failure affects a Functional Area and the Board does not continue to use that Functional Area, the Board shall not, until Rectification of that Availability Failure, be entitled to make further Deductions in respect of that Functional Area other than in respect of the Availability Failure.
- 7.3 If a Functional Area is Unavailable but Used, the Board will be entitled to make Deductions in respect of any Performance Failures affecting that Functional Area.

## SECTION 4

## TEMPORARY REPAIRS

1. If Project Co informs the Board that it is unable to Rectify a Service Event within the specified Rectification Period due to the need for specialised materials or personnel that are not, and cannot reasonably be expected to be, immediately available at the Facilities but that a Temporary Repair can be effected:
  - 1.1 Project Co may carry out the Temporary Repair proposed by Project Co unless the Board, acting reasonably, considers that, if the Temporary Repair proposed by Project Co is carried out, the relevant Functional Area will not be fit for use for the Board Services for which it is normally used; and
  - 1.2 where a Temporary Repair is permitted pursuant to paragraph 1.1, the Board and Project Co must act reasonably to agree a date and time (the "**Permanent Repair Deadline**") by which a Permanent Repair must be made, giving Project Co a reasonable period within which to carry out the Permanent Repair.
2. During any period beginning at the time when a Temporary Repair has been approved by the Board and ending at the earlier of:
  - 2.1 the time at which a Permanent Repair is successfully completed; and
  - 2.2 the Permanent Repair Deadline,

the Availability Standards will be replaced by the Minimum Agreed Availability Standards.
3. If an agreed Temporary Repair is completed by Project Co before the Permanent Repair Deadline and results in the Functional Area affected by the relevant Service Event satisfying the Minimum Agreed Availability Standards, the date and time shown in the Helpdesk records maintained by Project Co in accordance with the Service Level Specification as being the date and time when the Temporary Repair was completed (or, in the event that a failure affecting the Helpdesk occurs, as shown on the manual Helpdesk records maintained by Project Co as being the date and time when the Temporary Repair was completed) shall be deemed to be the Logged Rectification Time for that Service Event for the purpose of determining the value of DP in the formula in paragraph 4 (*Deductions for Availability Failures*) in Section 3 (*Deductions from Monthly Service Payments*) of this Schedule Part 14 (*Payment Mechanism*).
4. If the Permanent Repair is not carried out by the Permanent Repair Deadline, a Performance Failure or, as the case may be, an Availability Failure, will occur at that date and time and the provisions of paragraph 2 (*Deductions for Performance Failures*), paragraph 4 (*Deductions for Availability Failures*) and, if applicable, paragraph 5 (*Repeated Failures*) of Section 3 (*Deductions from Monthly Service Payments*) of this Schedule Part 14 (*Payment Mechanism*) shall apply.

## SECTION 5

## FAILURE BY PROJECT CO TO MONITOR OR REPORT

1. Subject to paragraphs 2 to 4 inclusive of this Section 5 (*Failure by Project Co to Monitor or Report*), the Performance Monitoring Report produced by Project Co for any Contract Month shall be the source of the factual information regarding the performance of the Services for the relevant Contract Month for the purposes of calculating the Deductions pursuant to Section 3 (*Deductions from Monthly Service Payments*) of this Schedule Part 14 (*Payment Mechanism*).
2. Either party may give written notice to the other if it believes there is an error or omission in a Monthly Service Report provided that, save in the circumstances referred to in paragraph 6 below, such notice must be given before the end of the Contract Month that falls two Contract Months after the Contract Month in which the relevant Monthly Service Report was submitted by Project Co. The parties shall endeavour to agree the amendments required to rectify the error or omission (if any) within ten (10) Business Days of notice being given in accordance with this paragraph 2, failing which either party may, on giving written notice to the other, refer the matter to the Dispute Resolution Procedure.
3. Where Project Co fails to monitor or accurately to report a Performance Failure or an Availability Failure in the circumstances referred to in paragraph 6 of this Section 5 (*Failure by Project Co to Monitor or Report*), for the purposes of paragraph 1 of Section 1 (*General Requirements*) of Schedule Part 19 (*Record Provisions*) the Board shall be deemed to have reasonable cause to require that Project Co shall make available to the Board for inspection such of the records referred to in paragraphs 10 and 11 of Section 2 (*Records to be Kept*) of Schedule Part 19 (*Record Provisions*) as the Board may specify.
4. Project Co shall upon submission of a valid invoice pay to the Board a sum equal to the costs reasonably incurred by the Board in carrying out any inspection and investigation of records made available pursuant to paragraph 3 above.
5. In the event that the Board's inspection or investigation of records made available pursuant to paragraph 3 above reveals any further matters of the types referred to in paragraphs 2 and 3 above, those matters shall be dealt with in accordance with paragraph 2 or 3 as appropriate and the Board shall, in addition, be entitled to make Deductions in respect of any Performance Failures or Availability Failures in the manner prescribed Section 3 (*Deductions from Monthly Service Payments*) of this Schedule Part 14 (*Payment Mechanism*). The Monthly Service Payment for the Contract Month in which any such Deduction would (but for the error or omission in the Performance Monitoring Report) have been made shall be re-calculated to take account of such Deduction and the amount of such Deduction shall be immediately due and payable by Project Co to the Board together with interest at the Default Interest Rate from the date on which the Board paid the Monthly Invoice for the relevant Contract Month until the date on which payment is made by Project Co.
6. For the purposes of paragraphs 2 and 3 of this Section 5 (*Failure by Project Co to Monitor or Report*) the relevant circumstances are:
  - 6.1 fraudulent action or inaction; or
  - 6.2 deliberate misrepresentation; or
  - 6.3 gross misconduct or gross incompetence,
 in each case on the part of Project Co or a Project Co Party.

The provisions of this Section 5 (*Failure by Project Co to Monitor or Report*) shall be without prejudice to any rights of the Board in this Agreement pursuant to Clause 24 (*Monitoring of Performance*), Clause 40 (*Project Co Events of Default*) and Clause 44 (*Corrupt Gifts and Payments*).

**SECTION 6****PASS THROUGH COSTS****1. UTILITY CHARGES**

- 1.1 Project Co may include charges for Utilities in the Monthly Service Payment in accordance with paragraph 1.1 of Section 2 (*Calculation of Service Payments*) of this Schedule Part 14 (*Payment Mechanism*) on the basis of costs reasonably incurred by Project Co and supported by an appropriate invoice from Project Co's suppliers.
- 1.2 The Board is responsible for all connection, line rental and usage telephone charges.

**2. RATES**

Project Co may include local authority rates in the Monthly Service Payment in accordance with paragraph 1.1 of Section 2 (*Calculation of Service Payments*) of this Schedule Part 14 (*Payment Mechanism*) on the basis of the cost incurred by Project Co and supported by an appropriate invoice from the relevant local authority.

**3. OPERATIONAL INSURANCE PREMIUMS**

- 3.1 Subject to paragraph 3.2, Project Co may include the premiums paid by Project Co to take out and maintain the Operational Insurances in accordance with Clause 53 (*Insurance*) in the Monthly Service Payment in accordance with paragraph 1 (*Monthly Service Payment*) of Section 2 (*Calculation of Service Payments*) of this Schedule Part 14 (*Payment Mechanism*) on the basis of the cost incurred by Project Co and supported by an appropriate premium notices from the relevant insurer.
- 3.2 There shall be excluded from the premiums referred to in paragraph 3.1, a sum equal to any portion of the premiums attributable to any issue or factor other than: (i) circumstances generally prevailing in the relevant insurance market; and/or (ii) circumstances attributable to malicious damage to the Facilities; and/or (iii) the claims history of the Board or any Board Party.

**APPENDIX 1**  
**ANNUAL SERVICE PAYMENTS AT BASE DATE**

£15,426,840.77

**APPENDIX 2**

**FUNCTIONAL AREAS AND GSUs**

The Functional Areas and GSUs are the Functional Areas and GSUs as set out on the disc in the Agreed Form identified and executed as the Appendix 2 (*Functional Areas and GSUs*) of Schedule Part 14 (*Payment Mechanism*) of this Agreement, referred to in and forming part of this Agreement.



**SCHEDULE PART 15**  
**INSURANCE REQUIREMENTS**

**SECTION 1**

**POLICIES TO BE TAKEN OUT BY PROJECT CO AND MAINTAINED DURING THE DESIGN AND CONSTRUCTION PHASE**

**Policies to be taken out by Project Co and maintained during the design and construction phase.**

Common to each policy in Section 1 (*Policies to be taken out by Project Co and maintained during the design and construction phase*) (unless stated otherwise):

**Insureds:**

1. Board
2. Project Co
3. Contractor
4. Service Provider
5. Construction sub-contractors of any tier
6. Senior Funders
7. Subordinated Funders
8. Consultants - for their site activities only

each for their respective rights and interests in the Project

**1 CONTRACTORS' 'ALL RISKS' INSURANCE (CAR)**

**1.1 Insured Property**

The permanent and temporary works, materials (including but not limited to equipment supplied by the Board, goods, plant and equipment for incorporation in the works (other than constructional plant, tools, accommodation and equipment belonging to or the responsibility of the Contractor or the Construction sub-contractors) and all other property used or for use in connection with works associated with the Project.

**1.2 Coverage**

"All risks" of physical loss or damage to the Insured Property unless otherwise excluded.

### 1.3 **Sum Insured**

At all times an amount not less than the full reinstatement or replacement value of the Insured Property, but not less than the value specified in the Construction Contract plus provision to include Cover Features & Extensions as appropriate.

### 1.4 **Maximum Deductible**

Not to exceed £150,000 each and every claim for defective design, materials and workmanship, and in respect of all other claims £10,000.

### 1.5 **Territorial Limits**

United Kingdom including offsite storage and during inland transit.

### 1.6 **Period of Insurance**

From the date of this Agreement until the Actual Completion Date and thereafter in respect of defects liability until expiry of the 12 months defects liability period.

### 1.7 **Cover Features & Extensions**

1.7.1 Terrorism

1.7.2 Munitions of war clause

1.7.3 Additional costs of completion clause

1.7.4 Professional fees clause (including Board professional fees incurred during any period of reinstatement)

1.7.5 Debris removal clause

1.7.6 72 hour clause

1.7.7 European Union local authorities clause

1.7.8 Free issue materials clause

1.7.9 10% escalation clause

1.7.10 Automatic reinstatement of sum insured clause

- 1.17.11 Loss minimisation
- 1.17.12 Testing/commissioning period clause
- 1.17.13 Plans and documents clause
- 1.17.14 Expediting expenses
- 1.17.15 Temporary repairs
- 1.17.16 Not Used.

## 1.8 **Principal Exclusions**

- 1.8.1 War and related perils (UK market agreed wording)
- 1.8.2 Nuclear/radioactive risks (UK market agreed wording)
- 1.8.3 Pressure waves caused by aircraft and other aerial devices travelling at sonic or supersonic speeds
- 1.8.4 Wear, tear and gradual deterioration
- 1.8.5 Consequential financial losses
- 1.8.6 Cyber risks
- 1.8.7 Inventory losses
- 1.8.8 Fraud and employee dishonesty
- 1.8.9 Faulty design, workmanship and materials DE5 or LEG3 option extension

## **2 DELAY IN START UP INSURANCE (DSU)**

### **2.1 Insureds**

- 2.1.1 Project Co
- 2.1.2 Senior Funders

### 2.1.3 Subordinated Funders

each for their respective rights and interests in the Project.

## 2.2 Indemnity

In respect of:

- 2.2.1 loss of anticipated Revenue during at least the Minimum Indemnity Period arising from a delay in completion of the Project as a result of loss or damage covered under the Contractors' All Risks' Insurance effected in accordance with Item 1 (*Contractors' 'All Risks' Insurance (CAR)*) of Schedule Part 15 (*Insurance Requirements*), including physical loss or damage which would be indemnifiable but for the application of any deductible;
- 2.2.2 the economic additional expenditure necessarily and reasonably incurred for the purpose of avoiding or reducing the loss of Revenue of Project Co which without such expenditure would have taken place, during the Minimum Indemnity Period.

## 2.3 Sum Insured

An amount sufficient to cover the sums the subject of the Indemnity for the Minimum Indemnity Period.

## 2.4 Maximum Excess

45 days.

## 2.5 Minimum Indemnity Period

24 months.

## 2.6 Period of Insurance

As per the Contractors' "All Risks" Insurance, excluding the defects liability period.

## 2.7 Cover Features & Extensions

2.7.1 Denial of access

2.7.2 Utilities

- 2.7.3 Terrorism
- 2.7.4 Automatic Reinstatement of sum insured
- 2.7.5 Professional Fees
- 2.7.6 Not Used.

## 2.8 **Principal Exclusions**

- 2.8.1 The exclusions under the Contractors' 'All Risks' Insurance, other than for consequential financial losses.
- 2.8.2 Delayed response by a public body or state authority.

## 3 **CONSTRUCTION THIRD PARTY LIABILITY INSURANCE**

### 3.1 **Interest**

To indemnify the Insured in respect of all sums that they may become legally liable to pay (including claimant's costs and expenses) as damages in respect of accidental:

- 3.1.1 death, or bodily injury, illness, disease contracted by any person;
- 3.1.2 loss or damage to property;
- 3.1.3 interference to property or any easement right of air, light, water or way or the enjoyment or use thereof by obstruction, trespass, nuisance, loss of amenities, or any like cause.

happening during the Period of Insurance and arising out of or in connection with the Project.

### 3.2 **Limit of Indemnity**

Not less than one hundred million pounds (£100,000,000) in respect of any one occurrence, the number of occurrences being unlimited, but in the aggregate in respect of pollution liability.

### 3.3 **Maximum Deductible**

£10,000 for each and every occurrence of property damage. (Personal injury claims will be paid in full).

**3.4 Territorial Limits**

UK and elsewhere in the world in respect of non manual visits.

**3.5 Jurisdiction**

Worldwide excluding USA and Canada.

**3.6 Period of Insurance**

As per the Contractors' "All Risks" Insurance, including the defects liability period.

**3.7 Cover Features & Extensions**

3.7.1 Munitions of war

3.7.2 Cross liability clause

3.7.3 Contingent motor

3.7.4 Legal defence costs in addition

3.7.5 Personal injury to include false imprisonment, wrongful arrest, eviction or any like cause

3.7.6 Defective premises act clause

3.7.7 Data protection act clause

3.7.8 Indemnify to employees and directors

3.7.9 Not Used.

**3.8 Principal Exclusions**

3.8.1 Liability for death, illness, disease or bodily injury sustained by employees of the insured.

3.8.2 Liability arising out of the use of mechanically propelled vehicles whilst required to be compulsorily insured by legislation in respect of such vehicles.

3.8.3 Liability in respect of predetermined penalties or liquidated damages

imposed under any contract entered into by the Insured.

- 3.8.4 Liability in respect of loss or damage to property in the care, custody and control of the insured but this exclusion is not to apply to all property belonging to the Board which is in the care, custody and control of another Insured.
- 3.8.5 Events more properly covered under a professional indemnity policy.
- 3.8.6 Liability arising from the ownership, possession or use of any aircraft or marine vessel.
- 3.8.7 Liability arising from seepage and pollution unless caused by a sudden, unintended and unexpected occurrence.
- 3.8.8 Losses indemnified under the CAR policy or DSU policy.
- 3.8.9 Asbestos.
- 3.8.10 Toxic mould.

**SECTION 2****POLICIES TO BE TAKEN OUT BY PROJECT CO AND MAINTAINED FROM THE ACTUAL COMPLETION DATE**

Common to all policies in Section 2 (*Policies to be taken out by Project Co and maintained from the Actual Completion Date*) (unless stated otherwise):

**Insureds**

- 1 Board
- 2 Project Co
- 3 Service Provider
- 4 Service Provider's sub-contractors
- 5 Senior Funders
- 6 Subordinated Funders

each for their respective rights and interests in the Project.

**1 PROPERTY DAMAGE INSURANCE****1.1 Insured Property**

The project assets which are the property of Project Co or for which Project Co may be responsible including but not limited to the Facilities.

**1.2 Coverage**

"All risks" of physical loss or damage to the Insured Property from any cause not excluded, including machinery breakdown and computer breakdown in respect of appropriate building services equipment.

**1.3 Sum Insured**

At all times an amount not less than the total reinstatement or replacement value of the Insured Property plus provision to include other Principal Extensions as appropriate (escalated periodically as appropriate).

**1.4 Maximum Deductible**

£10,000 each and every claim (escalated periodically as appropriate).



## 1.5 Territorial Limits

United Kingdom plus elsewhere whilst in inland transit.

## 1.6 Period of Insurance

From the Actual Completion Date or as otherwise specified in this Agreement for the duration of this Agreement and renewable on an annual basis unless agreed otherwise by the Parties.

## 1.7 Cover Features & Extensions

1.7.1 Terrorism

1.7.2 Automatic reinstatement of sum insured

1.7.3 Capital additions clause

1.7.4 72 hour clause

1.7.5 European Union local authorities clause

1.7.6 Professional fees

1.7.7 Debris removal

1.7.8 Pollution and contamination to the Insured Property arising from an event which itself is not otherwise excluded

1.7.9 Repair / reinstatement basis of claims settlement with cash option for non-reinstatement

1.7.10 Theft damage to buildings

1.7.11 Day one reinstatement – 15% uplift

1.7.12 Not Used.

## 1.8 Principal Exclusions

1.8.1 War and related perils (UK market agreed wording)

- 1.8.2 Nuclear/radioactive risks (UK market agreed wording)
- 1.8.3 Pressure waves caused by aircraft and other aerial devices travelling at sonic or supersonic speeds
- 1.8.4 Wear, tear and gradual deterioration
- 1.8.5 Consequential financial losses
- 1.8.6 Cyber risks
- 1.8.7 Losses recovered under the CAR policy

## **2 BUSINESS INTERRUPTION INSURANCE**

### **2.1 Insureds**

- 2.1.1 Project Co
- 2.1.2 Senior Funders
- 2.1.3 Subordinated Funders

each for their respective rights and interests in the Project.

### **2.2 Indemnity**

In respect of:

- 2.2.1 loss of anticipated Revenue during at least the Minimum Indemnity Period arising from an interruption or interference in the operation of the Project as a result of loss or damage covered under Property Damage Insurance effected in accordance with paragraph 1 of Section 2 (*Policies to be taken out by Project Co and maintained from the Actual Completion Date*) of this Schedule Part 15 (*Insurance Requirements*) including physical loss or damage which would be indemnifiable but for the application of any deductible;
- 2.2.2 the economic additional expenditure necessarily and reasonably incurred for the purpose of avoiding or reducing the loss of Revenue of Project Co which without such expenditure would have taken place, during the Indemnity Period.

### **2.3 Sum Insured**

An amount sufficient to cover the sums the subject of the Indemnity for the Minimum Indemnity Period.

**2.4 Maximum Excess**

£10,000 each and every claim (escalated periodically as appropriate)

**2.5 Minimum Indemnity Period**

24 months.

**2.6 Period of Insurance**

From the Actual Completion Date for the duration of this Agreement and renewable on an annual basis unless agreed otherwise.

**2.7 Cover Features & Extensions**

2.7.1 Denial of access

2.7.2 Terrorism

2.7.3 Utilities

2.7.4 Accountants Clause

2.7.5 Automatic reinstatement of sum insured

2.7.6 Not Used.

**2.8 Principal Exclusions**

2.8.1 Financial losses

2.8.2 Delayed response by a public body or state authority

**3 THIRD PARTY PUBLIC AND PRODUCTS LIABILITY INSURANCE**

**3.1 Indemnity**

To indemnify the Insured in respect of all sums that they may become legally liable to pay (including claimant's costs and expenses) as damages in respect of accidental:

- 3.1.1 death, or bodily injury, illness, disease contracted by any person;
- 3.1.2 loss or damage to property;
- 3.1.3 interference to property or any easement right of air, light, water or way or the enjoyment or use thereof by obstruction, trespass, nuisance, loss of amenities, or any like cause.

happening during the period of insurance and arising out of or in connection with the Project and the provision of the Services.

### 3.2 **Limit of Indemnity**

Not less than one hundred million pounds (£100,000,000) (escalated periodically as appropriate) in respect of any one occurrence, the number of occurrences being unlimited, but in the aggregate in respect of pollution and products liability.

### 3.3 **Maximum Deductible**

£10,000 for each and every occurrence of property damage (escalated periodically as appropriate). (Personal injury claims will be paid in full).

### 3.4 **Territorial Limits**

UK and elsewhere in the world in respect of non manual visits.

### 3.5 **Jurisdiction**

Worldwide.

### 3.6 **Period of Insurance**

From the Actual Completion Date or as otherwise specified in this Agreement for the duration of this Agreement and renewable on an annual basis unless agreed otherwise.

### 3.7 **Cover Features & Extensions**

- 3.7.1 Munitions of war.
- 3.7.2 Cross liability clause
- 3.7.3 Contingent motor

- 3.7.4 legal defence costs in addition to the Limit of Indemnity
- 3.7.5 Personal injury to include false imprisonment, wrongful arrest, eviction or any like cause
- 3.7.6 Health & safety at work act(s) defence costs
- 3.7.7 Effective premises act clause
- 3.7.8 Data protection act clause
- 3.7.9 Directors & employees
- 3.7.10 Not Used.

### 3.8 Principal Exclusions

- 3.8.1 Liability for death, illness, disease or bodily injury sustained by employees of the insured.
- 3.8.2 Liability arising out of the use of mechanically propelled vehicles whilst required to be compulsorily insured by legislation in respect of such vehicles.
- 3.8.3 Liability in respect of predetermined penalties or liquidated damages imposed under any contract entered into by the insured.
- 3.8.4 Liability in respect of loss or damage to property in the care, custody and control of the insured but this exclusion is not to apply to all property belonging to the Board which is in the care, custody and control of another Insured Party.
- 3.8.5 Liability arising out of technical or professional advice (given for a fee) other than in respect of death or bodily injury to persons or damage to third party property.
- 3.8.6 Liability arising from the ownership, possession or use of any aircraft or marine vessel.
- 3.8.7 Liability arising from seepage and pollution unless caused by a sudden, unintended and unexpected occurrence.
- 3.8.8 Losses under the property damage policy or business interruption policy.
- 3.8.9 Asbestos

3.8.10 Toxic mould

**SECTION 3**  
**ENDORSEMENTS**

Unless the context otherwise requires defined terms set out in the following endorsements shall have the meaning set out in the Contract.

**Endorsement 1**

**Cancellation**

- 1 This policy shall not be cancelled or terminated before the original expiry date is to take effect except in respect of non-payment of premium.
  
- 2 The insurer shall by written notice advise the Board:
  - 2.1 at least 30 days before any such cancellation or termination is to take effect;
  
  - 2.2 at least 30 days before any reduction in limits or coverage or any increase in deductibles is to take effect; and
  
  - 2.3 of any act or omission or any event of which the insurer has knowledge and which might invalidate or render unenforceable in whole or in part this policy.

**Endorsement 2**

**Multiple Insured/Non-Vitiation Clause**

1. Each of the parties comprising the insured shall for the purpose of this policy be considered a separate co-insured entity, insured on a composite basis, with the words "the insured" applying to each as if they were separately and individually insured provided that the total liability of the insurers under each section of this policy to the insured collectively shall not (unless the policy specifically permits otherwise) exceed the limit of indemnity or amount stated to be insured under that section or policy. Accordingly, the liability of the insurers under this policy to any one insured shall not be conditional upon the due observance and fulfilment by any other insured party of the terms and conditions of this policy or of any duties imposed upon that insured party relating thereto, and shall not be affected by any failure in such observance or fulfilment by any such other insured party.
  
- 2 It is understood and agreed that any payment or payments by insurers to any one or more of the insureds shall reduce, to the extent of that payment, insurers' liability to all such parties arising from any one event giving rise to a claim under this policy and (if applicable) in the aggregate.
  
- 3 Insurers shall be entitled to avoid liability to or (as may be appropriate) claim damages from any insured party in circumstances of fraud misrepresentation non-disclosure or material breach of warranty or condition of this policy (each referred to in this clause as a "**Vitiating Act**") committed by that insured party save where such misrepresentation non-disclosure or breach of warranty or condition was committed innocently and in good faith.
  
- 4 For the avoidance of doubt it is however agreed that a Vitiating Act committed by one insured party shall not prejudice the right to indemnity of any other insured who has an insurable interest and who has not committed the Vitiating Act.

- 5 Insurers hereby agree to waive all rights of subrogation and/or recourse which they may have or acquire against any insured party (together with their employees and agents) except where the rights of subrogation or recourse are acquired in consequence of a Vitiating Act in which circumstances insurers may enforce such rights against the insured responsible for the Vitiating Act notwithstanding the continuing or former status of the vitiating party as an insured.
- 6 Notwithstanding any other provision of this policy or any other document or any act and/or omission by any insured party insurers agree that:
- 6.1 no party other than the Board has any authority to make any warranty, disclosure or representation in connection with this policy on behalf of the Board;
- 6.2 where any warranty, disclosure or representation is required from the Board in connection with this policy insurers will contact the Board in writing (in accordance with Endorsement 3 to the Contract) and set out expressly the warranty, disclosure and/or representation required within a reasonable period of time from the Board (regarding itself); and
- 6.3 save as set out in a request from insurers to the Board in accordance with (2) above, the Board shall have no duty to disclose any fact or matter to insurers in connection with this policy save to the extent that for the Board not to disclose a fact or matter would constitute fraudulent misrepresentation and/or fraudulent non-disclosure.

### Endorsement 3

#### Communications

1. All notices or other communications under or in connection with this policy shall be given to each insured (and the Board) in writing or by facsimile. Any such notice will be deemed to be given as follows:
- 1.1 if in writing, when delivered;
- 1.2 if by facsimile, when transmitted but only if, immediately after transmission, the sender's facsimile machine records a successful transmission has occurred.
2. The address and facsimile number of the Board for all notices under or in connection with this policy are those notified from time to time by the Board for this purpose to Project Co at the relevant time. The initial address and facsimile number of the Board are as follows:

The Board:

Address: Lothian Health Board  
Waverley Gate  
2-4 Waterloo Place  
Edinburgh  
EH1 3EG

Email: [REDACTED]

Attention Contract Manager for RHSC & DCN Project

Attention: The Chief Executive from time to time of the Board



3. It is further agreed that a notice of claim given by the Board or any other insured shall in the absence of any manifest error be accepted by the insurer as a valid notification of a claim on behalf of all insureds.

**Endorsement 4**

**Loss Payee (applicable only to the Physical Damage Policies)**

Subject to the provision of Clause 53.22.2 of this Agreement all proceeds of this policy shall be payable without deduction or set-off to the Insurance Proceeds Account.

**Endorsement 5**

**Primary Insurance**

It is expressly understood and agreed that this policy provides primary cover for the insured parties and that in the event of loss destruction damage or liability covered by this policy which is covered either in whole or in part under any other policy or policies of insurance effected by or on behalf of any of the insured parties the insurers will indemnify the insured parties as if such other policy or policies of insurance were not in force and the insurers waive their rights of recourse if any against the insurers of such other policy or policies of insurance.

**Endorsement 6**

**Ringfencing**

The level of any indemnity available to an insured party under this policy in relation to any claim(s) concerning the Project shall not be affected and/or reduced by any claim(s) unrelated to the Project.

**SECTION 4****INSURANCE ARRANGEMENTS**

- 1 Project Co must comply with the provisions of this Section 4 of Schedule Part 15 when placing or renewing the Operational Insurances.
- 2 Not less than sixty (60) Business Days prior to the Completion Date and each subsequent renewal date in respect of each of the Operational Insurances, Project Co must inform the Board's Representative of the forthcoming requirement to place or renew an Operational Insurance and provide either:
  - 2.1 confirmation that any existing long term agreement (entered into with the agreement of the Board) is being maintained, or
  - 2.2 its proposals for obtaining competitive quotations from at least three (3) suitable insurers. Project Co must take advice from reputable insurance brokers experienced in arranging insurances for similar risks as to which insurers are most likely to provide quotations that will represent best value for money for the Board as payer of the premiums for such insurance. In considering which insurers to approach, Project Co must consider whether any of the Shareholders enjoys any special relationship with any insurer and/or is otherwise able to procure the placing of the relevant insurance in any particular manner consistent with the requirements of this Agreement that may result in lower premiums and shall include such insurers in its proposal under this paragraph 2.
- 3 Within ten (10) Business Days of receiving a notice from Project Co pursuant to paragraph 2, the Board may provide Project Co with details of up to two (2) other insurers that it wishes Project Co to invite to quote for provision of the relevant Operational Insurance.
- 4 Not less than thirty (30) Business Days prior to the Completion Date and each subsequent renewal date for any of the Operational Insurances, Project Co must forward to the Board's Representative quotes from the proposed insurers (together with the principal terms and conditions of the relevant insurance policies), to include any insurer nominated by the Board pursuant to paragraph 3, including a reasoned recommendation as to which quote Project Co views as offering best value for money for the Board, taking into account all relevant circumstances.
- 5 Within ten (10) Business Days of receiving a recommendation from Project Co pursuant to paragraph 4, the Board must notify Project Co in writing which insurer it is to place the relevant Operational Insurance with, failing which Project Co shall be entitled to place the relevant Operational Insurance with the insurer recommended by Project Co.

## SECTION 5

## BROKER'S LETTER OF UNDERTAKING

Date

To:

Dear Sirs

**Project Agreement dated on or about the date hereof entered into between IHS Lothian Limited ("Project Co") Lothian Health Board (the "Board") (the "Agreement")**

- 1 We refer to the Agreement. Unless the context otherwise requires, terms defined in the Agreement shall have the same meaning in this letter.
- 2 We act as insurance broker to Project Co in respect of the Insurances and in that capacity we confirm that the Insurances which are required to be procured pursuant to clause 53 (*Insurance*) and Schedule Part 15 (*Insurance Requirements*) of the Agreement:
  - 2.1 where appropriate name you and such other persons as are required to be named pursuant to the Agreement for their respective interests;
  - 2.2 are, in our reasonable opinion as insurance brokers, as at today's date, in full force and effect;
  - 2.3 all premiums due to date in respect of the Insurances are paid and the Insurances are, to the best of our knowledge and belief, placed with insurers which, as at the time of placement, are reputable and financially sound. We do not, however, make any representations regarding such insurers' current or future solvency or ability to pay claims; and that
  - 2.4 the endorsements set out in Section 3 (*Endorsements*) to Schedule Part 15 (*Insurance Requirements*) of the Agreement are as at today's date in full force and effect in respect of the Insurances.
- 3 We further confirm that the attached cover notes confirm this position.
- 4 Pursuant to instructions received from Project Co and in consideration of your approving our appointment or continuing appointment as brokers in connection with the Insurances, we hereby undertake in respect of the interests of the Board in relation to the Insurances:
  - 4.1 **Notification Obligations**
    - 4.1.1 to notify you at least thirty (30) days prior to the expiry of any of the Insurances if we have not received instructions from Project Co to negotiate renewal and in the event of our receiving instructions to renew, to advise you promptly of the details thereof;
    - 4.1.2 to notify you at least thirty (30) days prior to ceasing to act as brokers to Project Co unless, due to circumstances beyond our control, we are unable to do so in which case we shall notify you as soon as practicable; and
    - 4.1.3 to pay into the Insurance Proceeds Account without set off or deduction of any kind for any reason all payments in respect of claims received by us from insurers in relation to the Insurances specified in Clauses 30.1 to 30.3 (*Relief Events*) of the Agreement.

4.2 **Advisory Obligations**

- 4.2.1 to notify you as soon as practicable of any default in the payment of any premium for any of the Insurances;
- 4.2.2 to notify you if any insurer cancels or gives notification of cancellation of any of the Insurances, at least thirty (30) days before such cancellation is to take effect or as soon as reasonably practicable in the event that notification of cancellation takes place less than thirty (30) days before it is to take effect;
- 4.2.3 to notify you as soon as reasonably practicable of any act or omission, breach or default of Project Co or any other insured under the Insurances of which those of our employees directly involved with the placement or administration of the Insurances become aware and which acting reasonably they consider may invalidate any Insurance or render it void, avoidable or unenforceable in whole or in part or which may otherwise materially impact on the extent of cover provided under the Insurances; and
- 4.2.4 in accordance with our duty to Project Co to notify Project Co of its pre-contractual duties of disclosure to insurers including the duty to disclose all information that would be considered material in the context of such duty.

#### 4.3 **Disclosure Obligations**

##### 4.3.1

- (a) disclose to insurers all information and any fact, change of circumstance or occurrence made available to us by Project Co; or
- (b) disclose, with the approval of Project Co (such approval not to be unreasonably withheld), all information and any fact, change of circumstance or occurrence made available to us by the Board,

which in our reasonable opinion is material to the risks insured against under the Insurances and which properly should be disclosed to insurers in accordance with the insurers' relevant policy terms and conditions as soon as reasonably practicable after we are in receipt from Project Co of such information or of the approval of Project Co in respect of such information and become aware of such information, fact, change of circumstance or occurrence whether prior to inception or renewal or otherwise; and

- 4.3.2 to treat as confidential all information so marked or otherwise stated to be confidential and supplied to us by or on behalf of Project Co or the Board and not to disclose such information, without the prior written consent of the supplier of the information, to any third party other than those persons who, in our reasonable opinion have a need to have access to such information from time to time, and for the purpose of disclosure to the insurers or their agents in respect of the Insurances in discharge of our obligation set out at clause 4.3.1 of this letter. Our obligations of confidentiality shall not conflict with our duties owed to Project Co and shall not apply to disclosure required by an order of a court of competent jurisdiction, or pursuant to any applicable law, governmental or regulatory authority having the force of law or to information which is in the public domain.

#### 4.4 **Administrative Obligations**

- 4.4.1 to hold copies of all documents relating to or evidencing the Insurances, including but without prejudice to the generality of the foregoing, insurance slips, contracts, policies, endorsements and copies of all documents evidencing renewal of the Insurances, payment of premiums and presentation and receipt of claims;
- 4.4.2 to supply to the Board and/or its insurance advisers (or the Board's or its insurance advisers' authorised representatives) promptly on written request copies of the documents set out in clause 4.4.1 of this letter, and to the extent available, to make available to such persons promptly upon the Board's

request the originals of such documents;

- 4.4.3 to administer the payment of premiums due pursuant to the Insurances such that, in so far as we hold appropriate funds, all such premiums shall be paid to insurers in accordance with the terms of the Insurances;
- 4.4.4 to administer the payment of claims from insurers in respect of the Insurances (the "**Insurance Claims**") including:
- (a) negotiating settlement of Insurance Claims presented in respect of the Insurances;
  - (b) collating and presenting all information required by insurers in relation to Insurance Claims presented in respect of the Insurances; and
  - (c) insofar as it is relevant and practicable, liaising with and reporting to the Board throughout the settlement, payment and administration of such Insurance Claims.
- 4.4.5 to advise the Board promptly upon receipt of notice of any material changes which we are instructed to make in the terms of the Insurances and which, if effected, in our opinion as Insurance Brokers would result in any material reduction in limits or coverage or in any increase in deductibles, exclusions or exceptions;
- 4.4.6 to advise the Board in advance of any lapse or non renewal of any policy maintained in respect of the Insurances;
- 4.4.7 to use our reasonable endeavours to have endorsed on each and every policy evidencing the Insurances (when the same is issued) endorsements substantially in the form set out in Section 3 (*Endorsements*) to Schedule Part 15 (*Insurance Requirements*) of the Agreement.

#### 4.5 **Insurance Cost Reporting Procedures**

- 4.5.1 to provide, prior to the Commencement of the Operational Insurances and prior to each renewal of any of them, a statement containing
- (a) the information required to satisfy the requirement of Section 4 (Insurance Arrangements) of Schedule Part 15 (*Insurance Requirements*) to the Agreement; and
  - (b) our opinion, supported by appropriate evidence, of the generally prevailing market for the relevant Insurance and of any other circumstances relevant to the application of paragraph 3.2 (*Operational Insurance Premiums*) of Section 6 (*Pass Through Costs*) of Schedule Part 14 (*Payment Mechanism*) to the Agreement to the premiums for the relevant Insurance specifying the impact of each factor on the premium quotations obtained.

### 5 **Notification Details**

- 5.1 Our obligations at clause 4 of this letter to notify or inform you shall be discharged by providing the requisite information in hard copy to:

#### 5.1.1 **The Board:**

Address: Lothian Health Board  
Waverley Gate  
2-4 Waterloo Place  
Edinburgh  
EH1 3EG

Attention Contract Manager for RHSC & DCN Project

5.1.2 **Project Co**

Address: Burness Paull LLP,  
50 Lothian Road,  
Festival Square,  
Edinburgh,  
EH3 9WJ

Attention: Chris Mackay

6 **General**

- 6.1 For the avoidance of doubt, the undertakings and confirmations given in this letter relate solely to the Insurances. They do not apply to any other insurances and nothing in this letter should be taken as providing any undertakings or confirmations in relation to any insurance (other than the Insurances) that ought to have been placed or may at some future date be placed by ourselves or by other brokers.
- 6.2 Following termination of our appointment as broker to Project Co, on written notice to the Board we are released from all ongoing obligations set forth in this letter.
- 6.3 Nothing in this letter shall prejudice insurers' right to cancel the Insurances in accordance with their terms and the undertakings and confirmations set out in this letter are given subject to such right.
- 6.4 This letter is given by us on the instructions of Project Co and with Project Co's full knowledge and consent as to its terms as evidenced by Project Co's signature below. Accordingly, Project Co hereby waives any potential liability we might otherwise have had to it arising from actions taken by us to comply with the terms of this letter (including, without limitation, any particular liability relating to any conflict of interest).
- 6.5 This letter shall be governed by and construed in accordance with Scottish law.

Yours faithfully

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For and on behalf of Jardine Lloyd Thompson Limited

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For and on behalf of the Board

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For and on behalf of Project Co

**SCHEDULE PART 16**

**CHANGE PROTOCOL**

**SECTION 1**

**DEFINITIONS**

In this Schedule Part 16 (*Change Protocol*) and elsewhere in this Agreement (save where Schedule Part 1 provides to the contrary) the following words shall have the following meanings:

<b>“Adjustment Date”</b>	means the date on which the adjustment to the Annual Service Payments takes effect in accordance with the provisions of this Agreement, or such other date as is agreed between the parties;
<b>“Affordable”</b>	means within the revenue resource parameters determined by the Board and notified in writing by it to Project Co as available for a proposed High Value Change;
<b>“Approval Criteria”</b>	has the meaning given in paragraph 7 ( <i>Approval Criteria</i> ) of Section 4 ( <i>High Value Changes</i> ) of this Schedule Part 16 ( <i>Change Protocol</i> );
<b>“Approved Criteria”</b>	has the meaning given in paragraph 8.2.1 of Section 4 ( <i>High Value Changes</i> ) of this Schedule Part 16 ( <i>Change Protocol</i> );
<b>“Assumption Adjustment”</b>	means an adjustment to any of the assumptions contained in the Financial Model;
<b>“Board Change”</b>	means, as the case may be, a Low Value Change, a Medium Value Change or a High Value Change;
<b>“Board Change Notice”</b>	means a notice issued in accordance with this Schedule Part 16 ( <i>Change Protocol</i> ) requiring a Board Change;
<b>“Calculation Date”</b>	means the relevant date for the purposes of calculating the Incurred Change Management Fee in accordance with Section 4 ( <i>High Value Changes</i> ) of this Schedule Part 16 ( <i>Change Protocol</i> );
<b>“Capital Cost”</b>	means in relation to any High Value Change the cost of carrying out the design, construction and commissioning of any construction works required to implement that High Value Change;
<b>“Catalogue of Small Works and Services” and “Catalogue”</b>	means the list of prices and time periods for types of Low Value Changes set out in Appendix 1 Part 1 ( <i>Catalogue</i> ) to this Schedule Part 16 ( <i>Change Protocol</i> ), as amended from time to time in accordance with paragraph 3 ( <i>Project Co Response and Board Confirmation</i> ) of Section 2 ( <i>Low Value Changes</i> ) of this Schedule Part 16 ( <i>Change Protocol</i> );
<b>“Catalogue Price”</b>	means the total cost (excluding VAT) of carrying out a Low Value Change as set out in the Catalogue;
<b>“Catalogue Review Date”</b>	means each third anniversary of the Commencement

Date;

**“Change”**

means a change in the Works, the Facilities and/or Services or additional works and/or services or a change in the Board's Policies that may be made under Clause 33 (*Change Protocol*) or this Schedule Part 16 (*Change Protocol*);

**“Change in Costs”**

means in respect of any Relevant Event, the effect of that Relevant Event (whether of a one-off or recurring nature, and whether positive or negative) upon the actual or anticipated costs, losses or liabilities of Project Co and/or the Contractor and/or any Service Provider (without double counting), including, as relevant, the following:

- (a) the reasonable costs of complying with the requirements of Clauses 24.9 (*Board's Remedial Rights*), 29 (*Delay Events*), 32 (*Changes in Law*) and/or Sections 2 (*Low Value Changes*) to 4 (*High Value Changes*) of this Schedule Part 16 (*Change Protocol*), including the reasonable costs of preparation of design and estimates;
- (b) the costs of continued employment of, or making redundant, staff who are no longer required;
- (c) the costs of employing additional staff;
- (d) reasonable professional fees;
- (e) the costs to Project Co of financing any Relevant Event (and the consequences thereof) including commitment fees and capital costs interest and hedging costs, lost interest on any of Project Co's own capital employed and any finance required pending receipt of a lump sum payment or adjustments to the Annual Service Payment;
- (f) the effects of costs on implementation of any insurance reinstatement in accordance with this Agreement, including any adverse effect on the insurance proceeds payable to Project Co (whether arising from physical damage insurance or business interruption insurance (or their equivalent)) in respect of that insurance reinstatement and any extension of the period of implementation of the insurance reinstatement;
- (g) operating costs, including Lifecycle Replacement or maintenance costs;
- (h) Capital Expenditure (or, in the case of a Relevant Event which is a Relevant Change in Law, Capital Expenditure for which the Board is responsible);
- (i) the costs required to ensure continued compliance with the Funding Agreements;
- (j) any deductible or increase in the level of deductible, or any increase in premium under or in respect of any insurance policy; and



- (k) Direct Losses or Indirect Losses, including reasonable legal expenses on an indemnity basis;
- “Change Management Fee”** means the fee calculated in accordance with paragraph 10 (*Change Management Fee*) of Section 4 (*High Value Changes*);
- “Cost”** where used in the definitions of High Value Change and Low Value Change means the immediate cost that will be incurred by Project Co to implement the relevant Change, disregarding any Whole Life Costs;
- “Derogated Low Value Change”** means:
- (a) installation or relocation of shelving, notice boards, white boards, clocks, mirrors, coat hooks, towel holders, toilet roll holders, soap dispensers and ad-hoc wall protection; and
  - (b) any other Low Value Change that:
    - (i) consists of minor works;
    - (ii) only affects the interior of the Facilities;
    - (iii) does not affect any of the mechanical and electrical equipment of the Facilities;
    - (iv) does not involve any interference with the service media in the Facilities;
    - (v) will not conflict with any Programmed Maintenance or Lifecycle Replacement; and
    - (vi) will not prejudice any of the Operational Insurances;
- “Derogated Low Value Change Notice”** means a notice given by the Board in accordance with paragraph 1.2 of Section 2 (*Low Value Changes*) of this Schedule Part 16 (*Change Protocol*);
- “Estimate”** has the meaning given in paragraph 3 of Section 3 (*Medium Value Changes*) of this Schedule Part 16 (*Change Protocol*);
- “Estimated Change in Project Costs”** means, in respect of any Relevant Event, the aggregate of any Change in Costs;
- “High Value Change”** means:
- (a) a Change requested by the Board that, in the reasonable opinion of the Board, is likely either to Cost in excess of five hundred thousand pounds (£500,000) index linked or to require an adjustment to the Annual Service Payment that on a full year basis is 2% or more of the Annual Service Payment in the relevant Contract Year provided that the parties may agree that such a Change should instead be processed as a Medium Value Change; or
  - (b) any other Change that the parties agree is to be

treated as a High Value Change;

- “High Value Change Proposal”** means a proposal satisfying the requirements of paragraph 3.4 of Section 4 (*High Value Changes*) of this Schedule Part 16 (*Change Protocol*);
- “High Value Change Requirements”** has the meaning given in paragraph 2.1.3 of Section 4 (*High Value Changes*) of this Schedule Part 16 (*Change Protocol*);
- “High Value Change Stage 2 Submission”** has the meaning given in paragraph 4.1.1 of Section 4 (*High Value Changes*) of this Schedule Part 16 (*Change Protocol*);
- “Incurred Change Management Fee”** means the amounts actually incurred or payable by or on behalf of Project Co up to the Calculation Date in respect of matters identified by Project Co pursuant to paragraphs 3.4.3 and/or 4.3.7 of Section 4 (*High Value Changes*) of this Schedule as falling within the Change Management Fee (and not already reimbursed by the Board);
- “Input Adjustment”** means any adjustment to the Financial Model other than Assumption Adjustment and Logic Adjustments;
- “Key Ratios”** means the following ratios:
- (a) the Senior Loan Life Cover Ratio (as defined in the Common Terms Agreement);
  - (b) the Total Loan Life Cover Ratio (as defined in the Common Terms Agreement);
  - (c) the Senior Projected Debt Service Cover Ratio (as defined in the Common Terms Agreement);
  - (d) the Total Projected Debt Service Cover Ratio (as defined in the Common Terms Agreement);
  - (e) the Senior Historic Debt Service Cover Ratio (as defined in the Common Terms Agreement); and
  - (f) the Total Historic Debt Service Cover Ratio (as defined in the Common Terms Agreement);
- “Logic Adjustment”** means an adjustment to the logic or formulae contained in the Financial Model;
- “Low Value Change”** means a Change which is either:
- (a) of a type listed in the Catalogue of Small Works and Services; or
  - (b) is not so listed, but has an individual Cost not exceeding twenty five thousand pounds (£25,000) index linked , or as otherwise agreed from time to time, except for any request that would (if

implemented) increase the likelihood of Project Co failing to meet the Board's Construction Requirements and/or the Service Level Specification or materially and adversely affect Project Co's ability to perform its obligations under this Agreement;

<b>"Medium Value Change"</b>	means a Change requested by the Board which is not a Low Value Change or a High Value Change;
<b>"Post-Adjustment Financial Model"</b>	means the Financial Model in effect immediately following the making of the relevant Adjustments;
<b>"Pre-Adjustment Financial Model"</b>	means the Financial Model in effect immediately prior to the making of the relevant Adjustments;
<b>"Project Co Change"</b>	means a Change that is initiated by Project Co by submitting a Project Co Notice of Change to the Board pursuant to Section 5 ( <i>Project Co Changes</i> ) of this Schedule Part 16 ( <i>Change Protocol</i> );
<b>"Project Co Notice of Change"</b>	has the meaning given in paragraph 1 of Section 5 ( <i>Project Co Changes</i> ) of this Schedule Part 16 ( <i>Change Protocol</i> );
<b>"Relevant Event"</b>	means an event or circumstance in which this Agreement expressly provides for an adjustment to the Annual Service Payments to be made;
<b>"Review Procedure"</b>	means the procedure set out in Schedule Part 8 ( <i>Review Procedure</i> );
<b>"Small Works and Services Rates"</b>	means the rates to be applied in respect of any request from the Board for a Low Value Change set out in Appendix 1 Part 2 ( <i>Small Works and Services Rates</i> ) to this Schedule Part 16 ( <i>Change Protocol</i> ), as amended from time to time in accordance with paragraph 8 of Section 2 ( <i>Low Value Changes</i> ) of this Schedule Part 16 ( <i>Change Protocol</i> );
<b>"Stage 1 Approval"</b>	has the meaning given in paragraph 3.7 of Section 4 ( <i>High Value Changes</i> ) of this Schedule Part 16 ( <i>Change Protocol</i> );
<b>"Stage 1 Approved Project"</b>	has the meaning given in paragraph 3.7 of Section 4 ( <i>High Value Changes</i> ) of this Schedule Part 16 ( <i>Change Protocol</i> );
<b>"Stage 2 Approval"</b>	has the meaning given in paragraph 8.2.1 of Section 4 ( <i>High Value Changes</i> ) of this Schedule Part 16 ( <i>Change Protocol</i> );
<b>"Target Cost"</b>	has the meaning given in paragraph 2.1.2 of Section 4 ( <i>High Value Changes</i> ) of this Schedule Part 16 ( <i>Change Protocol</i> );
<b>"Third Party Costs"</b>	means the costs incurred by Project Co with third parties in responding to a Board Change Notice for a Medium Value Change or a High Value Change, including, but not limited to, the Sub-Contractors, consultants and advisers; and

**“Whole Life Cost”**

means the estimated and (to the extent that such information is available) the actual cost of operating and maintaining that High Value Change over its intended design life (consistent with Project Co's Proposals).

## SECTION 2

### LOW VALUE CHANGES

#### 1. Low Value Change Notice

- 1.1 Subject to paragraph 1.2 of this Section 2 (*Low Value Changes*), where a Low Value Change is required by the Board, it must submit a Board Change Notice to Project Co.
- 1.2 The Board may carry out Derogated Low Value Changes during the Operational Term. If the Board wishes to carry out a Derogated Low Value Change it shall send Project Co a notice at least five (5) Business Days prior to the date on which it proposes to start to implement the Change setting out the nature of the proposed Change in sufficient detail to enable Project Co to satisfy itself that the proposed Change constitutes a Derogated Low Value Change. Project Co may notify the Board within three (3) Business Days of receipt of a Derogated Low Value Change Notice that it does not agree that the proposed Change constitutes a Derogated Low Value Change and, unless the parties otherwise agree, the Board must not take any steps to carry out the proposed Change unless it has referred the dispute to the Dispute Resolution Procedure and it has been determined that the proposed Change is a Derogated Low Value Change.
- 1.3 If it carries out a Derogated Low Value Change, the Board must use Good Industry Practice to the standards that would have applied to Project Co if it had carried it out as a Low Value Change.

#### 2 Board Change Notice

A Board Change Notice for a Low Value Change must:

- 2.1 state that it relates to a Low Value Change;
- 2.2 contain a description of the works and/or the change to the Works and/or the Services that the Board requires including, if relevant, the applicable type of Low Value Change listed in the Catalogue; and
- 2.3 if there is no applicable type of change listed in the Catalogue, specify the time period within which the Board requires the Change to be implemented.

#### 3 Project Co Response and Board Confirmation

Within five (5) Business Days of receipt of a Board Change Notice for a Low Value Change, Project Co must notify the Board of:

- 3.1 the cost of implementing the required Low Value Change; and
- 3.2 the time period for implementing the Low Value Change,

in each case in accordance with paragraph 4 of this Section 2 (*Low Value Changes*).

## 4 Cost and Timing

- 4.1 If the Low Value Change is of a type listed in the Catalogue, the cost of carrying out that Low Value Change shall not exceed the relevant Catalogue Price and the time period for implementing the Low Value Change shall not exceed the relevant time specified in the Catalogue.
- 4.2 If the Low Value Change is not of a type that is listed in the Catalogue, the cost of carrying out that Low Value Change shall be calculated on the basis that:
- 4.2.1 wherever practicable the Low Value Change will be carried out by an existing on-site and suitably qualified employee of Project Co or a Project Co Party and in that case, Project Co may not charge for labour. Where there is no such suitably qualified on-site employee reasonably available to carry out the Low Value Change, the cost of the labour element will be calculated in accordance with the Small Works and Services Rates or, where such rates are not applicable, in accordance with rates which are fair and reasonable; and
- 4.2.2 the materials element will be charged at the cost of materials to Project Co or to the Project Co Party carrying out the work (net of all discounts) and there shall be no management fee, margin, overhead, contingency or other cost applied in relation thereto.
- 4.3 Other than the costs referred to in paragraphs 4.1 and 4.2 of this Section 2 (*Low Value Changes*) Project Co may not charge the Board for processing, implementing or managing a Low Value Change.

## 5 Board objection

The Board may object in writing within five (5) Business Days of receipt of Project Co's notice pursuant to paragraph 3 of this Section 2 (*Low Value Changes*), to any part of that notice and in that event the parties shall act reasonably to endeavour to agree as soon as practicable how and when the Low Value Change is to be implemented, which may include the Board withdrawing the Board Notice of Change.

## 6 Implementation

- 6.1 Project Co must implement a required Low Value Change so as to minimise any inconvenience to the Board and, subject to paragraph 10.2 of this Section 2 (*Low Value Changes*), within the timescale specified in the notice given by Project Co pursuant to paragraph 3 of this Section 2 (*Low Value Changes*) (or agreed by the parties pursuant to paragraph 5 of this Section 2 (*Low Value Changes*)).
- 6.2 Project Co shall notify the Board when it considers that the Low Value Change has been completed.
- 6.3 If Project Co:
- 6.3.1 fails to give a notice to the Board in accordance with paragraph 3 of this

Section 2 (*Low Value Changes*) within fifteen (15) Business Days of the date of the Board Change Notice; or

- 6.3.2 gives a notice pursuant to paragraph 3 of this Section 2 (*Low Value Changes*) to which the Board has objected pursuant to paragraph 5 of this Section 2 (*Low Value Changes*) on any ground other than the cost of the Low Value Change, the parties have not reached agreement as to how the Low Value Change is to be implemented and the objection has not been referred to the Dispute Resolution Procedure; or
- 6.3.3 gives a notice pursuant to paragraph 3 of this Section 2 (*Low Value Changes*) to which the Board does not object pursuant to paragraph 5 but then fails to fully implement the Low Value Change within ten (10) Business Days after the timescale specified in that notice or agreed in accordance with paragraph 5 of this Section 2 (*Low Value Changes*),

then, subject to paragraph 10.3 of this Section 2 (*Low Value Changes*), the Board may notify Project Co that the Low Value Change Notice is withdrawn and, following such notification, may procure the implementation of the Low Value Change without further recourse to Project Co, but the Board must ensure that the Low Value Change is carried out in accordance with Good Industry Practice and to the standards that would have applied to Project Co if it had implemented the Low Value Change.

## **7 Payment**

Unless the Board notifies Project Co within five (5) Business Days of receipt of a notice from Project Co pursuant to paragraph 6.2 above that the Low Value Change has not been implemented to its reasonable satisfaction:

- 7.1 Project Co shall, where the Low Value Change is implemented prior to the Operational Term, issue an invoice in respect of the costs of the Low Value Change, which the Board must pay within twenty (20) Business Days of receipt; or
- 7.2 Project Co shall, where the Low Value Change is implemented during the Operational Term, include the costs of the Low Value Change in the next Monthly Invoice submitted pursuant to Clause 34.2 (*Invoicing and Payment Arrangements*) of this Agreement following completion or implementation of the relevant Low Value Change and the amounts payable for the Low Value Changes shall be invoiced and paid in accordance with the procedure described in Clause 34 (*Payment*) of this Agreement.

## **8 Update of Catalogue and Small Works and Services Rates**

- 8.1 From the Commencement Date the Catalogue shall be that set out in Part 1 of Appendix 1 to this Schedule Part 16 (*Change Protocol*) and the Small Works and Services Rates shall be those set out in Part 2 of Appendix 1 to this Schedule Part 16 (*Change Protocol*).
- 8.2 Subject to paragraph 8.3 of this Section 2 (*Low Value Changes*), the unit prices and the Small Works and Services Rates set out in the Catalogue and the Small Works and Services Rates shall be index linked on each anniversary of the Commencement Date for the change in RPI since the Commencement Date or, after the first Catalogue Review Date, since the most recent Catalogue Review Date.

8.3 On the date which is twenty (20) Business Days before each Catalogue Review Date, Project Co must provide the Board with:

8.3.1 a revised and updated Catalogue which:

- (a) includes in the Catalogue unit prices for any types of Low Value Changes which have occurred and which the parties consider are reasonably likely to reoccur during the life of the Project and any other types of Low Value Changes as the parties may agree; and
- (b) includes time periods for the carrying out of each listed type of Low Value Change; and

8.3.2 updated Small Works and Services Rates.

The unit prices and Small Works and Services Rates will be for the ensuing three-year period following the Catalogue Review Date. The unit prices must represent good value for money having regard to:

- (a) prices prevailing for similar items in the market at the time; and
- (b) paragraph 4.2 of this Section 2 (*Low Value Changes*).

The Small Works and Services Rates must provide value for money with reference to rates prevailing for similar services in the market at the time.

8.4 Within ten (10) Business Days of the submission by Project Co of the revised and updated Catalogue and Small Works and Services Rates pursuant to paragraph 8.3 of this Section 2 (*Low Value Changes*), the Board shall confirm in writing whether or not it agrees that the revised and the updated Catalogue shall constitute the Catalogue and the updated Small Works and Services Rates shall constitute the Small Works and Services Rates for the purposes of this Agreement from the relevant Catalogue Review Date;

8.5 If the Board does not confirm to Project Co that it agrees with the revised and updated Catalogue and/or Small Works and Services Rates provided by Project Co pursuant to paragraph 8.3 of this Section 2 (*Low Value Changes*), the parties shall meet and endeavour, in good faith, to agree any amendments to the Catalogue and/or Small Works and Services Rates. Any dispute in relation to this paragraph 8 may be referred by either party to the Dispute Resolution Procedure. The revised and updated Catalogue and revised and updated Small Works and Services Rates with such amendments as are agreed by the parties or determined under the Dispute Resolution Procedure shall constitute the Catalogue and the Small Works and Services Rates for the purposes of this Agreement from the relevant Catalogue Review Date.

## **9 Documentation and Monitoring**

9.1 No due diligence (whether funder, legal, technical, insurance or financial) shall be required in relation to Low Value Changes unless otherwise agreed between the



parties.

- 9.2 No changes shall be made to this Agreement or any Project Document as a result of a Low Value Change, unless otherwise agreed between the parties.
- 9.3 Where it is agreed that an adjustment of the Annual Service Payment is required in respect of a Low Value Change, the Financial Model shall be adjusted to give effect to such Low Value Changes once each Contract Year on a date to be agreed between the parties and all relevant Low Value Changes that have occurred since the preceding such adjustment shall be aggregated together into a single cumulative adjustment in accordance with Section 6 (*Changing the Financial Model*) of this Schedule Part 16 (*Change Protocol*).
- 9.4 Project Co shall keep a record of all Low Value Changes processed, completed and outstanding and shall provide the Board with a copy of that record whenever reasonably required by the Board.

## **10 Disputes**

- 10.1 Any dispute concerning any matter referred to in this Section 2 (*Low Value Changes*) may be referred by either party to the Dispute Resolution Procedure.
- 10.2 Project Co shall not be obliged to implement the Low Value Change until any dispute has been determined except that where such dispute concerns only the cost of a Low Value Change, unless the Board otherwise directs, Project Co must continue to carry out or implement the Low Value Change within the prescribed timescale notwithstanding the dispute.
- 10.3 The Board is not entitled to withdraw a Board Change Notice and procure implementation of a Low Value Change in respect of which there is a dispute that has been referred to the Dispute Resolution Procedure, unless that dispute has been determined in its favour and Project Co has not confirmed to the Board in writing within five (5) Business Days of the date of the determination that it will implement and carry out the Low Value Change in accordance with the determination.

### SECTION 3

#### MEDIUM VALUE CHANGES

#### 1 Medium Value Changes

- 1.1 If the Board requires a Medium Value Change, it must serve a Board Change Notice on Project Co in accordance with paragraph 2 (*Medium Value Change Notice*) of this Section 3 (*Medium Value Changes*).
- 1.2 Project Co shall be entitled to refuse a Medium Value Change that:
- 1.2.1 requires the Works and/or the Services to be performed in a way that infringes any law or is inconsistent with Good Industry Practice;
  - 1.2.2 would cause any Necessary Consent to be revoked (or would require a new consent to be obtained or any existing Necessary Consent to be amended which, after using reasonable efforts, Project Co has been unable to obtain);
  - 1.2.3 would materially and adversely affect Project Co's ability to deliver the Works and/or the Services (except those Works and/or Services which have been specified as requiring to be amended in the Board Change Notice) in a manner not compensated for pursuant to this Section 3 (*Medium Value Changes*);
  - 1.2.4 would materially and adversely affect the health and safety of any person;
  - 1.2.5 would, if implemented, materially and adversely change the nature of the Project (including its risk profile); or
  - 1.2.6 the Board does not have the legal power or capacity to require implementation of.

#### 2 Medium Value Change Notice

- 2.1 A Board Change Notice for a Medium Value Change must:
- 2.1.1 state that it refers to a Medium Value Change;
  - 2.1.2 set out the change in the Works or Services or the additional works or services required in sufficient detail to enable Project Co to calculate and provide the Estimated Change in Project Costs in accordance with paragraph 3 (*Contractor's Estimate*) of this Section 3 (*Medium Value Changes*);
  - 2.1.3 set out whether, in respect of any additional facilities, Project Co is expected to provide facilities management services and lifecycle maintenance services in respect of such additional facilities; and

- 2.1.4 set out the timing of the additional works or services required by the Board.
- 2.2 Within fifteen (15) Business Days of receipt of the Medium Value Change Notice, Project Co must notify the Board in writing:
- 2.2.1 whether it considers that it is entitled to refuse the Medium Value Change on any of the grounds set out in paragraphs 1.2.1 to 1.2.6 of this Section 3;
- 2.2.2 when it will provide the Estimate to the Board bearing in mind the requirement in paragraph 7.2.2 of this Section 3; and
- 2.2.3 its estimate of the Third Party Costs that it will incur to prepare the Estimate.
- 2.3 If Project Co notifies the Board that it considers that it is entitled to refuse the Medium Value Change on one or more of the grounds set out in paragraphs 1.2.1 to 1.2.6 of this Section 3, then unless the parties otherwise agree, the Board shall be deemed to have withdrawn the Board Notice of Change if it has not referred the matter to the Dispute Resolution Procedure within twenty (20) Business Days of receipt of Project Co's notice.
- 2.4 If the Board considers that Project Co's proposed time for providing the Estimate is not reasonable, the parties shall endeavour to agree the time, failing which the matter may be referred to the Dispute Resolution Procedure.
- 2.5 If the Board considers that the Project Co's estimate of Third Party Costs to prepare the Estimate is not reasonable, the parties shall endeavour to agree the same, failing which the matter may be referred to the Dispute Resolution Procedure.
- 2.6 If any matter is referred to the Dispute Resolution Procedure pursuant to paragraph 2 (*Medium Value Change Notice*) of this Section 3 (*Medium Value Changes*), the time for Project Co to provide the Estimate shall be counted from the date of determination of that dispute if the dispute is determined in Project Co's favour.

### **3 Project Co's Estimate**

As soon as reasonably practicable and in any event within the time period agreed or determined pursuant to paragraph 2.4 of this Section 3, Project Co shall deliver to the Board the Estimate.

The Estimate must contain:

- 3.1 a detailed timetable for implementation of the Medium Value Change;
- 3.2 any requirement for relief from compliance with obligations, including the obligations of Project Co to achieve the Actual Completion Date by the Completion Date and to meet the requirements set out in the Board's Construction Requirements and/or the Service Level Specification during the implementation of the Medium Value Change;

- 3.3 an outline of the proposed design solution and design, including an appropriate analysis/risk appraisal and, to the extent relevant, the impact on whole life costings;
- 3.4 any impact on the provision of the Works and/or the Services;
- 3.5 a value for money justification for any proposed change to the quality of the works or the services comprised in the Medium Value Change as compared to the Works and the Services;
- 3.6 any amendment required to this Agreement and/or any Project Document as a result of the Medium Value Change;
- 3.7 any Estimated Change in Project Costs that results from the Medium Value Change;
- 3.8 any Capital Expenditure that is required or no longer required as a result of the Medium Value Change;
- 3.9 amendments to existing Necessary Consents that are required;
- 3.10 a payment schedule for any Capital Expenditure required to implement the Change, based on milestones where relevant;
- 3.11 costs and details of (i) any other approvals required and/or due diligence permitted pursuant to paragraph 12 of this Section 3 (*Medium Value Changes*); and (ii) any Third Party Costs;
- 3.12 the method of implementation and the proposed method of certification of any construction aspects of the Medium Value Change, if not covered by the procedures specified in Clause 14 (*Programme and Dates for Completion*); and
- 3.13 any other information requested by the Board in the Board Change Notice.

together the "**Estimate**"

#### **4 Costing of the Estimate**

In calculating the Estimated Change in Project Costs and/or the Capital Expenditure for the purposes of the Estimate, Project Co shall apply the following principles wherever applicable:

- 4.1 unless the Board's requirements for the Medium Value Change specify a different quality as compared to the Works:
  - 4.1.1 the unit cost of any construction or installation works or associated preliminaries (excluding any temporary or demolition works, professional fees, contingencies, overheads and profit margins) required to implement the Medium Value Change is the equivalent unit rate set out in Part 1 (*Unit*

*Cost for Construction or Installation Costs*) of Appendix 2 of this Schedule Part 16 (*Change Protocol*), uplifted using the BIS Pubsec Index for construction cost inflation in the period between the Commencement Date and the date the Medium Value Change is to be commenced;

- 4.1.2 any Lifecycle Replacement and Maintenance Works associated with additional works (or changes to the Works) are consistent with the lifecycle and maintenance profile of the Facilities envisaged in Section 4 (*Project Co's Proposals*) of Schedule Part 6 (*Construction Matters*) including (without limitation) in terms of the replacement cycles for equipment, provided that Project Co must reflect improvements in technology that can optimise Whole Life Costs for the Board; and
- 4.1.3 the unit costs to be applied to the pricing of lifecycle replacement and maintenance is the equivalent unit rate set out in Part 2 (*Unit Costs of Lifecycle Maintenance*) of Appendix 2 of this Schedule Part 16 (*Change Protocol*) (index linked);
- 4.2 any professional fees, contingencies, overheads and/or profit margins to be charged by any consultant, sub-contractor or supplier in respect of construction and/or installation and/or lifecycle and/or service provision for the Medium Value Change are the equivalent rates set out in Part 3 (*Consultant, Sub-contractor or Supplier Fees*) of Appendix 2 of this Schedule Part 16 (*Change Protocol*) (index linked), or if the professional fees, contingencies, overheads and profit margins being charged by consultants, sub-contractors and/or suppliers in current market conditions have changed significantly from those set out in Part 3 (*Consultant, Sub-contractor or Supplier Fees*) of Appendix 2 of this Schedule Part 16 (*Change Protocol*) (index linked), such other rates as the parties agree or failing agreement as may be determined under the Dispute Resolution Procedure as being consistent with those charged in current market conditions;
- 4.3 unless the Board's requirements for the Medium Value Change specify a different quality than required by the Service Level Specification, the unit cost of any extension of, or change to, any Service (either in scope or area), taking into account the capacity of existing labour resources, is consistent with the equivalent unit rate set out in Part 4 of Appendix 2 to this Schedule Part 16 (*Change Protocol*) (index linked);
- 4.4 other than as referred to in paragraphs 4.1 to 4.3 of this Section 3 (*Medium Value Changes*) to this Schedule Part 16 no charge shall be made in respect of Project Co's time, or that of any Project Co Party spent processing, managing or monitoring the Medium Value Change (and no additional mark up or management fee shall be applied by Project Co); and
- 4.5 where aspects of the Medium Value Change are not addressed by paragraphs 4.1 to 4.4 of this Section 3 (*Medium Value Changes*), they shall be costed on a fair and reasonable basis reflecting the then current market rates.

## **5 Standards of provision of the Estimate**

In providing the Estimate Project Co must:

- 5.1 use reasonable endeavours to oblige its Sub-Contractors to minimise any increase in costs and maximise any reduction in costs;

- 5.2 demonstrate how any Capital Expenditure to be incurred or avoided is being measured in a cost effective manner, including showing that when such expenditure is incurred, reasonably foreseeable Changes in Law at that time have been taken into account; and
- 5.3 demonstrate that any expenditure that has been avoided, which was anticipated to be incurred to replace or maintain assets that have been affected by the Medium Value Change concerned, has been taken into account in the amount which in its opinion has resulted or is required under paragraphs 3.7 and/or 3.8 of this Section 3; and
- 5.4 provide written evidence of Project Co's compliance with paragraphs 5.1 to 5.3 of this Section 3.

## **6 Determination of the Estimate**

As soon as practicable after the Board receives the Estimate, the parties shall discuss and endeavour to agree the contents of the Estimate. If the parties cannot agree on the contents of the Estimate, the matter may be referred by either party to the Dispute Resolution Procedure to determine if the Estimate represents a fair and reasonable approach to implementing the Medium Value Change in all respects.

## **7 Confirmation or Withdrawal of the Medium Value Change Notice**

- 7.1 As soon as practicable after the contents of the Estimate have been agreed or otherwise determined pursuant to paragraph 6 of this Section 3, the Board shall:
  - 7.1.1 confirm in writing to Project Co the Estimate (as modified); or
  - 7.1.2 withdraw the Board Change Notice.
- 7.2 If, in any Contract Year, the Board has either not confirmed an Estimate (as modified, if applicable) within twenty (20) Business Days of the contents of the Estimate having been agreed or determined in accordance with the foregoing provisions of this Section 3 or has withdrawn a Board Change Notice for a Medium Value Change on three or more occasions, then the Board shall pay to Project Co on the third and each subsequent such occasion in that Contract Year the reasonable additional Third Party Costs incurred by Project Co in preparing the Estimate provided that:
  - 7.2.1 Project Co has used all reasonable endeavours to submit a reasonably priced Estimate; and
  - 7.2.2 Project Co made available to the Board, with the Estimate, a cost break down of Third Party Costs incurred by Project Co to prepare the Estimate, which shall be consistent with the estimate of such costs approved by the Board pursuant to paragraph 2.5 of this Section 3.

## **8 Implementation of the Medium Value Change**

- 8.1 When the Board has confirmed the Estimate in accordance with paragraph 7.1 of this

Section 3, Project Co shall, subject to Project Co obtaining all new or amended Necessary Consents that are required and have not already been obtained, implement the required Medium Value Change in accordance with the Estimate. Where an extension of time has been agreed as part of the Estimate the Completion Date shall be extended as agreed in the Estimate.

8.2 Project Co shall notify the Board when it considers that the Medium Value Change has been completed.

8.3 If:

8.3.1 Project Co fails to provide a response pursuant to paragraph 2.2 of this Section 3 within fifteen (15) Business Days of the date of the Medium Value Change Notice; or

8.3.2 Project Co fails to provide an Estimate in accordance with paragraph 3 of this Section 3; or

8.3.3 the Board has confirmed an Estimate but Project Co fails to fully implement the Medium Value Change within ten (10) Business Days after the expiry of the time for implementing the Medium Value Change set out in the Estimate Low Value Change (as such time may be extended for any delay that is, or is equivalent to, a Delay Event).;

then, subject to paragraph 14.3 of this Section 3, the Board may notify Project Co that the Medium Value Change Notice is withdrawn and, following such notification, may procure the implementation of the Medium Value Change without further recourse to Project Co, but the Board must ensure that the Medium Value Change is carried out in accordance with Good Industry Practice and to the standards that would have applied to Project Co if it had implemented the Medium Value Change.

## **9 Certification of the Medium Value Change**

9.1 Where the Medium Value Change is implemented at the Facilities and/or the Retained Estate Handback Infrastructure before the Actual Completion Date, the procedure set out at Clause 17 (*Pre-Completion Commissioning and Completion*) shall apply to the Medium Value Change at the same time as it applies to the original Works.

9.2 Where the Medium Value Change is implemented at the Facilities after the Actual Completion Date and constitutes additional works, the procedure set out and agreed in the Estimate for certifying the completion of the Medium Value Change shall apply to determine whether the Medium Value Change has been completed appropriately.

## **10 Method of Payment of Board Contribution**

10.1 Project Co shall invoice the Board for Capital Expenditure incurred by Project Co to implement a Medium Value Change according to the payment schedule set out in the Estimate as referred to in paragraph 3.10.

10.2 The Board shall make a payment to Project Co within fifteen (15) Business Days of

receipt by the Board of invoices presented to the Board (complete in all material respects) in accordance with paragraph 10.1 of this Section 3 accompanied by the relevant evidence (where applicable) that the relevant part of the Medium Value Change has been carried out.

## 11 Adjustment to Annual Service Payment

Any adjustment to the Annual Service Payment that is necessary due to the implementation of a Medium Value Change shall be calculated in accordance with Section 6 of this Schedule Part 16 (*Change Protocol*).

## 12 Due Diligence

12.1 Project Co shall procure that the Senior Lenders shall not:

12.1.1 (in any event) withhold or delay any consents that are required pursuant to the Senior Financing Agreements to a Medium Value Change other than on the basis that the Senior Lenders, acting pursuant to the terms of the Senior Financing Agreements, reasonably believe that one or more of the circumstances set out in paragraphs 1.2.1 to 1.2.6 of this Section 3 apply; or

12.1.2 carry out any due diligence (whether funder, legal, technical, insurance or financial) in relation to the carrying out of any Medium Value Change unless either (i) the Medium Value Change in question would result in an adjustment to the Annual Service Payment that, on a full year basis, is in excess of one percent (1%) of the Annual Service Payment in the relevant Contract Year or (ii) the Senior Lenders, acting pursuant to the terms of the Senior Financing Agreements, reasonably believe that one or more of the circumstances set out in paragraphs 1.2.1 to 1.2.6 of this Section 3 apply.

12.2 Where not prohibited by paragraph 12.1 of this Section 3, the Senior Lenders may carry out legal, financial, insurance and/or technical due diligence on any proposal for a Medium Value Change. In the event that such due diligence is permitted and required, the parties shall agree a budget for the due diligence not exceeding 5% of the overall value of the Medium Value Change in question unless the parties (acting reasonably) agree otherwise. Any costs incurred by Project Co as a result of the Senior Lenders due diligence shall be reimbursed by the Board following agreement or determination of the contents of the Estimate within ten (10) Business Days of Project Co submitting an invoice for and evidence of such costs, subject to the invoices being in accordance with the agreed budget.

12.3 It is acknowledged that Changes (particularly where they involve a change to the Works or the Facilities) may require authorisation from the insurers under the Required Insurances. Project Co shall notify the relevant insurance broker immediately upon any material Medium Value Change being agreed (materiality being judged in relation to the size and nature of the scope of the Medium Value Change).

## 13 Project Documentation

13.1 Unless the parties otherwise agree, no changes to the Project Documents shall be made as a result of a Medium Value Change.



- 13.2 Project Co shall, no later than one (1) month following completion of a Medium Value Change, update the as-built drawings and the operating and maintenance manuals as necessary to reflect the Medium Value Change.

#### **14 Disputes**

- 14.1 Any dispute concerning any matter referred to in this Section 3 may be referred by either party to the Dispute Resolution Procedure.
- 14.2 Project Co shall not be obliged to implement the Medium Value Change until the dispute has been determined.
- 14.3 The Board is not entitled to withdraw a Board Change Notice and procure implementation of a Medium Value Change in respect of which there is a dispute that has been referred to the Dispute Resolution Procedure, unless that dispute has been determined in its favour and Project Co has not confirmed to the Board in writing within five (5) Business Days of the date of the determination that it will implement and carry out the Medium Value Change in accordance with the determination.

## SECTION 4

## HIGH VALUE CHANGES

**1 High Value Changes**

- 1.1 If the Board requires a High Value Change it must serve a Board Change Notice on Project Co in accordance with paragraph 2 of this Section 4 (*High Value Changes*).
- 1.2 Project Co shall be entitled to refuse a High Value Change that:
- 1.2.1 requires the Works and/or the Services to be performed in a way that infringes any law or is inconsistent with Good Industry Practice;
  - 1.2.2 would cause any Necessary Consent to be revoked (or would require a new consent to be obtained to implement the relevant change in the Works and/or the Services which, after using reasonable efforts, Project Co has been unable to obtain);
  - 1.2.3 would materially and adversely affect Project Co's ability to deliver the Works and/or the Services (except those Works and/or Services which have been specified as requiring to be amended in the High Value Change Notice) in a manner not compensated pursuant to this Section 4 (High Value Changes);
  - 1.2.4 would materially and adversely affect the health and safety of any person;
  - 1.2.5 would, if implemented, materially and adversely change the nature of the Project (including its risk profile);
  - 1.2.6 is the subject of a High Value Change Notice that cannot reasonably be complied with;
  - 1.2.7 the Board does not have the legal power or capacity to require implementation of; or
  - 1.2.8 would if implemented adversely affect the enforceability or priority of the security held by or on behalf of the existing Senior Lenders.

**2 High Value Change Notice**

- 2.1 A Board Change Notice for a High Value Change must:
- 2.1.1 state that it refers to a High Value Change;
  - 2.1.2 set out the maximum available capital and/or revenue the Board is able to commit to that High Value Change (the "**Target Cost**");

- 2.1.3 identify any requirements of the Board that must be satisfied as part of the High Value Change Proposal (the “**High Value Change Requirements**”); and
  - 2.1.4 identify how the Board will assess whether the High Value Change Stage 2 Submission offers it value for money.
- 2.2 The parties may agree written protocols with express reference to this Section 4 (*High Value Changes*) which explain or clarify any aspects of the High Value Change approval procedure set out in this Section 4 (*High Value Changes*) and such protocols shall be read as if incorporated into this Section 4 (*High Value Changes*) (including accelerated procedures with reduced requirements for High Value Changes of relatively low values).
- 2.3 The parties must:
- 2.3.1 within five (5) Business Days of receipt by Project Co of any High Value Change Notice, discuss and review the nature of the High Value Change, including a discussion as to which of the items set out in paragraph 3.4 of this Section 4 (*High Value Changes*) are appropriate to be included within the High Value Change Proposal; and
  - 2.3.2 within five (5) Business Days of a High Value Change Proposal becoming a Stage 1 Approved Project, discuss and review the nature of the Stage 1 Approved Project, including a discussion as to which of the items set out in paragraph 4.3 of this Section 4 (*High Value Changes*) are appropriate to be included within the High Value Change Stage 2 Submission.

### **3 High Value Change Proposal**

- 3.1 Project Co must notify the Board in writing as soon as practicable and in any event within fifteen (15) Business Days after having received the Board Change Notice for a High Value Change if it considers that any of the circumstances set out in paragraphs 1.2.1 to 1.2.8 of this Section 4 (*High Value Changes*) apply. If no such notice is served, Project Co must (within thirty (30) Business Days after having received the Board Change Notice) either:
- 3.1.1 submit a High Value Change Proposal to the Board; or
  - 3.1.2 notify the Board as to when the High Value Change Proposal will be provided to it (provided that Project Co shall use all reasonable endeavours to obtain all the information that it requires, expeditiously).
- 3.2 If Project Co notifies the Board that it considers that one or more of the grounds set out in paragraphs 1.2.1 to 1.2.8 of this Section 4 (*High Value Changes*) apply, then unless the parties otherwise agree, the Board shall be deemed to have withdrawn the Board Notice of Change if it has not referred the matter to the Dispute Resolution Procedure within twenty (20) Business Days of receipt of Project Co’s notice. If the matter is referred to the Dispute Resolution Procedure the time for Project Co to provide the High Value Change Proposal shall be counted from the date of determination of that dispute if the dispute is determined in Project Co’s favour.

- 3.3 If the Board considers that Project Co's proposed time for providing the High Value Change Proposal is not reasonable, the parties shall endeavour to agree the time, failing which the matter may be referred to the Dispute Resolution Procedure.
- 3.4 Unless Project Co has submitted a High Value Change Proposal in accordance with paragraph 3.1.1 of this Section 4 (*High Value Changes*), Project Co must deliver to the Board the High Value Change Proposal as soon as reasonably practicable and in any event within the time period agreed or determined pursuant to paragraph 3.3 of this Section 4 (*High Value Changes*). Unless the parties agree otherwise, a High Value Change Proposal will contain at least the following information in sufficient detail to enable the Board to make an informed decision under paragraph 3.6 of this Section 4 (*High Value Changes*):
- 3.4.1 a description of the High Value Change, with evidence of how the High Value Change meets the High Value Change Requirements;
  - 3.4.2 an outline of the proposed building solution and design including an appropriate analysis/risk appraisal of, in each case to the extent relevant (if at all), the preferred investment solution contemplated in terms of new build, refurbishment, whole life costings;
  - 3.4.3 the Change Management Fee for the High Value Change, which shall be a capped fee calculated in accordance with paragraph 10 of this Section 4 (*High Value Changes*);
  - 3.4.4 details of the third party activity likely to be required by Project Co in developing a High Value Change Stage 2 Submission together with a budget (or budgets) for relative Third Party Costs;
  - 3.4.5 an estimated programme for submission of the High Value Change Stage 2 Submission and for the implementation of the High Value Change;
  - 3.4.6 any requirement for relief from compliance with obligations, including the obligations of Project Co to achieve the Actual Completion Date by the Completion Date and meet the requirements set out in the Board's Construction Requirements and/or the Service Level Specification during the implementation of the High Value Change;
  - 3.4.7 any impact on the provision of the Works and/or the Services;
  - 3.4.8 any amendment required to this Agreement and/or any Project Document as a result of the High Value Change;
  - 3.4.9 any Estimated Change in Project Costs that results from the High Value Change;
  - 3.4.10 an outline of how Project Co proposes to finance any Capital Expenditure required for the High Value Change;
  - 3.4.11 Project Co's suggested payment schedule for any Capital Expenditure to be

incurred in implementing the Change that is to be borne by the Board, based on milestones where relevant;

- 3.4.12 any new Necessary Consents and/or any amendments to existing Necessary Consents which are required;
- 3.4.13 costs and details of any other approvals required or due diligence permitted pursuant to paragraph 14 of this Section 4 (*High Value Changes*);
- 3.4.14 the proposed method of certification of any construction or operational aspects of the Works or the Services required by the proposed High Value Change if not covered by the procedures specified in Clause 17 (*Pre-Completion Commissioning and Completion*); and
- 3.4.15 a value for money assessment explaining why Project Co's proposals represent value for money taking into account both the proposed Capital Cost and Whole Life Cost.

### 3.5 **Liaison between Project Co, the Board and relevant end users**

In developing a High Value Change Proposal Project Co must liaise with the Board and relevant end users (being such persons or organisations as Project Co in consultation with the Board considers appropriate). The Board must provide Project Co with such information about its requirements as Project Co reasonably requires and must assist Project Co in the review of any draft designs in relation to the High Value Change Proposal. Any and all information and other input or feedback provided by the Board to Project Co, unless expressly stated otherwise by the Board, will be without warranty and will be provided without prejudice to the Board's rights under this Section 4 (*High Value Changes*).

### 3.6 **Consideration of a High Value Change Proposal by the Board**

The Board will consider in good faith each High Value Change Proposal put forward by Project Co and the Board will not unreasonably withhold or delay its consent to a High Value Change Proposal. If, acting reasonably, the Board finds that any material aspects of the High Value Change Proposal are unsatisfactory to it, it shall notify Project Co of the same and offer reasonable assistance to Project Co to enable it to revise and resubmit the High Value Change Proposal as soon as reasonably practicable.

### 3.7 **Board response to a High Value Change Proposal**

If the Board approves a High Value Change Proposal (including any revised High Value Change Proposal resubmitted pursuant to paragraph 3.5 of this Section 4 (*High Value Changes*)), then it shall be a "**Stage 1 Approved Project**" or be referred to as having received "**Stage 1 Approval**", as the context requires.

### 3.8 **Project Co not entitled to dispute non-approval**

Project Co shall not be entitled to refer any dispute concerning the Board's failure to

approve a High Value Change Proposal to the Dispute Resolution Procedure.

#### **4 Stage 2 Submission**

##### **4.1 Development of a High Value Change Stage 2 Submission**

4.1.1 Within ten (10) Business Days of a High Value Change Proposal having become a Stage 1 Approved Project, the parties shall seek to agree the time period within which Project Co must develop the Stage 1 Approved Project into a detailed submission (the “**High Value Change Stage 2 Submission**”). If the parties are unable to agree a reasonable time period for such submission any dispute may be referred to the Dispute Resolution Procedure.

4.1.2 Following agreement or determination of what is an appropriate time period for submission by Project Co of the High Value Change Stage 2 Submission pursuant to paragraph 4.1.1 of this Section 4 (*High Value Changes*), Project Co shall proceed regularly and diligently to produce and submit the same to the Board within the agreed or determined time period.

##### **4.2 Liaison between Project Co, the Board and relevant end users**

In developing a High Value Change Stage 2 Submission Project Co must continue to liaise with the Board and relevant end users (being such persons or organisations as the Board in consultation with Project Co considers appropriate). The Board must provide Project Co with such information as to its requirements as is reasonably necessary to enable Project Co to submit a full and complete High Value Change Stage 2 Submission and any such other information as Project Co may reasonably require and must assist Project Co in the review of any draft designs in relation to the Stage 1 Approved Project and in the development of other aspects of the High Value Change Stage 2 Submission (but not where this would involve the Board incurring additional material expense). Any and all information and other input or feedback provided by the Board to Project Co will be without warranty and will be provided without prejudice to the Board’s rights under this Section 4 (*High Value Changes*).

##### **4.3 Content requirements in relation to a High Value Change Stage 2 Submission**

Save where the parties agree otherwise, in relation to the relevant Stage 1 Approved Project, Project Co shall procure that a High Value Change Stage 2 Submission includes (but not be limited to):

4.3.1 draft(s) of the relevant Project Document(s) identifying (if relevant) any material changes or amendments proposed in respect of the relevant Stage 1 Approved Project, together with the reasons for any such changes or amendments proposed and including full details of which provisions of the relevant Project Documents will apply to the High Value Change so that it is implemented in equivalent manner and to an equivalent standard as required in respect of the Works and/or Services as appropriate;

4.3.2 detailed design solutions (to RIBA Level D);

- 4.3.3 appropriate plans and drawings;
- 4.3.4 relevant detailed planning permissions and any other relevant planning approvals and Necessary Consents (or such lesser confirmation or information in relation to planning as may be agreed with the Board);
- 4.3.5 a proposed revised Financial Model including the detailed price estimates for the Stage 1 Approved Project;
- 4.3.6 an explanation (together with appropriate supporting evidence) as to why the High Value Change Stage 2 Submission meets the Approval Criteria (as defined in paragraph 7 of this Section 4 (*High Value Changes*));
- 4.3.7 confirmation (or details of any requested variations to (with supporting justification)) of the Change Management Fee referred in paragraph 3.4.3 of this Section 4 (*High Value Changes*);
- 4.3.8 the proposed method of certification of any construction aspects of the High Value Change, if not covered by the procedures specified in Clause 17 (*Pre-Completion Commissioning & Completion*);
- 4.3.9 a value for money assessment explaining why Project Co's proposals represent value for money taking into account both the proposed Capital Cost and Whole Life Cost;
- 4.3.10 a timetable and method statement setting out how the relevant High Value Change will be delivered, which shall include (but not be limited to) in so far as relevant:
- (a) proposals for the effective management of the building programme;
  - (b) details of any relevant Interface Proposals;
  - (c) an assessment as to the savings (if relevant) to be generated by the High Value Change, particularly on staff costs and lifecycle replacement and maintenance and operation of Services;
  - (d) details of the Sub-Contractors together with evidence and explanation of the value testing undertaken by Project Co in relation to the High Value Change;
  - (e) a completed risk register showing the potential risks identified in relation to the delivery of the High Value Change the occurrence of which are capable of adversely affecting the time for completion, cost and/or quality of the project, the probability of such risks occurring and a financial estimate of the most likely consequences of each risk occurring together with the prioritisation of all continuing risks and an action plan in respect of, and risk owners for, all risks prioritised as serious risks;

- 4.3.11 any surveys and investigations and associated reports that are reasonably necessary to ascertain (in relation to Changes involving the construction of additional buildings) information as to the nature, location and condition of the relevant land (including hydrological, geological, geotechnical and sub-surface conditions) together with information relating to archaeological finds, areas of archaeological, scientific or natural interest and (in relation to the refurbishment of any existing buildings) information on the condition and quality of existing structures and, in particular, the presence of any latent defects.

#### **Co-operation of the Board**

- 4.4 The Board will co-operate with Project Co in relation to any High Value Change Stage 2 Submission being developed by Project Co, including (without limitation) promptly providing:
- 4.4.1 written confirmation of the Target Cost and/or High Value Change Requirements and any change to such Target Cost and/or High Value Change Requirements; and
- 4.4.2 any information reasonably required by Project Co to enable it to satisfy the requirements of paragraph 4.3 of this Section 4 (*High Value Changes*).

#### **5 Time periods for approval**

- 5.1 Each High Value Change Proposal and each High Value Change Stage 2 Submission shall be valid for a period of three (3) months from the date of its submission by Project Co.
- 5.2 If by the end of the three (3) month period referred to in paragraph 5.1 of this Section 4 (*High Value Changes*) the Board has not:
- 5.2.1 in relation to a High Value Change Proposal, approved or rejected that High Value Change Proposal in accordance with the procedures set out in this Section 4 (*High Value Changes*):
- (a) Project Co shall be entitled to withdraw the High Value Change Proposal; and
- (b) Project Co shall not be entitled to any costs relating to the High Value Change Proposal unless the Board has either not responded to the High Value Change Proposal and/or is in material breach of its obligations in paragraph 3 and/or paragraph 4.4 of this Section 4 in which case paragraph 8.5 of this Section 4 (*High Value Changes*) shall apply;
- 5.2.2 in relation to a High Value Change Stage 2 Submission, approved or rejected that High Value Change Stage 2 Submission in accordance with the procedures set out in this Section 4 (*High Value Changes*) (or has not given any notification of the Board's response to the High Value Change Stage 2 Submission or has given written notice to Project Co withdrawing or cancelling the High Value Change to which the High Value Change Stage 2 Submission relates) then the High Value Change Stage 2 Submission shall



be deemed to have been improperly rejected by the Board and paragraph 8.5 shall apply.

## 6 Changes to the High Value Change Requirements or Approval Criteria

- 6.1 If the High Value Change Requirements or Approval Criteria are subject to any material variation in relation to a High Value Change by the Board after the High Value Change Proposal has been submitted then:
- 6.1.1 Project Co and the Board shall negotiate in good faith as to the implications on the High Value Change Proposal or High Value Change Stage 2 Submission (as the case may be) and shall seek to agree changes thereto to accommodate the variation (including any change to the Target Cost and/or to the Change Management Fee);
- 6.1.2 if agreement has not been reached pursuant to paragraph 6.1.1 of this Section 4 (*High Value Changes*) within twenty (20) Business Days (or such longer period as the parties may agree) then:
- (a) Project Co shall be entitled by notice in writing to the Board to withdraw the High Value Change Proposal or the High Value Change Stage 2 Submission (as the case may be) and to be paid the Incurred Change Management Fee with the Calculation Date being the date of the variation notified by the Board; and
- (b) the Board shall not be entitled to procure the High Value Change without issuing a new Board Change Notice for the High Value Change and complying with the procedure in this Section 4 (*High Value Changes*) in relation to that High Value Change.
- 6.1.3 The Board may, at any time, give notice in writing to Project Co that it proposes to cancel a High Value Change without completing the process set out in this Section 4 (*High Value Changes*) in which case the Board must pay Project Co the Incurred Change Management Fee in respect of the cancelled High Value Change with the Calculation Date being the date of such notice.

## 7 Approval Criteria

- 7.1 For the purposes of this Section 4 (*High Value Changes*), Approval Criteria means the criteria against which any Stage 1 Approved Project is to be judged by the Board in determining whether it achieves Stage 2 Approval. The criteria are:
- 7.1.1 whether the costs of the Stage 1 Approved Project are within the Target Cost notified to Project Co by the Board;
- 7.1.2 whether it has been demonstrated that the Stage 1 Approved Project provides value for money assessed in accordance with the measures identified by the Board in accordance with paragraph 2.1.4 of this Section 4 (*High Value Changes*);

- 7.1.3 whether the Board, acting reasonably, is satisfied that the High Value Change Stage 2 Submission meets the High Value Change Requirements;
- 7.1.4 whether any material changes or amendments to the relevant Project Document(s) as detailed pursuant to paragraph 4.3.1 of this Section 4 (*High Value Changes*) are acceptable to the Board, acting reasonably; and
- 7.1.5 whether the High Value Change Stage 2 Submission contains all the information required pursuant to paragraph 4.3 of this Section 4 (*High Value Changes*) (or as otherwise agreed by the parties).

## **8 Submission of the High Value Change Stage 2 Submission to the Board and consideration of that submission by the Board**

- 8.1 The Board will consider in good faith High Value Change Stage 2 Submissions submitted by Project Co and the Board will not unreasonably withhold or delay its consent to a High Value Change Stage 2 Submission. The Board is entitled to call for such reasonable information and assistance as it considers appropriate to enable it to decide whether the High Value Change Stage 2 Submission meets the Approval Criteria. Project Co must reply promptly to all such requests for further information and assistance.
- 8.2 As soon as reasonably practicable after the submission to it of a High Value Change Stage 2 Submission (including any revised High Value Change Stage 2 Submission re-submitted by Project Co) the Board must give written notice of whether it:
  - 8.2.1 approves the relevant Stage 1 Approved Project (in which case the Stage 1 Approved Project will be referred to as having received "**Stage 2 Approval**" or as being a "**Stage 2 Approved Project**" or an "Approved Project" as the context requires); or
  - 8.2.2 rejects the Stage 1 Approved Project:
    - (a) on the ground that the High Value Change Stage 2 Submission in relation to the relevant Stage 1 Approved Project has failed to meet one or more of the Approval Criteria (except as referred to in paragraph 8.2.2(b)(i) or paragraph 8.2.2(b)(ii)), in which case (subject to resubmission under paragraph 8.2.3) paragraph 8.3 shall apply;
    - (b)
      - (i) because, as a result of any change to the Target Cost referred to in paragraph 2.1.2, the Stage 1 Approved Project is not in fact Affordable despite the High Value Change Stage 2 Submission being within the Target Cost notified by the Board pursuant to paragraph 2.1.2 of this Section 4 (*High Value Changes*); or
      - (ii) because Project Co has failed to meet one or more of the Approval Criteria and the sole reason for that failure is that any Necessary Consent identified by Project Co (in compliance with

paragraph 3.4.12 of this Section 4 (*High Value Changes*) has not been obtained; or

- (iii) otherwise on grounds other than those set out in paragraphs 8.2.2(a), 8.2.2(b)(i) and 8.2.2(b)(ii) of this Section 4 (*High Value Changes*),

in which case paragraph 8.5 shall apply.

8.2.3 If the Board rejects the High Value Change Stage 2 Submission on the grounds set out in paragraph 8.2.2(a) the Board and Project Co will work together to address the reasons for such failure and attempt in good faith to produce a revised High Value Change Stage 2 Submission for Project Co to re-submit to the Board.

8.2.4 If:

- (a) a resubmitted High Value Change Stage 2 Submission is rejected by the Board on the ground set out in paragraph 8.2.2(a) (subject to paragraphs 16.3 to 16.4 (if applicable) of this Section 4 (*High Value Changes*)); or
- (b) no resubmission of the High Value Change Stage 2 Submission is made within thirty (30) Business Days of the date of the notice of rejection (or such longer period as the parties may agree),

then the relevant Stage 1 Approved Project shall be treated as having been properly rejected, the provisions of paragraph 8.3 of this Section 4 (*High Value Changes*) shall apply and neither the Board nor Project Co will have any further obligations in relation to the relevant High Value Change referred to in the High Value Change Stage 2 Submission.

**If a High Value Change Stage 2 Submission is properly rejected by the Board**

8.3 Where this paragraph 8.3 applies (as set out in paragraph 8.2.2(a), paragraph 8.2.4 and paragraph 16.4.2 of this Section 4 (*High Value Changes*)) the Board shall not be required to reimburse or compensate Project Co in respect of any costs relating to the High Value Change including the Change Management Fee.

8.4 If:

8.4.1 Project Co fails to provide a response to a Board Change Notice in accordance with paragraph 3.1 of this Section 4 (*High Value Changes*); or

8.4.2 (where applicable) Project Co fails to provide a High Value Change Proposal in accordance with paragraph 3.4 of this Section 4 (*High Value Changes*); or

8.4.3 Project Co fails to submit a High Value Change Stage 2 Submission in accordance with paragraph 4.1.2 of Section 4 (*High Value Changes*); or

- 8.4.4 the Board has validly rejected a High Value Change Stage 2 Submission in accordance with paragraph 8.2 and the matter has not been referred to the Dispute Resolution Procedure or any such dispute has been determined as described in paragraph 16.4.2 of this Section 4 (*High Value Changes*),

then, subject to paragraph 17 of this Section 4 (*High Value Changes*), the Board may notify Project Co that the High Value Change Notice is withdrawn and, following such notification, may procure the implementation of the High Value Change without further recourse to Project Co, but the Board must ensure that the High Value Change is carried out in accordance with Good Industry Practice and to the standards that would have applied to Project Co if it had implemented the High Value Change.

**If a High Value Change Stage 2 Submission is improperly rejected by the Board**

- 8.5 Where this paragraph 8.5 applies (as set out in paragraph 5.2.1(b), paragraph 5.2.2 paragraph 8.2.2(b) and paragraph 16.4.1)), the Incurred Change Management Fee and Third Party Costs incurred by Project Co to prepare the High Value Change Proposal and Stage 2 Submission, which shall be in accordance with the activities and budget referred to in paragraph 3.4.4 of this Section 4 (*High Value Changes*), in relation to the relevant High Value Change will be paid by the Board within ten (10) Business Days of the date on which Project Co receives written notice of the rejection or the date of the deemed rejection (as the case may be) with the date of the rejection or the deemed rejection (as the case may be) being the Calculation Date for the purposes of calculating the amount of the Incurred Change Management Fee (unless a different Calculation Date is expressly stated in this Section 4 (*High Value Changes*) in relation to the circumstances giving rise to the entitlement of Project Co to be paid the Incurred Change Management Fee).

**9 Information and notifications by the Board to Project Co and cooperation of the Board**

- 9.1 The Board must notify Project Co as soon as it becomes aware of any matter which may have a reasonably foreseeable material adverse effect on the viability of any High Value Change including any:
- 9.1.1 planning issues likely to cause a material delay in the anticipated programme for the High Value Change or material cost increases; and
  - 9.1.2 changes to funding which the Board receives or to the way in which funding may be applied, either or both of which may affect whether a High Value Change is Affordable.
- 9.2 The Board shall provide reasonable assistance to Project Co in relation to the procurement by Project Co of all relevant Necessary Consents.

**10 Change Management Fee**

The Change Management Fee is to reimburse Project Co for the time spent by its employees in project managing the development, procurement and implementation of the High Value Change and shall:

- 10.1 be based on actual time spent (validated by time sheets);

10.2 be calculated at the daily rates as set out in Appendix 2 Part 3 to this Schedule Part 16 (*Change Protocol*), but capped at the sum set out in the High Value Change Proposal;

10.3 not include the time of any person who is not employed by Project Co;

10.4 not include any mark-up or profit or additional overheads;

10.5 be paid in three stages as follows:

10.5.1 on Stage 1 Approval;

10.5.2 on Stage 2 Approval; and

10.5.3 when any works involved in the High Value Change have been completed,

and at each stage Project Co shall charge the Board (subject to the applicable cap) only for the time incurred by its staff up to completion of that stage.

## **11 Implementation of the High Value Change**

Project Co must implement any High Value Change approved by the Board so as to minimise any inconvenience to the Board and to the provision of Board Services and in accordance with the Approved Project. Where an extension of time has been agreed as part of the Stage 2 Approval the Completion Date shall be extended as agreed in the Approved Project.

## **12 Method of Payment of Board Contribution**

12.1 This paragraph 12 shall apply where Capital Expenditure for an Approved Project is to be funded in whole or part by the Board.

12.2 Project Co shall invoice the Board for Capital Expenditure incurred by Project Co to implement a High Value Change that is to be borne by the Board according to the payment schedule set out in the High Value Change Stage 2 Submission as referred to in paragraph 3.4.11 of this Section 4.

12.3 The Board shall make a payment to Project Co within fifteen (15) Business Days of receipt by the Board of invoices presented to the Board (complete in all material respects) in accordance with paragraph 12.2 of this Section 4, accompanied by the relevant evidence (where applicable) that the relevant part of the High Value Change has been carried out.

## **13 Adjustment to Annual Service Payment**

Any adjustment to the Annual Service Payment which is necessary as a result of the implementation of a High Value Change shall be calculated in accordance with Section 6 of

this Schedule Part 16 (*Change Protocol*).

## 14 Due Diligence

- 14.1 Where the Board is funding the High Value Change, Project Co shall procure that the Senior Lenders shall not withhold or delay any consents which are required pursuant to the Senior Financing Agreements to such High Value Change other than on the basis that the Senior Lenders, acting pursuant to the terms of the Senior Financing Agreements, reasonably believe that one or more of the circumstances set out in paragraphs 1.2.1 to 1.2.8 of this Section 4 (*High Value Changes*) apply.
- 14.2 Where the Board is not funding the High Value Change, Project Co shall procure that the Senior Lenders do not unreasonably withhold or delay any consents which are required pursuant to the Senior Financing Agreements to such High Value Change other than on the basis that the Senior Lenders, acting pursuant to the terms of the Senior Financing Agreements, reasonably believe that one or more of the circumstances set out in paragraphs 1.2.1 to 1.2.8 of this Section 4 (*High Value Changes*) apply.
- 14.3 The parties agree that the Senior Lenders may carry out legal, financial, insurance and technical due diligence on any proposal for a High Value Change. The parties shall agree a budget for the due diligence provided that the costs may not exceed the lower of (i) 3% of the overall value of the High Value Change in question or (ii) fifty thousand pounds (£50,000) unless, in either case, the parties (acting reasonably) agree otherwise. Any costs incurred by Project Co as a result of the Senior Lenders due diligence will be reimbursed by the Board following the conclusion of the process in this Section 4 (*High Value Changes*) within ten (10) Business Days of Project Co submitting an invoice for and evidence of such costs, subject to the invoices being in accordance with the agreed budget.
- 14.4 It is acknowledged that High Value Changes (particularly where they involve a change to the Works or the Facilities) may require authorisation from the insurers under the Required Insurances. Project Co shall notify the relevant insurance broker immediately upon any material High Value Change being agreed (materiality being judged in relation to the size and nature of the scope of the High Value Change).
- 14.5 The parties agree that paragraph 14.2 of this Section 4 (*High Value Changes*) of this Schedule Part 16 (*Change Protocol*) does not oblige the Senior Lenders to provide any additional funding for the relevant High Value Change, which shall be in their absolute discretion.

## 15 Project Documentation

- 15.1 The only changes to the Project Documents or Ancillary Documents to be made as a result of a High Value Change shall be those identified in the Approved Project (subject to any amendments to it agreed by the parties).
- 15.2 Project Co shall, on completion of the Change, update the as-built drawings and the operating and maintenance manuals as necessary to reflect the High Value Change.

## 16 Disputes

- 16.1 Except as otherwise expressly provided, any dispute concerning any matter referred to in this Section 4 (*High Value Changes*) may be referred by either party to the Dispute Resolution Procedure.
- 16.2 The Board shall not be entitled to approve a High Value Change Proposal or a High Value Change Stage 2 Submission that is the subject of a dispute until the dispute has been determined.
- 16.3 If the Board rejects a High Value Change Stage 2 Submission pursuant to the provisions of paragraph 8.2.2(a) of this Section 4, Project Co shall be entitled to refer the matter for consideration under the Dispute Resolution Procedure within ten (10) Business Days after receiving written notice of the Board's decision.
- 16.4 If, following a referral to the Dispute Resolution Procedure, it is agreed or determined:
- 16.4.1 that the High Value Change rejected by the Board pursuant to paragraph 8.2.2(a) of this Section 4 met the Approval Criteria the Board shall either:
- (a) declare that the relevant High Value Change has received Stage 2 Approval and that High Value Change shall proceed; or
  - (b) declare that its rejection of the relevant High Value Change be treated as an improper rejection and that the provisions of paragraph 8.2.2(a) of this Section 4 (*High Value Changes*) shall apply.
- 16.4.2 the High Value Change did not meet the Approval Criteria, save in one of the respects referred to in paragraphs 8.2.2(b)(i) or 8.2.2(b)(ii) the provisions of paragraph 8.3 of this Section 4 (*High Value Changes*) shall apply.
- 17 The Board is not entitled to withdraw a Board Change Notice and procure implementation of a High Value Change in respect of which there is a dispute that has been referred to the Dispute Resolution Procedure, unless that dispute has been determined in its favour and Project Co has not confirmed to the Board in writing within five (5) Business Days of the date of the determination that it will comply with its obligations under this Section 4 in accordance with the determination.

## SECTION 5

### PROJECT CO CHANGES

- 1 If Project Co wishes to introduce a Project Co Change, it shall serve a notice containing the information required pursuant to paragraph 2 of this Section 5 (*Project Co Changes*) (a "*Project Co Notice of Change*") on the Board.
  
- 2 A Project Co Notice of Change shall:
  - 2.1 set out the proposed Project Co Change in sufficient detail to enable the Board to evaluate it in full;
  
  - 2.2 specify Project Co's reasons for proposing Project Co Change;
  
  - 2.3 indicate any implications of Project Co Change;
  
  - 2.4 indicate what savings, if any, will be generated by Project Co Change, including:
    - 2.4.1 whether a reduction of the Annual Service Payment is; or
  
    - 2.4.2 whether such savings will be paid to the Board in a lump sum,

in each case giving details in accordance with paragraph 8 of this Section 5 (*Project Co Changes*);
  
  - 2.5 indicate whether there are any critical dates by which a decision by the Board is required; and
  
  - 2.6 request the Board to consult with Project Co with a view to deciding whether to agree to Project Co Change and, if so, what consequential changes the Board requires as a result.
  
- 3 The Board shall evaluate Project Co Notice of Change in good faith, taking into account all relevant issues, including whether:
  - 3.1 a revision of the Annual Service Payment will occur;
  
  - 3.2 the Project Co Change may affect the quality of the Services and/or the Works or the likelihood of successful completion of the Works and/or delivery of the Services (or any of them);
  
  - 3.3 the Project Co Change will interfere with the relationship of the Board with third parties;
  
  - 3.4 the financial strength of Project Co is sufficient to perform the Works and/or Services after implementation of Project Co Change;



- 3.5 the value and/or life expectancy of any of the Facilities will be reduced; or
- 3.6 the Project Co Change materially affects the risks or costs to which the Board is exposed.
- 4 As soon as practicable after receiving Project Co Notice of Change, the parties shall meet and discuss the matters referred to in it, including in the case of a Relevant Change in Law those matters referred to in Clause 32.4 (*Relevant Changes in Law*) of this Agreement. During discussions the Board may propose modifications to, or accept or reject, Project Co Notice of Change.
- 5 If the Board accepts Project Co Notice of Change (with or without modification) the parties shall consult and agree the remaining details as soon as practicable and upon agreement the Board shall issue a notice confirming Project Co Change which shall set out the agreed Project Co Change and:
- 5.1 shall enter into any documents to amend this Agreement or any relevant Ancillary Document which are necessary to give effect to Project Co Change;
- 5.2 subject to paragraph 7 of this Section 5 (*Project Co Changes*), the Annual Service Payment shall be revised in accordance with Section 6 (*Changing the Financial Model*) of this Schedule Part 16 (*Change Protocol*); and
- 5.3 Project Co Change shall be implemented within the period specified by the Board in its notice of acceptance.
- 6 If the Board rejects Project Co Notice of Change, it shall not be obliged to give its reasons for such a rejection and Project Co shall not be entitled to reimbursement by the Board of any of its costs involved in the preparation of Project Co Notice of Change.
- 7 Unless the Board's written acceptance expressly agrees to an increase in the Annual Service Payment or that Project Co should be entitled to relief from any of its obligations, there shall be no increase in the Annual Service Payment or relief granted from any obligations as a result of a Project Co Change.
- 8 If a Project Co Change causes, or will cause, Project Co's costs or those of a sub-contractor to decrease, there shall be a decrease in the Annual Service Payment such that any cost savings (following deduction of costs reasonably incurred by Project Co in implementing such Project Co Change) will be shared on the basis of fifty per cent (50%) of the saving being retained by Project Co and fifty per cent (50%) of the saving being paid to the Board as a lump sum within ten (10) Business Days of agreement or determination or by way of revision of the Annual Service Payment pursuant to Section 6 (*Changing the Financial Model*) of this Schedule Part 16 (*Change Protocol*).

## SECTION 6

### CHANGING THE FINANCIAL MODEL

#### Procedure

- 1 If a Relevant Event occurs, the Financial Model shall be adjusted in accordance with this Section 6 (*Changing the Financial Model*) of this Schedule Part 16 (*Change Protocol*).

#### Adjusting the Logic or Formulae

- 2 If it is necessary to make a Logic Adjustment to permit an Input Adjustment or Assumption Adjustment to be made, Project Co shall make such Logic Adjustment only:
- 2.1 to the extent necessary;
  - 2.2 in accordance with generally accepted accounting principles in the United Kingdom; and
  - 2.3 so as to leave Project Co in no better and no worse a position.
- 3 In order to demonstrate that the conditions in paragraph 2 are met, Project Co shall prepare:
- 3.1 a run of the Financial Model before making any Assumption Adjustment or Input Adjustment and immediately prior to making the Logic Adjustment; and
  - 3.2 a run of the Financial Model immediately following the Logic Adjustment which shows that Project Co is in no worse and no better a position following the making of the Logic Adjustment.

#### Adjusting the Assumptions

- 4 Subject to paragraph 5, Project Co may make an Assumption Adjustment so that the Assumptions in the Financial Model reflect:
- 4.1 reasonable economic assumptions prevailing at the Adjustment Date; and
  - 4.2 reasonably foreseeable changes in the prospective technical performance of the Project arising as a result of the Relevant Event.
- 5 In making Assumption Adjustments, Project Co may make such adjustments only insofar as they relate to the Relevant Event, and such adjustments shall not have effect in relation to any period prior to the Adjustment Date, nor in relation to any aspect of the Project other than the Relevant Event in the period following the Adjustment Date.

#### Adjusting the Inputs

- 6 Project Co may make Input Adjustments to the extent required to reflect the Estimated Change in Project Costs arising out of the Relevant Event.

#### Adjusting the Annual Service Payments

- 7 In order to calculate the adjustment to be made to the Annual Service Payments, Project Co shall run the Financial Model after making the Logic Adjustments, the Assumption Adjustments and the Input Adjustments relating to the Relevant Event and permitted by this Section 6 (*Changing the Financial Model*) of this Schedule Part 16 (*Change Protocol*) so that, following the Relevant Event, it is in no better and no worse a position than it would have been if no Relevant Event had occurred.
- 8 The Annual Service Payments shall be adjusted by such amount as leaves Project Co, following the Relevant Event, in no better and no worse a position than it would have been if no Relevant Event had occurred.

**No better and no worse**

- 9 Any reference in this Agreement to “no better and no worse” or to leaving Project Co in “no better and no worse a position” shall be construed by reference to Project Co’s:
- 9.1 rights, duties and liabilities under or arising pursuant to performance of this Agreement, the Funding Agreements, the Construction Contract and Service Contracts; and
  - 9.2 ability to perform its obligations and exercise its rights under this Agreement, the Funding Agreements, the Construction Contract and Service Contracts,
- so as to ensure that:
- 9.3 Project Co is left in a position in relation to the Key Ratios which is no better and no worse in the Post-Adjustment Financial Model than it is in the Pre-Adjustment Financial Model; and
  - 9.4 following the making of the Adjustments, the ability of Project Co to comply with this Agreement is not adversely affected or improved as a consequence of the Relevant Event.

## APPENDIX 1

## Part 1

## Catalogue

Re-Provision of the Royal  
Hospital for Sick Children and  
Department of Clinical  
Neuroscience

Date: 02 October  
2014  
Version: E

### Schedule 16 Change Protocol

Appendix 1, Part 1, (Catalogue)

[Return to Summary](#)

Provide fixed, fully inclusive rates for the following tasks:

Task / Item - Hard Services	Bidder Priced Task Description	Timescale	Rate (£)
a	Installation or relocation of single 13A electrical single/double gang socket	2h	87.5
b	Installation or relocation of single RJ45/11 single/double Network point	4h	140
c	Installation or relocation of single 13A single/double switch	4h	87.5
d	Installation or relocation of single isolation switch	4h	100
e	Installation or relocation of light fitting	2h	125
f	Installation of additional smoke/heat detector (compatible with fire system)	8h	395
g	Installation of additional break glass call point (compatible with fire system)	8h	395
h	Provision of additional keys (cost per key)	48h	12.5
i	Supply & installation of door names/plaques	48h	75

j	Supply & install mechanical numeric door lock	Based on Securefast Mechanical Standard Duty Push Button Lock	4h	37.5
k	Supply & install cylinder door lock (complete with 2 keys) (identify by type)	Based on 2h labour and supply and fit euro cylinder anti-bump	2h	30
l	Supply & install swipe access point and magnetic lock (identify by type)	Based on Mag lock 250kg, swipe access card, power supply, 10 m cable and connections	8h	210
m	Supply & install digital access pad and magnetic lock (identify by type)	Based on Mag lock 250kg, digital access card, power supply, 10 m cable and connections, not connected to networks for remote access	8h	185
n	Supply & install spur type wall mounted shelf 1m long	Based on standard shelves (10kg/ml)	0.75h	19.8
o	Supply & install (IPS) clinical wash hand basin including taps	Based on Armitage Shanks LBG M Portman 21 hospital pattern wash basin with Contour 21 lever thermostatic tap. Waste connection allowed up to 2m run. Water services connection allowed up to floor to slab height.	2.75h	433.4
p	Supply & install solar control film to internal windows (ward accommodation) (per m <sup>2</sup> )	Based on 3M solar control Amber Low E, minimum order of 5 windows	0.75h	72.4
q	Supply & install solar control film to internal windows (office accommodation) (per m <sup>2</sup> )	Based on 3M solar control Amber, minimum order of 5 windows	0.67h	53.8
r	Supply & install solar control film to internal windows (public areas) (per m <sup>2</sup> )	Based on 3M solar control Amber, minimum order of 5 windows	0.67h	53.8
s	Re-hang door to reverse opening		1.5h	217.9
t	Replacement of bed head system	Bed head trunking replacement from Mediplan 3m horizontal unit	12h	850.0

## APPENDIX 1

## Part 2

## Small Works and Services Rates and Schedule of Rates

Re-Provision of the Royal Hospital  
for Sick Children and Department  
of Clinical Neuroscience

0  
02  
October  
Date : 2014  
Version: E

### Schedule 16 Change Protocol

Appendix 1, Part 2, (Small Works and Service  
Rates and Schedule of Rates)

[Return to  
Summary](#)

Project Co to provide hourly, fully inclusive rates  
exclusive of materials for the following tradesmen:

	Trade	Inclusive Hourly Rates (£)			
		Hourly Rate (£) Mon to Fri (Normal Business Hours)	Mon to Fri (Outside of Normal Business Hours)	Hourly Rate (£) Saturd ay	Hourly Rate (£) Sunda y
1	Facilities Manager	£48.75	£73.13	£73.13	£97.50
2	Estates Manager	£48.75	£73.13	£73.13	£97.50
3	Engineer	£36.44	£54.66	£54.66	£72.88
4	Engineering Supervisor	£48.75	£73.13	£73.13	£97.50
5	Supervisor	£31.88	£47.82	£47.82	£63.76
6	Plumber	£26.56	£39.84	£39.84	£53.12
7	Electrician	£26.56	£39.84	£39.84	£53.12
8	Joiner	£26.56	£39.84	£39.84	£53.12
9	Mechanical Fitter	£26.56	£39.84	£39.84	£53.12
10	CAD technician	£26.56	£39.84	£39.84	£53.12
11	Plasterer	£26.56	£39.84	£39.84	£53.12
12	Bricklayer	£26.56	£39.84	£39.84	£53.12
13	Painter and decorator	£26.56	£39.84	£39.84	£53.12
14	Semi-skilled/multi-skilled worker	£23.91	£35.87	£35.87	£47.82
15	Carpet fitter/flooring contractor	£26.56	£39.84	£39.84	£53.12



16	Ground maintenance	£15.94	£23.91	£23.91	£31.88
17	Ceiling fixer	£26.56	£39.84	£39.84	£53.12

## APPENDIX 2

## Part 1

## Unit Cost for Construction or Installation Costs

Project Co to update Items, Units and Predicted LCR to reflect the bidders design submission				
	Items	Bidder Priced Product Description	Unit	Unit Cost (£)
	<b>Carpet Tiles</b>			
1	Carpet Tiles	Light duty, office finish, minimum 50sqm order.	m2	£26.09
	<b>Linoleum</b>			
2	2.5mm Thickness	Minimum 50sqm order. 'Forbo Marmoleum Real'	m2	£19.67
3	2.0mm acoustic/corkment	Minimum 50sqm order.	m2	£23.09
4	2mm rubber sheet	Minimum 50sqm order.	m2	£23.09
5	4mm rubber sheet acoustic	Minimum 50sqm order.	m2	£34.51
6	Marmoleum Skirting	Minimum 50 lm order. 'Forbo Marmoleum Real'	m	£11.15
7	Rubber Skirting (2mm)	Minimum 50 lm order.	m	£8.46
8	Rubber Skirting (4mm)	Minimum 50 lm order.	m	£8.80
	<b>Vinyl Flooring</b>			
9	Vinyl Flooring	Minimum 50sqm order. 'Forbo Eternal Wood' by Forbo Flooring Systems	m2	£22.39
10	Acoustic Underlay	Minimum 50sqm order.	m2	£6.52
11	Skirting	Minimum 50 lm order. Forbo Eternal Wood' by Forbo Flooring Systems	m	£10.09
12	Screed	9mm Latex cement screed by Tremco Illbruck, with minimum 50 sqm order.	m2	£10.59
	<b>Gyproc Suspended Ceiling</b>			
13	Type 1	Minimum 50 sqm order.	m2	£19.32
14	Type 2 Moisture resistant	Minimum 50 sqm order.	m2	£20.45
15	Type 3	Minimum 50 sqm order.	m2	£80.55
16	Bulkheads	Minimum 50 lm order.	m	£30.46
17	Perimeter Channels	Minimum 50 lm order.	m	£11.36



18	Perimeter Channels (curved)	Minimum 50 lm order.	m	£20.38
19	Caulk Joint to edge beab and wall	Minimum 50 lm order.	m	£11.36
20	Window and corridor Bulkheads	Minimum 50 lm order.	m	£22.99
21	Vertical Downstands	Minimum 50 lm order.	m	£33.25
22	Transitions	Minimum 50 lm order.	m	£33.25
23	Taping to Ceilings	Minimum 50 lm order.	m	£3.41
	<b>Tiled Suspended Ceiling</b>			
24	Tiles	Minimum 50 sqm order.	m2	£18.79
25	Tee Grid Section	Minimum 50 sqm order.	m2	£8.80
26	Angle Trim Grid Section	Minimum 50 lm order.	m	£8.80
27	Galvanised Wire	Minimum 50 lm order.	m	£3.00
	<b>Blockwork</b>			
28	Blockwork partition (full height)	Minimum 40 sqm order. 100mm thick (excludes openings, lintels, fixings, paint, etc)	m2	£21.17
	<b>Plasterboard Partitions</b>	All rates exclude deflection heads, bwic, moisture board, finish etc		
29	155mm Partition 3600 - 3900 high	Minimum 50 lm order. Type D - K10:125D	m	£245.57
30	102mm Partition 3600 - 3900 high	Minimum 50 lm order. Type A - K10:125A	m	£182.40
31	144 mm Acoustic Partition 3600- 3900 high	Minimum 50 lm order. Type C - K10:125C	m	£204.65
32	145 mm Partition 3600 - 3900 high	Minimum 50 lm order. Type F - K10:125F	m	£190.83
33	92 mm Partition 3600 - 3900 high	Minimum 50 lm order. Type A - K10:125A	m	£182.40
34	96 mm Partition 3600 - 3900 high (curved)	Minimum 50 lm order. Type A - K10:125A	m	£273.60
35	102 mm Partition 3600 - 3900 high (curved)	Minimum 50 lm order. Type A - K10:125A	m	£273.60
36	PVC wall protection 1200mm	30 lm minimum order. Pawling WC-60 PVC sheet	m	£62.70
37	PVC wall protection 3600-3900high	30 lm minimum order.	m	£195.95
38	Crash Protection Barrier	20lm minimum order. Pawling WG-7 Wall guard, 203mm wide, 35mm projection, comprises extruded PVC cover (excluding angles, end caps etc)	m	£30.11
	<b>Internal Doors</b>			

39	Single leaf Type 01	Type 1a; single leaf door	Nr	£642.68
40	Single leaf Type 02	Type 1a; single leaf door; FD30	Nr	£667.84
41	Leaf and Half Type 01	Type 1c; leaf and half door	Nr	£982.90
42	Leaf and Half Type 02	Type 1c; leaf and half door; FD30	Nr	£1,029.33
43	Double Leaf Type 01	Type 1f; double door	Nr	£1,051.28
44	Double Leaf Type 02	Type 1f; double door; FD30	Nr	£1,097.70
45	Glazed panel openings	To single non fire rated door (rate to new doors, not for retro fitting in existing doors)	Nr	£85.05
46	Door Frame	base on Type 1 single door frame	Nr	£273.40
	<b>External Doors and Windows</b>			
47	Fire Door	Metal door, double, PPC finish	Nr	£2,220.83
48	Single Leaf Glazed door		Nr	£1,363.64
49	Windows	Minimum 20 m2 order. 1050 x 1000mm high incorporating 1 fixed lights	Nr	£627.70
	<b>Ventilation</b>			
50	Supply Fan	based on single axial fan (up to 350mm diam) and 10m of duct	Nr	£839.54
51	Extract Fan	based on single axial fan (up to 350mm diam) and 10m of duct	Nr	£769.69
52	Grilles	600*600 grilles, install on suspended ceiling, grille only	Nr	£55.00
53	Diffusers	600*600 grilles, install on suspended ceiling, diffuser only	Nr	£55.00
	<b>Space Heating and Air Conditioning</b>			
54	Circulation Pump	based on Grundfos Alpha2L range	Nr	£346.34
55	Dosing Pot	based on 5 Litre Chemical Dosing Pot	Nr	£701.52
56	Electric panel heater	based on dimplex EPX1500	Nr	£170.54
57	Radiator with TCV	Based on Hudevad Fiona 68 600*400 with TRV, no pipeworks or connection included.	Nr	£550.00



5 8	Radiant Panel inc connection to system	600*1200 Radiant panel, excluding balancing and pipeworks.	Nr	£520.00
5 9	Room Environmental Controller	based on single wire analogue controller	Nr	£59.13
6 0	Room Environmental Stat	based on single wire analogue controller	Nr	£32.20
6 1	Heat meter	based on Sensus Pollucom Compact meter	Nr	£315.51
	<b>Public Health Systems</b>			
6 2	Water Meter	Based on 15mil copper pipe not connected to BMS.	Nr	£120.00
6 3	Immersion Heater	Based on 9Kw, 14 inch, Incoloy, power and cylinder already available.	Nr	£300.00
	<b>Fire and Security Systems</b>			
6 4	Fire Alarm break glass point	based on the Fulleon CXL-UNIV-R break glass unit	Nr	£74.52
6 5	Fire Alarm Fire/Smoke detector	based on the Apollo 55000-600-XP95	Nr	£26.36
6 6	Fire Alarm Sound Beacon	LAMP INDICATING fire alarm initiation; wall mounted	Nr	£130.68
6 7	CCTV Camera	CAMERA; CCTV; pan/tilt/zoom network connected camera with 50m of cable	Nr	£2,252.37
6 8	CCTV Monitor	based on 19 inch Surveillance LCD VGA Monitor	Nr	£360.41
6 9	Disabled Alarm System Point	based on disable single alarm point 800 series	Nr	£229.89
7 0	Nurse call pull cord	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted	Nr	£329.78
7 1	Staff attack node	PUSH BUTTON; security alarm	Nr	£67.37
7 2	Door Access sensor	based on Ubiquiti mFi mFi-DS sensor	Nr	£140.00
7 3	Door Access keypad	based on KDC60SS kit, power not part of the installation	Nr	£125.00
	<b>Electrical and Communications Systems</b>			
7 4	Double sockets	SOCKET outlet; switched; 13 amp; twin	Nr	£52.98
7 5	Single sockets	SOCKET outlet; switched; 13 amp; single	Nr	£49.53
7 6	Fused Connection Unit	CONNECTION UNIT; switched; 13 amp	Nr	£44.28
7 7	Isolation switch	OUTLET isolator 20amp; TP&N; wall mounted	Nr	£62.32
7 8	Data/Comms Points	SOCKET outlet; computer data; double.	Nr	£51.36
7 9	Bed head Lamp	LUMINAIRE; bedhead; dimmable; patient reading and general nursing care/examination	Nr	£343.81

80	Medical Gases Bedhead Outlet	OUTLET oxygen medical; trunking mounted	Nr	£96.38
81	Bedhead Television Point	SOCKET outlet television aerial; single; wall mounted	Nr	£25.46
	<b>Lighting Systems</b>			
82	Internal Luminaire	LUMINAIRE; single fluorescent lamp; wall; 8 watt; 300 mm	Nr	£343.81
83	Internal Emergency Luminaire	based on single 8W T5 emergency luminaire from Eterna	Nr	£172.75
84	External Luminaire	based on 28W bulkhead HF Square from Firtzgerald	Nr	£57.14
85	Lighting switch	SWITCH; light; to M&E design.	Nr	£39.44
86	PIR	based on Timeguard SLFM360 false ceiling mounted, 2m cabling included	Nr	£38.52
87	Photocell sensor	based on TL PS40, internal photocell	Nr	£27.30
	<b>Piped Systems</b>			
88	Heating pipework	based on 15mm* 3m copper pipe	m	£12.23
89	Refrigerant pipework	based on 22mm* 3m copper pipe	m	£13.87
90	Chilled Water pipework	based on 15mm* 3m copper pipe	m	£12.23
91	CWS pipework	based on 22mm* 3m copper pipe	m	£13.87
92	HWS pipework F&R	based on 22mm* 3m copper pipe	m	£13.87
93	Internal Drainage pipework	based on PVC 110mm *5m pipe	m	£13.47
94	Soil Vent pipework	based on PVC 200mm *5m pipe	m	£54.15
95	Rainwater pipework	based on pvc 160mm * 4m pipe	m	£18.86
96	Diesel pipework	based on durapipe 16mm* 3m	m	£12.23
97	Gas pipework	based PE Gas Pipe SDR11*2m 63mm	m	£13.87
	<b>Sanitaryware</b>			
98	Shower (Thermostatic)	SHOWER; slip resistant floor with drainage outlet; 900W 900D; valve; thermostatic mixer (associated with SHO020); SHTM 64 TM1; adjustable shower head hand spray (associated with SHO018); SHTM 64 TM1	Nr	£504.73



9 9	WC	WC with 2in1 family toilet seat; 520-550 projection; wall hung; hospital pattern; rimless pan; vitreous china; SHTM64WCH	Nr	£631.57
1 0 0	Basin	BASIN; medium; hospital pattern; vitreous china; no tap holes; no overflow; integral back outlet; 500W 400D. SHTM64LBHM	Nr	£195.89
1 0 1	Mixer taps	TAP; monobloc; pillar mixer; integral thermostatic; short lever; SHTM 64 TP6	Nr	£247.30
1 0 2	Taps	TAP; pillar; high neck; long lever; pair hot and cold; 1/2 in.; SHTM 64 TP3	Nr	£138.16
	<b>Decoration</b>			
		Minimum of 50sqm, exclude access equipment		
1 0 3	Primer to plasterboard walls	Minimum of 50sqm, exclude access equipment	m2	£4.00
1 0 4	Diamond eggshell to walls	Minimum of 50sqm, exclude access equipment	m2	£4.82
1 0 5	Sterishield eggshell to walls	Minimum of 50sqm, exclude access equipment	m2	£7.28
1 0 6	Diamond Satinwood to mdf skirtings	Minimum of 50sqm, exclude access equipment	m	£3.58
1 0 7	Primer and eggshell to plasterboard ceilings	Minimum of 50sqm, exclude access equipment	m2	£4.80
1 0 8	Sterishield eggshell to ceilings	Minimum of 50sqm, exclude access equipment	m2	£7.28
1 0 9	Primer to plasterboard ceilings	Minimum of 50sqm, exclude access equipment	m2	£4.00
1 1 0	Render to external walls	Sto render. Excluding details at cills, jambs, head, fire breaks	m2	£107.17
1 1 1	Coating to external walls	Minimum of 10sqm, exclude access equipment	m2	£24.00
1 1 2	Diamond glaze to walls	Minimum of 10sqm, exclude access equipment	m2	£5.75
	<b>Fixtures</b>			
1 1 3	Standard wall unit, 2 doors, 1 adj. shelf	Excluding noggins and re-enforcement on wall	Nr	£37.91
1 1 4	Standard wall unit, 2 doors, 1 adj. Shelf, Lockable	Excluding noggins and re-enforcement on wall	Nr	£46.98
1 1 5	Working ht. base unit, 1 full height door, 1 adj. shelf, RHH	Excluding noggins and re-enforcement on wall	Nr	£27.31
1	Working ht. base unit, 1 locking full ht.	Excluding noggins and re-	Nr	£36.38

1 6	door, 1 adj. shelf, RHH	enforcement on wall		
1 1 7	Post formed laminate worktop, 50mm covered upstand	Excluding noggins and re-enforcement on wall	Nr	£35.98
1 1 8	Post formed laminate worktop, 50mm covered upstand	Excluding noggins and re-enforcement on wall	Nr	£35.98
1 1 9	Finished laminate return end (for PFW worktops)	Excluding noggins and re-enforcement on wall	Nr	£35.98
1 2 0	Blind, blackout, 1100W 2700H	Excluding noggins and re-enforcement on wall	Nr	£130.00
1 2 1	Rail for shower curtain, L-shape, 1600L, 1100W	Excluding noggins and re-enforcement on wall	Nr	£103.31
1 2 2	Stainless Steel Sink, inset, RH drainer	Excluding noggins and re-enforcement on wall	Nr	£237.68
1 2 3	Track, curtain, two sided, U-shape, 2700L 2585W	Excluding noggins and re-enforcement on wall	Nr	£41.86
1 2 4	Track, curtain, two sided, L-shape, 2700L 2700W	Excluding noggins and re-enforcement on wall	Nr	£41.86
1 2 5	Track, curtain, one sided, 2700mm length	Excluding noggins and re-enforcement on wall	Nr	£25.12
1 2 6	Track, curtain, one sided, 3300mm length	Excluding noggins and re-enforcement on wall	Nr	£37.68
1 2 7	Track, curtain, two sided, L-shape, 3600L 1900W	Excluding noggins and re-enforcement on wall	Nr	£58.61
1 2 8	Blind, blackout, 900W 2700H	Excluding noggins and re-enforcement on wall	Nr	£150.00
1 2 9	Blind, blackout, 3000W 2700H	Excluding noggins and re-enforcement on wall	Nr	£190.00
1 3 0	HOOK, double, wall mounted [Including back plate	Excluding noggins and re-enforcement on wall	Nr	£25.29
1 3 1	HOOK, hat and coat, 1 (Including back plate)	Excluding noggins and re-enforcement on wall	Nr	£36.78
1 3 2	HOOK, single, small, wall mounted	Excluding noggins and re-enforcement on wall	Nr	£20.69
1 3 3	BOARD, display/notice, wall mounted, 900H 600W	Excluding noggins and re-enforcement on wall	Nr	£40.23
1 3 4	Larder Cupboard Unit	Excluding noggins and re-enforcement on wall	Nr	£137.93
	<b>Ironmongery</b>			
1 3 5	Hardware set 1	To ensuite doors	Nr	£89.45



1 3 6	Hardware set 2	To single riser cupboard doors	Nr	£50.70
1 3 7	Hardware set 3	To double riser cupboard doors	Nr	£86.57
1 3 8	Hardware set 4	To single non-fire rated doors	Nr	£228.20
1 3 9	Hardware set 5	To double non-fire rated doors	Nr	£344.52
	<b>Misc</b>			
1 4 0	Microwave	Based on Samsung CM1089 microwave, power available within reach of the power cord	Nr	£255.00
1 4 1	Hot water heater	WATER BOILER; 2.5 litre; electric; wall mounted	Nr	£423.74
1 4 2	Window blinds	1m x 1m	Nr	£34.09

## APPENDIX 2

## Part 2

## Unit Costs for Lifecycle Maintenance

Items, Units and Predicted LCR will be automatically populated from Appendix 2 part 1. Project Co to update Responsible Party to reflect the bidders design submission

	Items	Responsible Party	Unit	Unit Cost (£)
	<b>Carpet Tiles</b>			
1	Carpet Tiles	Project Co	m2	£34.69
	<b>Linoleum</b>			
2	2.5mm Thickness	Project Co	m2	£26.15
3	2.0mm acoustic/corkment	Project Co	m2	£30.70
4	2mm rubber sheet	Project Co	m2	£30.70
5	4mm rubber sheet acoustic	Project Co	m2	£45.88
6	Marmoleum Skirting	Project Co	m	£14.82
7	Rubber Skirting (2mm)	Project Co	m	£11.25
8	Rubber Skirting (4mm)	Project Co	m	£11.70
	<b>Vinyl Flooring</b>			
9	Vinyl Flooring	Project Co	m2	£29.76
10	Acoustic Underlay	Project Co	m2	£8.67
11	Skirting	Project Co	m	£13.41
12	Screed	Project Co	m2	£14.08
	<b>Gyproc Suspended Ceiling</b>			
13	Type 1	Project Co	m2	£25.68
14	Type 2 Moisture resistant	Project Co	m2	£27.19
15	Type 3	Project Co	m2	£107.08
16	Bulkheads	Project Co	m	£40.49
17	Perimeter Channels	Project Co	m	£15.11
18	Perimeter Channels (curved)	Project Co	m	£27.09
19	Caulk Joint to edge beab and wall	Project Co	m	£15.11
20	Window and corridor Bulkheads	Project Co	m	£30.56
21	Vertical Downstands	Project Co	m	£44.20
22	Transitions	Project Co	m	£44.20
23	Taping to Ceilings	Project Co	m	£4.53
	<b>Tiled Suspended Ceiling</b>			
24	Tiles	Project Co	m2	£24.98
25	Tee Grid Section	Project Co	m2	£11.70
26	Angle Trim Grid Section	Project Co	m	£11.70
27	Galvanised Wire	Project Co	m	£3.99
	<b>Blockwork</b>			
28	Blockwork partition (full height)	Project Co	m2	£28.14
	<b>Plasterboard Partitions</b>			
29	155mm Partition 3600 - 3900 high	Project Co	m	£326.46
30	102mm Partition 3600 - 3900 high	Project Co	m	£242.48
31	144 mm Acoustic Partition 3600- 3900 high	Project Co	m	£272.06
32	145 mm Partition 3600 - 3900 high	Project Co	m	£253.69



33	92 mm Partition 3600 - 3900 high	Project Co	m	£242.48
34	96 mm Partition 3600 - 3900 high (curved)	Project Co	m	£363.73
35	102 mm Partition 3600 - 3900 high (curved)	Project Co	m	£363.73
36	PVC wall protection 1200mm	Board		
37	PVC wall protection 3600-3900high	Board		
38	Crash Protection Barrier	Project Co	m	£40.03
	<b>Internal Doors</b>			
39	Single leaf Type 01	Project Co	Nr	£854.39
40	Single leaf Type 02	Project Co	Nr	£887.84
41	Leaf and Half Type 01	Project Co	Nr	£1,306.68
42	Leaf and Half Type 02	Project Co	Nr	£1,368.40
43	Double Leaf Type 01	Project Co	Nr	£1,397.58
44	Double Leaf Type 02	Project Co	Nr	£1,459.30
45	Glazed panel openings	Project Co	Nr	£113.07
46	Door Frame	Project Co	Nr	£363.46
	<b>External Doors and Windows</b>			
47	Fire Door	Project Co	Nr	£2,952.40
48	Single Leaf Glazed door	Project Co	Nr	£1,812.83
49	Windows	Project Co	Nr	£834.47
	<b>Ventilation</b>			
50	Supply Fan	Project Co	Nr	£1,116.09
51	Extract Fan	Project Co	Nr	£1,023.23
52	Grilles	Project Co	Nr	£73.12
53	Diffusers	Project Co	Nr	£73.12
	<b>Space Heating and Air Conditioning</b>			
54	Circulation Pump	Project Co	Nr	£460.43
55	Dosing Pot	Project Co	Nr	£932.61
56	Electric panel heater	Project Co	Nr	£226.72
57	Radiator with TCV	Project Co	Nr	£731.18
58	Radiant Panel inc connection to system	Project Co	Nr	£691.29
59	Room Environmental Controller	Project Co	Nr	£78.61
60	Room Environmental Stat	Project Co	Nr	£42.81
61	Heat meter	Project Co	Nr	£419.44
	<b>Public Health Systems</b>			
62	Water Meter	Project Co	Nr	£159.53
63	Immersion Heater	Project Co	Nr	£398.82
	<b>Fire and Security Systems</b>			
64	Fire Alarm break glass point	Project Co	Nr	£99.07
65	Fire Alarm Fire/Smoke detector	Project Co	Nr	£35.04
66	Fire Alarm Sound Beacon	Project Co	Nr	£173.73
67	CCTV Camera	Project Co	Nr	£2,994.32
68	CCTV Monitor	Project Co	Nr	£479.13
69	Disabled Alarm System Point	Project Co	Nr	£305.62
70	Nurse call pull cord	Project Co	Nr	£438.41
71	Staff attack node	Project Co	Nr	£89.56
72	Door Access sensor	Project Co	Nr	£186.12
73	Door Access keypad	Project Co	Nr	£166.18
	<b>Electrical and Communications Systems</b>			
74	Double sockets	Project Co	Nr	£70.43
75	Single sockets	Project Co	Nr	£65.84
76	Fused Connection Unit	Project Co	Nr	£58.86
77	Isolation switch	Project Co	Nr	£82.85
78	Data/Comms Points	Project Co	Nr	£68.28

79	Bed head Lamp	Project Co	Nr	£457.07
80	Medical Gases Bedhead Outlet	Project Co	Nr	£128.13
81	Bedhead Television Point	Project Co	Nr	£33.84
	<b>Lighting Systems</b>			
82	Internal Luminaire	Project Co	Nr	£457.07
83	Internal Emergency Luminaire	Project Co	Nr	£229.66
84	External Luminaire	Project Co	Nr	£75.96
85	Lighting switch	Project Co	Nr	£52.43
86	PIR	Project Co	Nr	£51.21
87	Photocell sensor	Project Co	Nr	£36.29
	<b>Piped Systems</b>			
88	Heating pipework	Project Co	m	£16.26
89	Refrigerant pipework	Project Co	m	£18.44
90	Chilled Water pipework	Project Co	m	£16.26
91	CWS pipework	Project Co	m	£18.44
92	HWS pipework F&R	Project Co	m	£18.44
93	Internal Drainage pipework	Project Co	m	£17.91
94	Soil Vent pipework	Project Co	m	£71.99
95	Rainwater pipework	Project Co	m	£25.07
96	Diesel pipework	Project Co	m	£16.26
97	Gas pipework	Project Co	m	£18.44
	<b>Sanitaryware</b>			
98	Shower (Thermostatic)	Project Co	Nr	£671.00
99	WC	Project Co	Nr	£839.62
100	Basin	Project Co	Nr	£260.42
101	Mixer taps	Project Co	Nr	£328.77
102	Taps	Project Co	Nr	£183.67
	<b>Decoration</b>			
103	Primer to plasterboard walls	Board		
104	Diamond eggshell to walls	Board		
105	Sterishield eggshell to walls	Board		
106	Diamond Satinwood to mdf skirtings	Board		
107	Primer and eggshell to plasterboard ceilings	Board		
108	Sterishield eggshell to ceilings	Board		
109	Primer to plasterboard ceilings	Board		
110	Render to external walls	Project Co	m2	£142.48
111	Coating to external walls	Project Co	m2	£31.91
112	Diamond glaze to walls	Board		
	<b>Fixtures</b>			
113	Standard wall unit, 2 doors, 1 adj. shelf	Project Co	Nr	£50.40
114	Standard wall unit, 2 doors, 1 adj. Shelf, Lockable	Project Co	Nr	£62.46
115	Working ht. base unit, 1 full height door, 1 adj. shelf, RHH	Project Co	Nr	£36.31
116	Working ht. base unit, 1 locking full ht. door, 1 adj. shelf, RHH	Project Co	Nr	£48.36
117	Post formed laminate worktop, 50mm coved upstand	Project Co	Nr	£47.83
118	Post formed laminate worktop, 50mm coved upstand	Project Co	Nr	£47.83
119	Finished laminate return end (for PFW worktops)	Project Co	Nr	£47.83
120	Blind, blackout, 1100W 2700H	Board		
121	Rail for shower curtain, L-shape, 1600L, 1100W	Project Co	Nr	£137.34
122	Stainless Steel Sink, inset, RH drainer	Project Co	Nr	£315.97
123	Track, curtain, two sided, U-shape, 2700L 2585W	Project Co	Nr	£55.65
124	Track, curtain, two sided, L-shape, 2700L 2700W	Project Co	Nr	£55.65



125	Track, curtain, one sided, 2700mm length	Project Co	Nr	£33.39
126	Track, curtain, one sided, 3300mm length	Project Co	Nr	£50.09
127	Track, curtain, two sided, L-shape, 3600L 1900W	Project Co	Nr	£77.92
128	Blind, blackout, 900W 2700H	Board		
129	Blind, blackout, 3000W 2700H	Board		
130	HOOK, double, wall mounted (Including back plate	Board		
131	HOOK, hat and coat, 1 (Including back plate)	Board		
132	HOOK, single, small, wall mounted	Board		
133	BOARD, display/notice, wall mounted, 900H 600W	Board		
134	Larder Cupboard Unit	Project Co	Nr	£183.37
	<b>Ironmongery</b>			
135	Hardware set 1	Project Co	Nr	£118.92
136	Hardware set 2	Project Co	Nr	£67.40
137	Hardware set 3	Project Co	Nr	£115.08
138	Hardware set 4	Project Co	Nr	£303.38
139	Hardware set 5	Project Co	Nr	£458.01
	<b>Misc</b>			
140	Microwave	Project Co	Nr	£339.00
141	Hot water heater	Project Co	Nr	£563.32
142	Window blinds	Project Co	Nr	£45.32

## APPENDIX 2

## Part 3

## Consultant, Sub-Contractor or Supplier Fees

Project Co to provide hourly, fully inclusive rates exclusive of materials for the following tradesmen:

Trade				Inclusive Rates (£)	
	Discipline	Role	Grade and Qualification	Hourly Rate	Day Rate
	Feasibility & Design				
1	Project Manager	Senior Project Manager	MRICS/MAPM 5yrs+	£67.00	£536.00
2		Project Manager	MRICS/MAPM <5yrs+	£53.00	£424.00
3		Assistant Project Manager	Graduate	£30.00	£240.00
4	Architect	Project Architect	RIBA/RIAS <5yrs+	£135.30	£1,082.40
5		Technician	BIAT or Similar	£66.63	£533.00
6	Structural Engineer	Senior Structural Engineer	Chartered Engineer 5yrs+	£133.25	£1,066.00
7		Structural Engineer	Chartered Engineer <5yrs+	£76.88	£615.00
8		Technician	HND	£66.63	£533.00
9	Mechanical & Electrical Engineer	Senior Mechanical & Electrical Engineer	Chartered Engineer 5yrs+	£158.88	£1,271.00
10		Mechanical & Electrical Engineer	Chartered Engineer <5yrs+	£135.30	£1,082.40
11		Technician	HND	£66.63	£533.00
12	Civil Engineer	Senior Civil Engineer	Chartered Engineer 5yrs+	£164.00	£1,312.00
13		Civil Engineer	Chartered Engineer <5yrs+	£92.25	£738.00
14		Technician	HND	£66.63	£533.00
15	Quantity Surveyor	Senior Quantity Surveyor	MRICS/MAPM 5yrs+	£102.50	£820.00
16		Quantity Surveyor	MRICS/MAPM <5yrs+	£87.13	£697.00
17		Assistant Quantity Surveyor	Graduate	£66.63	£533.00
18	CDM Co-ordinator	Senior CDM Co-ordinator	Chartered Professional 5yrs+	£136.36	£1,090.91

19		CDM Co-ordinator	Chartered Professional <5yrs+	£60.23	£481.82
20		Assistant CDM Co-ordinator	Graduate	£26.74	£213.91
21	Energy Specialist	Senior Consultant	Chartered Engineer	£76.88	£615.00
22	Planning Advisor			£75.00	£600.00
23	Rates Advisor		Associate	£75.00	£600.00
	Facilities Management				
24	Project Manger	Senior Project Manger	MRICS/MAPM 5yrs+	£67.00	£536.00
25		Project Manger	MRICS/MAPM < 5yrs+	£53.00	£424.00
26		Assistant Project Manger	Graduate	£30.00	£240.00
27	Architect	Senior Architect	RIBA/RIAS 5yrs+	£153.75	£1,230.00
28		Project Architect	RIBA/RIAS <5yrs+	£135.30	£1,082.40
29		Technician	BIAT or Similar	£51.25	£410.00
30	Structural Engineer	Senior Structural Engineer	Chartered Engineer 5yrs+	£133.25	£1,066.00
31		Structural Engineer	Chartered Engineer <5yrs+	£76.88	£615.00
32		Technician	HND	£51.25	£410.00
33	Mechanical & Electrical Engineer	Senior Mechanical & Electrical Engineer	Chartered Engineer 5yrs+	£158.88	£1,271.00
34		Mechanical & Electrical Engineer	Chartered Engineer <5yrs+	£135.30	£1,082.40
35		Technician	HND	£66.63	£533.00
36	Civil Engineer	Senior Civil Engineer	Chartered Engineer 5yrs+	£164.00	£1,312.00
37		Civil Engineer	Chartered Engineer <5yrs+	£92.25	£738.00
38		Technician	HND	£66.63	£533.00
39	Quantity Surveyor	Senior Quantity Surveyor	MRICS/MAPM 5yrs+	£123.00	£984.00
40		Quantity Surveyor	MRICS/MAPM < 5yrs+	£102.50	£820.00
41		Assistant Quantity Surveyor	Graduate	£87.13	£697.00
42	CDM Co-ordinator	Senior CDM Co-ordinator	Chartered Professional 5yrs+	£136.36	£1,090.91

43	CDM Co-ordinator	Chartered Professional < 5yrs	£60.23	£481.82
44	Assistant CDM Co-ordinator	Graduate	£26.74	£213.91

Note: Rates shall be index linked.



## APPENDIX 2

## Part 4

## Unit Costs for Labour Rates

Project Co to provide hourly, fully inclusive rates exclusive of materials for the following tradesmen:

Trade		Inclusive Hourly Rates (£)			
		Hourly Rate (£) Mon to Fri (Normal Business Hours)	Mon to Fri (Outside of Normal Business Hours)	Hourly Rate (£) Saturday	Hourly Rate (£) Sunday
1	Facilities Manager	£48.75	£73.13	£73.13	£97.50
2	Estates Manager	£48.75	£73.13	£73.13	£97.50
3	Maintenance Engineer	£36.44	£54.66	£54.66	£72.88
4	Engineering Supervisor	£48.75	£73.13	£73.13	£97.50
5	Supervisor	£31.88	£47.82	£47.82	£63.76
6	Plumber	£26.56	£39.84	£39.84	£53.12
7	Electrician	£26.56	£39.84	£39.84	£53.12
8	Joiner	£26.56	£39.84	£39.84	£53.12
9	Mechanical Fitter	£26.56	£39.84	£39.84	£53.12
10	CAD technician	£26.56	£39.84	£39.84	£53.12
11	Plasterer	£26.56	£39.84	£39.84	£53.12
12	Bricklayer	£26.56	£39.84	£39.84	£53.12
13	Painter and decorator	£26.56	£39.84	£39.84	£53.12
14	Semi-skilled/multi-skilled worker	£23.91	£35.87	£35.87	£47.82
15	Carpet fitter/flooring contractor	£26.56	£39.84	£39.84	£53.12
16	Ground maintenance	£15.94	£23.91	£23.91	£31.88
17	Ceiling fixer	£26.56	£39.84	£39.84	£53.12
18	Helpdesk Operator	£17.00	£25.50	£25.50	£34.00
19	Helpdesk Supervisor	£20.00	£30.00	£30.00	£40.00

Note: Rates shall be index linked

**SCHEDULE PART 17**

**COMPENSATION ON TERMINATION**

**SECTION 1**

**COMPENSATION ON TERMINATION FOR BOARD DEFAULT AND VOLUNTARY TERMINATION**

**1 Compensation on Termination for the Board Default and Voluntary Termination**

1.1 If Project Co terminates this Agreement pursuant to Clause 39 (*Board Events of Default*) or the Board terminates this Agreement pursuant to Clause 42.1 the Board shall pay to Project Co the "**Board Default Termination Sum**" as set out in paragraph 1.2.

1.2 Subject to paragraphs 1.4 to 1.6 below the Board Default Termination Sum shall be an amount equal to the aggregate of:

1.2.1 the Base Senior Debt Termination Amount;

1.2.2 Redundancy Payments and Sub-Contractor Losses; and

1.2.3 the aggregate amount for which the share capital of Project Co and the amounts outstanding under the Subordinated Funding Agreements could have been sold on an open market basis based on the Relevant Assumptions,

LESS, to the extent it is a positive amount, the aggregate of without double counting in relation to the calculation of the Base Senior Debt Termination Amount or the amounts below:

1.2.4 the value of any right of Project Co to receive insurance proceeds (save where such insurance proceeds are held in the Insurance Proceeds Account and are to be applied in accordance with Clause 53.19 of this Agreement in reinstatement, restoration or replacement or, in the case of any third party legal liability or employer's liability, in satisfaction of the claim, demand, proceeding or liability) or sums due and payable from third parties (but only when received from third parties) but excluding any claims under any Sub-Contracts or claims against other third parties which have not been determined or have been determined but not yet paid provided that in such case Project Co shall assign any such rights and claims under the Sub-Contracts or claims against other third parties to the Board and give the Board reasonable assistance in prosecuting such claims;

1.2.5 to the extent realised before the Invoice Date the market value of any other assets and rights of Project Co (other than those transferred to the Board pursuant to this Agreement) less liabilities of Project Co properly incurred in carrying out its obligations under this Agreement as at the Termination Date provided that no account should be taken of any liabilities and obligations of Project Co arising out of:

(a) agreements or arrangements entered into by Project Co to the extent that such agreements or arrangements were not entered into in



connection with Project Co's obligations in relation to the Project; or

- (b) agreements or arrangements entered into by Project Co to the extent that such agreements or arrangements were not entered into in the ordinary course of business and on commercial arm's length terms; and
- 1.2.6 amounts which the Board is entitled to set off pursuant to Clause 46.12 of this Agreement.
- 1.3 To the extent that such assets and rights referred to in paragraph 1.2.5 above are not realised and applied by the Invoice Date, Project Co shall on payment of the Board Default Termination Sum assign such assets and rights to the Board.
- 1.4 If the aggregate of the amounts referred to in paragraphs 1.2.1 and 1.2.3 is less than the Revised Senior Debt Termination Amount, then the Board Default Termination Sum shall be increased so that it is equal to the aggregate of the Revised Senior Debt Termination Amount and the amount referred to in paragraph 1.2.2 LESS, without double counting in relation to the calculation of the Revised Senior Debt Termination Amount, the amounts referred to in paragraphs 1.2.4 to 1.2.6 above; provided always that (a) the amount referred to in paragraph 1.2.2 shall only be paid to the extent that Project Co has demonstrated to the reasonable satisfaction of the Board that the amount will not be applied (in whole or in part) in payment of any Distribution and (b) if, at the time of termination, there are any Additional Permitted Borrowings outstanding, no Sub-Contractor Losses shall be paid in respect of any Sub Contract in circumstances where there is an event of default under such Sub-Contract which would entitle Project Co to terminate such Sub-Contract.
- 1.5 If a Distribution is made whilst any Additional Permitted Borrowing is outstanding and Project Co has wilfully, or through gross negligence failed to comply with its obligations under clause 9.4.4(a) of the Funders' Direct Agreement then in addition to the deduction of the Distribution made pursuant to paragraph (v) of the definition of Revised Senior Debt Termination Amount, the Board shall be entitled to set off the value of that Distribution a second time against the Board Default Termination Sum, provided that the amount of the Board Default Termination Sum shall never be less than the Revised Senior Debt Termination Amount.
- 1.6 If Project Co has wilfully or through gross negligence failed to comply with its obligations under clause 9.4.4(b) of the Funders' Direct Agreement and there has been an overstatement of the cash balances by Project Co as at that date which has caused the Board to reasonably believe that it would be required to pay a lesser sum at the Termination Date than it actually is required to pay under the terms of this Section 1 (*Compensation on Termination for Board Default and Voluntary Termination*), then the Board Default Termination Sum shall be reduced by the amount of such overstatement (to the extent such overstatement is still applicable at the Termination Date), provided that the amount of the Board Default Termination Sum will never be less than the Revised Senior Debt Termination Amount.
- 1.7 The Board Default Termination Sum shall be payable in accordance with Section 5 (*General*) of this Schedule Part 17 (*Compensation on Termination*).

## SECTION 2

### COMPENSATION FOR PROJECT CO DEFAULT

- 1 If the Board terminates this Agreement pursuant to Clause 40 (*Project Co Events of Default*), with the exception of termination pursuant to Clause 40.1.3(b), the Board shall pay to Project Co such sum as is calculated according to this Section 2 (*Compensation for Project Co Default*) of this Schedule Part 17 (*Compensation on Termination*).

### 2 RETENDERING ELECTION

- 2.1 The Board shall be entitled to retender the provision of the Project Operations in accordance with paragraph 3 (*Retendering Procedure*) and the provisions of paragraph 3 (*Retendering Procedure*) shall apply if:

2.2.1 the Board notifies Project Co on or before the date falling twenty (20) Business Days after the Termination Date that it intends to retender; and

2.2.2 there is a Liquid Market; and either

(a) the Senior Funders have not exercised their rights to step-in under clause 5 (*Representative*) of the Funders' Direct Agreement; or

(b) Project Co or the Senior Funders have not procured the transfer of Project Co's rights and liabilities under this Agreement to a Suitable Substitute Contractor and have failed to use all reasonable efforts to do so

but otherwise the Board shall not be entitled to re-tender the provision of the Project Operations and paragraph 4 (*No Retendering Procedure*) shall apply.

### 3 RETENDERING PROCEDURE

- 3.1 The objective of the Tender Process shall be to enter into a New Agreement with a Compliant Tenderer.

- 3.2 The Board shall (subject to any legal requirements preventing it from doing so) use all reasonable endeavours to complete the Tender Process as soon as practicable.

- 3.3 The Board shall as soon as reasonably practicable notify Project Co of the Qualification Criteria and the other requirements and terms of the Tender Process, including the timing of the Tender Process, and shall act reasonably in setting such requirements and terms.

- 3.4 Project Co authorises the release of any information by the Board under the Tender Process which would otherwise be prevented under Clause 61 (*Confidentiality*) that is reasonably required as part of the Tender Process.

- 3.5 For all or any part of a month, falling within the period from the Termination Date to the

Compensation Date, the Board shall pay to Project Co:

- 3.5.1 the Post Termination Service Amount for each completed month, on or before the date falling ten (10) Business Days after the end of that month; and
  - 3.5.2 the Post Termination Service Amount for the period from the end of the last completed month until the Compensation Date, on or before the date falling twenty (20) Business Days after the Compensation Date.
- 3.6 Project Co may, at its own cost, appoint a person to monitor the Tender Process for the purpose of monitoring and reporting to Project Co and the Senior Funders on the Board's compliance with the Tender Process.
- 3.7 The Tender Process Monitor shall enter into a confidentiality agreement with the Board in a form acceptable to the Board and shall be entitled to attend all meetings relating to the Tender Process, inspect copies of all the tender documentation and bids and make representations to the Board as to compliance with the Tender Process. The Board shall not be bound to consider or act upon such representations but acknowledges that such representations may be referred to by Project Co in the event that Project Co refers a dispute as to the Adjusted Highest Compliant Tender Price to the Dispute Resolution Procedure. The Tender Process Monitor will not disclose confidential information to Project Co or the Senior Funders or any other person (and shall provide an undertaking to the Board to such effect as a condition of his appointment) but shall be entitled to advise Project Co and the Senior Funders on whether it considers that the Board has acted in accordance with the Tender Process and correctly determined the Adjusted Highest Compliant Tender Price.
- 3.8 If any Post Termination Service Amount is less than zero then it may be carried forward and may be set off against any future positive Post Termination Service Amounts.
- 3.9 The Board shall require bidders to bid on the basis that they will receive the benefit of any outstanding claims under material damage insurance policies and the amount (if any) standing to the credit of the Insurance Proceeds Account on the date that the New Agreement is entered into.
- 3.10 As soon as practicable after tenders have been received, the Board shall (acting reasonably) review and assess the Compliant Tenders and shall notify Project Co of:
- 3.10.1 the Highest Compliant Tender Price;
  - 3.10.2 the Tender Costs; and
  - 3.10.3 the Adjusted Highest Compliant Tender Price.
- 3.11 If Project Co refers a dispute relating to the Adjusted Highest Compliant Tender Price to dispute resolution in accordance with Clause 56 (*Dispute Resolution*), the Board shall irrespective of such dispute be entitled to enter into a New Agreement.

- 3.12 The Adjusted Highest Compliant Tender Price shall be paid in accordance with Section 5 (*General*) of this Schedule Part 17 (*Compensation on Termination*).
- 3.13 Subject to paragraphs 1.6 and 1.8 of Section 5 (*General*) of this Schedule Part 17 (*Compensation on Termination*), if the Board has not paid an amount equal to the Adjusted Highest Compliant Tender Price to Project Co on or before the date falling two years after the Termination Date then the following provisions of this paragraph 3 shall not apply to that termination and the provisions of paragraph 4 (*No Retendering Procedure*) shall apply instead.
- 3.14 The Board may elect at any time prior to the receipt of a Compliant Tender, to follow the no retendering procedure under paragraph 4 (*No Retendering Procedure*) by notifying Project Co that this election has been made.
- 3.15 In the event that the Adjusted Highest Compliant Tender Price exceeds the Maximum Termination Amount, the Adjusted Highest Compliant Tender Price shall be deemed to be an amount equal to the Maximum Termination Amount.

#### **4 NO RETENDERING PROCEDURE**

- 4.1 Subject to paragraph 4.2, if the provisions of this paragraph 4 (*No Retendering Procedure*) apply Project Co shall not be entitled to receive any Post Termination Service Amount.
- 4.2 If the Board elects to follow the no retendering procedure in accordance with this paragraph 4 (*No Retendering Procedure*) after it has elected to follow the procedure under paragraph 3 (*Retendering Procedure*), then the Board shall continue to pay to Project Co each Post Termination Service Amount until the Compensation Date, in accordance with paragraph 3 (*Retendering Procedure*).
- 4.3 In agreeing or determining the Estimated Fair Value of the Agreement the parties shall be obliged to follow the principles set out below:
- 4.3.1 all forecast amounts of revenues and costs should be calculated in nominal terms at current prices, recognising the adjustment for indexation in respect of forecast inflation between the date of calculation and the forecast payment date(s) as set out in this Agreement;
- 4.3.2 the total of all payments of the full Service Payments forecast to be made from the Termination Date to the Expiry Date shall be calculated and discounted at the Discount Rate;
- 4.3.3 the total of all costs reasonably forecast to be incurred by the Board as a result of termination shall be calculated and discounted at the Discount Rate and deducted from the payment calculated pursuant to paragraph 4.3.2 above, such costs to include (without double counting):
- (a) a reasonable risk assessment of any cost overruns that will arise, whether or not forecast in the relevant base case;

- (b) the costs of providing the Services reasonably forecast to be incurred by the Board from the Termination Date to the Expiry Date in providing the Project Operations to the standard required; and
- (c) any rectification costs required to deliver the Project Operations to the standard required (including any costs reasonably forecast to be incurred by the Board to complete the Works) and additional operating costs required to restore operating services standards less (to the extent that such sums are included in any calculation of rectification costs for the purposes of this paragraph) the aggregate of:
  - (i) any insurance proceeds received (or held in the Insurance Proceeds Account) or which will be received pursuant to policies maintained in accordance with Clause 53 (*Insurance*): and
  - (ii) amounts payable by the Board in respect of Capital Expenditure under this Agreement which have not been paid,

in each case such costs to be forecast at a level that will deliver the Services to the standards required by this Agreement;

4.3.4 the Net Present Value at the Termination Date of all future Surplus Payments forecast in the Financial Model shall be calculated and deducted from the payment calculation pursuant to paragraph 4.3.2 above but only to the extent that the payment calculation pursuant to paragraph 4.3.2 above less the sum of:

- (i) the costs calculation pursuant to paragraph 4.3.3 above; and
- (ii) the Net Present Value at the Termination Date of all future Surplus Payments forecast in the Financial Model,

exceeds the Revised Senior Debt Termination Amount.

4.4 If the parties cannot agree on the Estimated Fair Value of the Agreement on or before the date falling twenty (20) Business Days after the date on which the Board elected or was required pursuant to paragraph 2 (*Retendering Election*) or paragraph 3 (*Retendering Procedure*) to follow the no retendering procedure in accordance with this paragraph 4 (*No Retendering Procedure*), then the Adjusted Estimated Fair Value of the Agreement shall be determined in accordance with Clause 56 (*Dispute Resolution*).

4.5 The Adjusted Estimated Fair Value of the Agreement shall be paid in accordance with Section 5 (*General*) of this Schedule Part 17 (*Compensation on Termination*).

4.6 In the event that the Adjusted Estimated Fair Value of the Agreement exceeds the Maximum Termination Amount, the Adjusted Estimated Fair Value of the Agreement shall be deemed to be an amount equal to the Maximum Termination Amount.

## SECTION 3

## COMPENSATION ON TERMINATION FOR FORCE MAJEURE

## 1 CONSEQUENCES OF TERMINATION FOR FORCE MAJEURE

1.1 If Project Co or the Board terminates this Agreement pursuant to Clause 31.1 (*Force Majeure*) or Clause 53.14.2 (*Uninsurable Risks*) the Board shall pay to Project Co the "**Force Majeure Termination Sum**" as set out in paragraph 1.2.

1.2 Subject to paragraphs 1.4 to 1.6 below the Force Majeure Termination Sum shall be an amount equal to the aggregate of:

1.2.1 the Base Senior Debt Termination Amount;

1.2.2 Redundancy Payments and Sub-Contractor Losses (but excluding therefrom any claims for loss of profit);

1.2.3 an amount equal to the Subordinated Debt less an amount equal to the aggregate of payments of interest paid on the Subordinated Debt provided that where such figure is a negative number it shall be instead fixed at zero; and

LESS, to the extent it is a positive amount, the aggregate of (without double counting) in relation to the calculation of the Base Senior Debt Termination Amount or the amounts below:

1.2.4 the value of any right of Project Co to receive insurance proceeds (save where such insurance proceeds are held in the Insurance Proceeds Account and are to be applied in accordance with Clause 53.19 (*Application of Proceeds*) of this Agreement in reinstatement, restoration or replacement, or in the case of third party legal liability or employer's liability, in satisfaction of the claim, demand, proceeding or liability) or sums due and payable from third parties (but only when received from third parties) but excluding any claims under any Sub-Contracts or claims against other third parties which have not been determined or have been determined but not yet paid provided that in such case Project Co shall assign any such rights and claims under the Sub-Contracts or claims against other third parties to the Board and give the Board reasonable assistance in prosecuting such claims;

1.2.5 to the extent realised before the Invoice Date, the market value of any other assets and rights of Project Co (other than those transferred to the Board pursuant to this Agreement) less liabilities of Project Co properly incurred in carrying out its obligations under this Agreement as at the Termination Date provided that no account should be taken of any liabilities and obligations of Project Co arising out of:

(a) agreements or arrangements entered into by Project Co to the extent that such agreements or arrangements were not entered into in connection with Project Co's obligations in relation to the Project; and

(b) agreements or arrangements entered into by Project Co to the extent

that such agreements or arrangements were not entered into in the ordinary course of business and on commercial arm's length terms; and

- 1.2.6 amounts which the Board is entitled to set off pursuant to Clause 46.12 (*Rights of Set-Off*) of this Agreement.
- 1.3 To the extent that such assets and rights referred to in paragraph 1.2.4 above are not realised and applied pursuant to that paragraph Project Co shall on payment of the Force Majeure Termination Sum assign such assets and rights to the Board.
- 1.4 If the aggregate of the amounts referred to in paragraphs 1.2.1 and 1.2.3 is less than the Revised Senior Debt Termination Amount, then the Force Majeure Termination Sum shall be increased so that it is equal to the aggregate of the Revised Senior Debt Termination Amount and the amount referred to in paragraph 1.2.2 LESS, without double counting in relation to the calculation of the Revised Senior Debt Termination Amount, the amounts referred to at paragraphs 1.2.4 to 1.2.6 above; provided always that (a) the amount referred to in paragraph 1.2.2 LESS the amounts referred to at paragraphs 1.2.4 to 1.2.6 above shall only be paid to the extent that Project Co has demonstrated to the reasonable satisfaction of the Board that the amount will not be paid (in whole or in part) in payment of any Distribution and (b) if, at the time of termination, there are any Additional Permitted Borrowings outstanding, no Sub-Contractor Losses shall be paid in respect of any Sub Contract in circumstances where there is an event of default under such Sub-Contract which would entitle Project Co to terminate such Sub-Contract.
- 1.5 If a Distribution is made whilst any Additional Permitted Borrowing is outstanding and Project Co has wilfully, or through gross negligence failed to comply with its obligations under clause 9.4.4(a) of the Funders' Direct Agreement then in addition to the deduction of the Distribution made pursuant to paragraph (v) of the definition of Revised Senior Debt Termination Amount, the Board shall be entitled to set off the value of that Distribution a second time against the Force Majeure Termination Sum, provided that the amount of the Force Majeure Termination Sum shall never be less than the Revised Senior Debt Termination Amount.
- 1.6 If Project Co has wilfully or through gross negligence failed to comply with its obligations under clause 9.4.4(b) of the Funders' Direct Agreement and there has been an overstatement of the cash balances by Project Co as at that date which has caused the Board to reasonably believe that it would be required to pay a lesser sum at the Termination Date than it actually is required to pay under the terms of this Section 3 (*Compensation on Termination for Force Majeure*), then the Force Majeure Termination Sum shall be reduced by the amount of such overstatement (to the extent such overstatement is still applicable at the Termination Date), provided that the amount of the Force Majeure Termination Sum will never be less than the Revised Senior Debt Termination Amount.
- 1.7 The Force Majeure Termination Sum shall be paid in accordance with Section 5 (*General*) of this Schedule Part 17 (*Compensation on Termination*).

## SECTION 4

**CORRUPT GIFTS AND FRAUD, BREACH OF REFINANCING OR BREACH OF NPD REQUIREMENTS****1 Con sequences of Termination for Corrupt Gifts and Fraud, Breach of Refinancing or Breach of NPD Requirements**

- 1.1 If the Board terminates this Agreement pursuant to Clause 40.1.3 (*Default*), Clause 44.3 (*Remedies*) or Clause 45 (*Breach of NPD Requirements*) the Board shall pay to Project Co an amount equal to the Revised Senior Debt Termination Amount;

LESS, to the extent it is a positive number, the aggregate of (without double counting):

- 1.1.1 the value of any right to receive insurance proceeds (save where such insurance proceeds are held in the Insurance Proceeds Account and are to be applied in accordance with Clause 53.19 (*Application of Proceeds*) of this Agreement in reinstatement, restoration or replacement or, in the case of third party legal liability or employer's liability, in satisfaction of the claim, demand, proceeding or liability) or sums due and payable from third parties (but only when received from third parties) but excluding any claims under any Sub-Contracts or claims against other third parties which have not been determined or which have been determined but not paid provided that in such case Project Co shall assign any such rights and claims under the Sub-Contracts or claims against other third parties to the Board and give the Board reasonable assistance in prosecuting such claims; and
- 1.1.2 to the extent realised before the Invoice Date, the market value of any other assets and rights of Project Co (other than those transferred to the Board pursuant to this Agreement) less liabilities of Project Co properly incurred in carrying out its obligations under this Agreement as at the Termination Date provided that no account should be taken of any liabilities and obligations of Project Co arising out of:
- (a) agreements or arrangements entered into by Project Co to the extent that such agreements or arrangements were not entered into in connection with Project Co's obligations in relation to the Project; and
- (b) agreements or arrangements entered into by Project Co to the extent that such agreements or arrangements were not entered into in the ordinary course of business and on commercial arm's length terms.
- 1.2 To the extent that such assets and rights referred to in paragraph 1.1.2 above are not realised and applied pursuant to that paragraph, Project Co shall, on payment of the sum referred to in paragraph 1.1 above, assign such assets and rights to the Board.
- 1.3 The sum referred to in paragraph 1.1 above shall be paid in accordance with Section 5 (*General*) of this Schedule Part 17 (*Compensation on Termination*).



## SECTION 5

## GENERAL

## 1 PAYMENT AND INTEREST

**Following termination for Board Default, Force Majeure, Corrupt Gifts or Fraud, Breach of Refinancing or Breach of NPD Requirements**

- 1.1 In respect of the termination payments to be made pursuant to any of Section 1 (*Compensation on Termination for Board Default and Voluntary Termination*), Section 3 (*Compensation on Termination for Force Majeure*), or Section 4 (*Corrupt Gifts and Fraud or Breach of Refinancing or Breach of NPD Requirements*) of this Schedule Part 17 (*Compensation on Termination*) as soon as practicable after, and in any event within twenty (20) Business Days of, the Termination Date, Project Co shall give to the Board an invoice for the relevant termination sum and sufficient supporting evidence, reasonably satisfactory to the Board, justifying the amount of the relevant termination sum including a breakdown of each of the individual elements of such sum, provided that where the amount of any SPENS Breakage Costs and/or EIB Prepayment Amount is not capable of final determination at the date of the invoice, a reasonable estimate shall be included and the Board shall be kept informed at reasonable intervals of any changes thereto and notified upon final determination of those amounts (and in any event no later than (where paragraph 1.2 below applies) two (2) Business Days prior to the date for payment pursuant to that paragraph, or (where paragraph 1.3 below applies) two (2) Business Days prior to the date for payment pursuant to that paragraph, of the last of the four (4) instalments there referred to), Where as a result of the timing of the final determination notice(s) in respect of the SPENS Breakage Costs, and/or EIB Prepayment Amount the amount paid by the Board is greater than or less than the correct amount due there shall be a balancing adjustment paid by Project Co or, as the case may be, the Board.
- 1.2 Subject to paragraph 1.3 below, the Board shall pay to Project Co:
- 1.2.1 the relevant termination amount within forty (40) Business Days of the Invoice Date; and
- 1.2.2 interest on the relevant termination amount (or any part of such amount that remains outstanding) from the Termination Date until the date of payment:
- (a) at the No Default Interest Rate for the period from (but excluding) the Termination Date to (and including) the date which is forty (40) Business Days after the Invoice Date; and
- (b) thereafter, at the Default Interest Rate.
- 1.3 The Board shall be entitled to pay the amount payable pursuant to Section 3 or Section 4 (as the case may be) of this Schedule Part 17 (*Compensation on Termination*) ("**Termination Sum**") in four (4) equal instalments by serving notice on Project Co within thirty (30) Business Days of the Invoice Date, in which case the provisions of paragraph 1.4 shall apply.
- 1.4 In the event that the Board elects to pay the Termination Sum in instalments pursuant

to paragraph 1.3 then:

- 1.4.1 the first such instalment (together with interest thereon calculated pursuant to paragraph 1.4.2 below) shall be due on the first Business Day occurring six (6) months after the date of the Board's notice served pursuant to paragraph 1.3 above and the remaining instalments (together with interest thereon calculated pursuant to paragraph 1.4.2 below) shall be due, respectively, on the first Business Day occurring twelve (12), eighteen (18) and twenty-four (24) months after the date of such notice; and
- 1.4.2 the Board shall pay interest on the Termination Sum (or any part of such sum that remains outstanding) from the Termination Date until the date of payment at the No Default Interest Rate.

If the Board fails to make a payment under paragraph 1.4.1 or 1.4.2 above in full within ten (10) Business Days of the due date for payment, or an Adverse Law or a Proposal for an Adverse Law is made then the outstanding amount of the Termination Sum shall be immediately due and payable and, thereafter, the Board shall pay interest on such sum at the Default Interest Rate.

#### **Following Retendering**

- 1.5 Subject to paragraphs 1.6 and 1.8, following a retendering exercise under Section 2 (*Compensation for Project Co Default*) of this Schedule Part 17 the Board shall pay to Project Co an amount equal to the Adjusted Highest Compliant Tender Price no later than the date falling twenty (20) Business Days after the later of:
- 1.5.1 the date on which the Board receives the Market Value of the New Agreement from the New Project Co; and
- 1.5.2 if Project Co has referred a dispute relating to the Adjusted Highest Compliant Tender Price to dispute resolution pursuant to paragraph 3.11 of Section 2 (*Compensation for Project Co Default*) of this Schedule Part 17, the date on which the dispute is finally determined in accordance with Clause 56 (*Dispute Resolution*),

provided that, to avoid doubt, if the dispute referred by Project Co to dispute resolution (pursuant to paragraph 1.5.2 above) concerns only a proportion of the Adjusted Highest Compliant Tender Price then the Board shall pay the undisputed proportion of such sum no later than 20 Business Days after the date referred to in paragraph 1.5.1 above (the "**Undisputed Payment Date**") and the Board shall pay interest to Project Co on any amount of the Adjusted Highest Compliant Tender Price which has been withheld, from the Undisputed Payment Date until the date on which payment is due under paragraph 1.5.2 above at the No Default Interest Rate.

- 1.6 If the Board has received all bids from bidders under the Tender Process and has received a Compliant Tender but decides not to complete the Tender Process, it shall notify Project Co of this decision and (if the Adjusted Highest Compliant Tender Price is a positive number) pay to Project Co an amount equal to the Adjusted Highest Compliant Tender Price within twenty (20) Business Days of such notification.
- 1.7 If the Board fails to pay the Adjusted Highest Compliant Tender Price (or any proportion thereof) by the date on which payment is due in accordance with paragraph 1.5 or paragraph 1.6 above, the Board shall pay to Project Co interest on such unpaid

amount, which shall accrue on such amount at the Default Interest Rate from (but not including) the date on which payment is due in accordance with paragraph 1.5 or paragraph 1.6 above until such amount is paid.

- 1.8 If the Adjusted Highest Compliant Tender Price is zero or a negative number then, on entering into the New Agreement with the New Project Co, the Board shall have no obligation to make any payment to Project Co and (if a negative number) an amount equal to the Adjusted Highest Compliant Tender Price shall be due and payable by Project Co to the Board on the date of the New Agreement or (where paragraph 1.6 applies) within twenty (20) Business Days of notification from the Board pursuant to that paragraph.

### **Following no retendering**

- 1.9 If the Board follows the no retendering procedure set out in paragraph 4 of Section 2 (*Compensation for Project Co Default*) of this Schedule Part 17 (*Compensation on Termination*) then, subject to paragraph 1.10, the Board shall pay to Project Co an amount equal to the Adjusted Estimated Fair Value of the Agreement no later than twenty (20) Business Days after the Compensation Date and shall (unless the Board has paid Post Termination Service Amounts pursuant to paragraph 3.5 of Section 2 (*Compensation on Termination for Project Co Default*) of this Schedule Part 17 (*Compensation on Termination*)) pay interest on such amount calculated in accordance with paragraph 1.2.2 above.
- 1.10 To the extent that the Adjusted Estimated Fair Value of the Agreement is less than zero, then an amount equal to the Adjusted Estimated Fair Value of the Agreement shall be due and payable by Project Co to the Board on the Compensation Date.

## **2 Full and Final Settlement**

- 2.1 Any and all sums irrevocably paid by the Board to Project Co under this Schedule Part 17 (*Compensation on Termination*) will be in full and final settlement of each party's rights and claims against the other for breaches and/or termination of this Agreement and any other Project Document whether under contract, delict, restitution or otherwise but without prejudice to:
- 2.1.1 any antecedent liability of Project Co to the Board which the Board has been unable to set off pursuant to Clause 46.12 (*Rights of Set-Off*) of this Agreement;
- 2.1.2 any antecedent liability of either party to the other that arose prior to the Termination Date (but not from the termination itself) to the extent such liability has not already been taken into account in determining or agreeing the Board Default Termination Sum, Adjusted Highest Compliant Tender Price, or Adjusted Estimated Fair Value of the Agreement, the Force Majeure Termination Sum or the sum due in accordance with Section 4 of this Schedule Part 17 (*Compensation on Termination*) as the case may be; and
- 2.1.3 any liabilities arising in respect of any breach by either party of their obligations under Clause 47.6 (*Continuing Obligations*) of this Agreement which arises or continues after the Termination Date.

2.2 If either the Adjusted Highest Compliant Tender Price or (as the case may be) the Adjusted Estimated Fair Value of the Agreement is zero or a negative number the Board shall be released from all liability to Project Co for breaches and/or termination of this Agreement and any other Project Document whether under contract, delict, restitution or otherwise save for:

2.2.1 any antecedent liability of the Board which arose prior to the Termination Date (but not from the termination itself) to the extent such liability has not already been taken into account in determining the Adjusted Highest Compliant Tender Price or the Adjusted Estimated Fair Value of the Agreement (as the case may be); and

2.2.2 any liabilities arising in respect of any breach by either party of their obligations under Clause 47.6 (*Continuing Obligations*) of the Agreement which continues after the Termination Date.

### **3 Costs**

The costs and/or expenses to be taken into account in the calculation of all termination sums due pursuant to this Schedule Part 17 (*Compensation on Termination*) shall only be such costs and/or expenses to the extent that they are reasonable and proper in quantum and shall have been or will be reasonably and properly incurred and shall only be counted once.

### **4 Undisputed Amounts**

If the calculation of any termination amount is disputed then any undisputed element of that amount shall be paid in accordance with this Section 5 (*General*) of this Schedule Part 17 (*Compensation on Termination*) and the disputed element shall be dealt with in accordance with Schedule Part 20 (*Dispute Resolution Procedure*).

### **5 Outstanding Senior Debt Amount**

5.1 The Board shall be entitled to rely on the certificate of the Intercreditor Agent as conclusive as to the amount of the Base Senior Debt Termination Amount or Revised Senior Debt Termination Amount (as the case may be) outstanding at any relevant time.

5.2 The receipt by the Intercreditor Agent of the Base Senior Debt Termination Amount or Revised Senior Debt Termination Amount or elements thereof (as appropriate) (as the case may be) (and where appropriate any accrued interest or breakage costs as certified in accordance with paragraph 5.1 above) shall discharge the Board's obligations to pay such sums to Project Co.

**SECTION 6**  
**DEFINITIONS**

**“Adjusted Estimated Fair Value of the Agreement”** means, subject to paragraph 4.6 of Section 2 (*Compensation for Project Co Default*) of this Schedule Part 17 (*Compensation on Termination*), the Estimated Fair Value of the Agreement adjusted as follows:

- (a) where in respect of any month or part of a month from the Termination Date to the Compensation Date the Post Termination Service Amount is a negative number, the aggregate of all such negative Post Termination Service Amounts shall be set against and shall reduce the Estimated Fair Value of the Agreement (whether or not such amounts have been set-off by the Board pursuant to paragraph 3.8 of Section 2 (*Compensation for Project Co Default*) of this Schedule Part 17 (*Compensation on Termination*));

and the aggregate of the following amounts shall be deducted from the Estimated Fair Value of the Agreement:

- (b) the Post Termination Service Amounts actually paid by the Board to Project Co prior to the Compensation Date;
- (c) the Tender Costs; and
- (d) amounts that the Board is entitled to set off or deduct;

and the aggregate of the following amounts shall be added to the Estimated Fair Value of the Agreement:

- (e) all credit balances on any bank accounts held by or on behalf of Project Co on the date that the Estimated Fair Value of the Agreement is calculated; and
- (f) any insurance proceeds and other amounts owing to Project Co (and which Project Co is entitled to retain), to the extent not included in (e);

to the extent that:

- (i) (e) and (f) have not been directly taken into account in calculating the Estimated Fair Value of the Agreement; and
- (ii) the Board has received such amounts in accordance with this Agreement or such amounts are standing to the credit of the Insurance Proceeds Account;

**“Adjusted Highest Compliant Tender Price”**

means, subject to paragraph 3.15 of Section 2 (*Compensation for Project Co Default*) of this Schedule Part 17 (*Compensation on Termination*), the Highest Compliant Tender Price adjusted as follows:

- (a) where in respect of any month or part of a month from the Termination Date to the Compensation Date the Post Termination Service Amount is a negative number, the aggregate of all such negative Post Termination Service Amounts shall be set against and shall reduce such highest tender price (whether or not such amounts have been set-off by the Board pursuant to paragraph 3.8 of Section 2 (*Compensation for Project Co Default*) of this Schedule Part 17 (*Compensation on Termination*));

and the aggregate of the following amounts shall be deducted from the Highest Compliant Tender Price:

- (b) the Post Termination Service Amounts actually paid by the Board to Project Co prior to the Compensation Date;
- (c) the Tender Costs; and
- (d) amounts that the Board is entitled to set off or deduct under this Agreement,

and the aggregate of the following amounts shall be added to such highest tender price:

- (e) all credit balances on any bank accounts

held by or on behalf of Project Co on the date that the highest priced Compliant Tender is received; and

- (f) any insurance proceeds and other amounts owing to Project Co (and which Project Co is entitled to retain), to the extent not included in (e);

to the extent that:

- (i) (e) and (f) have not been directly taken into account in that Compliant Tender; and
- (ii) the Board has received such amounts in accordance with this Agreement;

**“APB Distribution”**

means, for the period during which the Additional Permitted Borrowing subsists, an amount equal to the aggregate of all Distributions made during that period up to an amount equal to the principal of the Additional Permitted Borrowing on the first day of that period;

**“Base Senior Debt Termination Amount”**

means, subject to Clause 4.3 (*Changes to Funding Agreements and Refinancing*):

- (a) all amounts outstanding at the Termination Date, including interest and Default Interest accrued as at that date, from Project Co to the Senior Funders in respect of Permitted Borrowings (other than in respect of Additional Permitted Borrowing); and
- (b) all amounts by way of breakage costs (including, without double counting and to the extent not covered by paragraph (a), any SPENS Breakage Costs (only in respect of Section 1 (*Compensation on Termination for Board Default and Voluntary Termination*) of this Schedule Part 17)) and any EIB Prepayment Amount) excluding, where any SPENS Breakage Costs are payable, any sum representing outstanding loan principal under the Institutional Investor Senior Facility Agreement and/or Institutional Investor Senior Subordinated Facility Agreement included in Permitted Borrowings in paragraph (a) above, payable by Project Co to the Senior Funders as a result of a prepayment in respect of Permitted Borrowings (other than in respect of Additional Permitted Borrowing) (or if any such prepayment

has not occurred by the Invoice Date, such amount as will become payable on the assumption that such prepayment will be made on (if paragraph 1.2 of Section 5 of this Schedule Part 17 applies) the date for payment by the Board pursuant to that paragraph, or (where paragraph 1.3 of Section 5 of this Schedule Part 17 applies) on the date for payment, pursuant to that paragraph, of the last of the four instalments there referred to) subject to Project Co and the Senior Funders mitigating all such costs to the extent reasonably possible;

- (c) less, to the extent it is a positive amount the aggregate of (without double counting in relation to the calculation of the Base Senior Debt Termination Amount or the amounts below)
- i. any amounts claimable on or after the Termination Date in respect of Contingent Funding Liabilities;
  - ii. all other amounts received by the Senior Funders on or after the Termination Date and before the date on which any compensation is payable by the Board to Project Co as a result of enforcing any other rights they may have; and
  - iii. all credit balances on any bank accounts (but excluding the Insurance Proceeds Account and the Surplus Account) held by or on behalf of Project Co on the Termination Date;

**“Compensation Date”**

means either:

- (a) if paragraph 3 (*Retendering Procedure*) of Section 2 (*Compensation for Project Co Default*) of this Schedule Part 17 (*Compensation on Termination*) applies, the earlier of:
  - i. the date that the New Agreement is entered into; and
  - ii. the date on which the Board pays the Adjusted Highest Compliant Tender Price to Project Co; or
- (b) if paragraph 4 (*No Retendering Procedure*) of Section 2 (*Compensation for Project Co Default*) of this Schedule Part 17 (*Compensation on Termination*) applies, the date that the Adjusted Estimated Fair Value of the Agreement has been agreed or determined;



- “Compliant Tender”** means a tender that meets all of the Qualification Criteria;
- “Compliant Tenderer”** means a Suitable Substitute Contractor who submits a Compliant Tender;
- “Deemed New Agreement”** means an agreement on the same terms and conditions as this Agreement, as at the Termination Date, but with the following amendments:
- (a) if this Agreement is terminated prior to the Actual Completion Date, then the Longstop Date shall be extended by a period to allow a New Project Co (had one been appointed) to achieve the Actual Completion prior to the Longstop Date;
  - (b) any accrued Deductions and/or Warning Notices shall, for the purposes of termination only, and without prejudice to the rights of the Board to make financial deductions, be cancelled; and
  - (c) the term of such agreement shall be for a period equal to the term from the Termination Date to the Expiry Date;
- “Discount Rate”** means a discount rate expressed as  $[(1 + \text{real base case project IRR} + \text{Gilt B} - \text{Gilt A}) * (1 + i) - 1]$
- where:
- "real base case project IRR"** is the Pre-tax Project IRR" set out in cell reference F22! which is 3.04% of the Financial Model at Financial Close;
- "i"** is the agreed assumed forecast rate of increase in RPI set out in the Agreement, for the remaining term of the Agreement;
- "Gilt A"** is the real yield to maturity on a benchmark government Gilt instrument of the same maturity as the average life of the outstanding Senior Debt as shown in the Financial Model at Financial Close; and
- "Gilt B"** is the real yield to maturity on a benchmark government Gilt instrument of the same maturity as the average life of the outstanding Senior Debt as shown in the

	Financial Model as on the Termination Date;
<b>“Distribution”</b>	has the meaning given in Schedule Part 23 ( <i>Refinancing</i> );
<b>"EIB Prepayment Amount"</b>	means the amount of any Prepayment Indemnity (as defined in the EIB Senior Finance Contract) and the amount of any Prepayment Indemnity (as defined in the EIB Senior Subordinated On-Loan Agreement) in respect of a prepayment as determined under the EIB Senior Finance Contract and the EIB Senior Subordinated On-Loan Agreement at the relevant time;
<b>“Estimated Fair Value of the Agreement”</b>	means the amount determined in accordance with paragraph 4 ( <i>No Retendering Procedure</i> ) of Section 2 ( <i>Compensation for Project Co Default</i> ) of this Schedule Part 17 ( <i>Compensation on Termination</i> ) that a third party would pay to the Board as the market value of the Deemed New Agreement;
<b>“Fair Value”</b>	means the amount at which an asset or liability could be exchanged in an arm's length transaction between informed and willing parties, other than in a forced or liquidated sale;
<b>“Highest Compliant Tender Price”</b>	means the price offered by the Compliant Tenderer (if any) with the highest tender price and if no Compliant Tenders are received, means zero;
<b>“Invoice Date”</b>	means, in respect of the Board Default Termination Sum, the Force Majeure Termination Sum or the Corrupt Gifts Termination Sum (as appropriate), the date that is the later of: <ul style="list-style-type: none"> <li>(a) the date on which the Board receives an invoice from Project Co for the relevant termination sum; and</li> <li>(b) the date on which the Board receives the supporting evidence required pursuant to paragraph 1.1 (<i>Payment and Interest</i>) of Section 5 (<i>General</i>) of this Schedule Part 17 (<i>Compensation on Termination</i>);</li> </ul>
<b>“Liquid Market”</b>	means that there are sufficient willing parties (being at least two parties, each of whom is capable of being a Suitable Substitute Contractor) in the market for design, build, finance and maintain contracts or similar contracts for the provision of services (in each case the same as or similar to this Agreement) for the price that is likely to be achieved through a tender to be a reliable indicator of Fair Value provided always that any vehicle controlled and established by the Senior Funders specifically for the purposes of the Project and to which this Agreement may be novated shall be discounted

in assessing whether there are sufficient willing parties in the market for such purposes;

- “Market Value Availability Deduction Amount”** means for any month or part of a month, an amount equal to the availability deduction that was made to the Monthly Service Payment under paragraph 4 (*Deductions for Availability Failures*) of Section 3 (*Deductions from Monthly Service Payments*) of Schedule Part 14 (*Payment Mechanism*) in the month immediately preceding the Termination Date, less an amount equal to any availability deduction that was made for a Functional Area which was unavailable at the Termination Date but which has subsequently become available whether as a result of the Board incurring Rectification Costs or otherwise;
- “Maximum Service Payment”** means one twelfth of the Annual Service Payment ASP<sub>n</sub> as defined in paragraph 2 (Annual Service Payment) of Section 2 (*Calculation of Service Payments*) of Schedule Part 14 (*Payment Mechanism*);
- “Maximum Termination Amount”** means either an amount equal to the aggregate of:
- (a) the Base Senior Debt Termination Amount; and
  - (b) the principal amount of the Subordinated Debt outstanding; and
  - (c) Redundancy Payments and Sub-Contractor Losses;
- OR, if the aggregate of the amounts referred to in (a) and (b) above is less than the Revised Senior Debt Termination Amount then an amount equal to the aggregate of:
- (a) the Revised Senior Debt Termination Amount; and
  - (b) Redundancy Payments;
- “New Agreement”** means an agreement on the same terms and conditions as this Agreement at the Termination Date, but with the following amendments:
- (a) if this Agreement is terminated prior to the Actual Completion Date, then the Longstop Date shall be extended by a period to allow a New Project Co to achieve the Actual Completion Date

prior to the Longstop Date;

- (b) any accrued Deductions and/or Warning Notices shall, for the purposes of termination only, and without prejudice to the rights of the Board to make financial deductions, be cancelled;
- (c) the term of such agreement shall be equal to the term from the Termination Date until the Expiry Date; and
- (d) any other amendments which do not adversely affect the Project Co;

**“New Project Co”**

means the person who has entered or who will enter into the New Agreement with the Board;

**“No Default Interest Rate”**

means in respect of a sum payable by Project Co for the benefit of:

- (a) EIB, the Fixed Rate (as defined in the EIB Senior Finance Contract);
- (b) the Institutional Investor Senior Lender, the Fixed Rate (as defined in the Institutional Investor Senior Facility Agreement);
- (c) the EIB Senior Subordinated On-Loan Lender, the Fixed Rate (as defined in the EIB Senior Subordinated On-Loan Agreement); and
- (d) the Institutional Investor Senior Subordinated On-Loan Lender, the Fixed Rate (as defined in the Institutional Investor Senior Subordinated On-Loan Agreement),

provided that for the purposes of paragraph 1.5.2 of Section 5 of this Schedule Part 17, the No Default Interest Rate shall be the weighted average of the rates referred to in paragraphs (a) to (d) inclusive above.

**“Post Termination Service Amount”**

means for the purposes of paragraph 3 (*Retendering Process*) of Section 2 (*Compensation for Project Co Default*) of this Schedule Part 17 (*Compensation on Termination*), for the whole or any part of a month for the period from the Termination Date to the Compensation Date, an amount equal to the Maximum Service Payment (pro rata for part of a month) which would have been payable under this Agreement had this Agreement not been terminated, less an amount equal to the aggregate of (without double counting):

- (a) (where relevant) the amount by which the Post Termination Service Amounts

for the previous month was less than zero;

- (b) the Market Value Availability Deduction Amount for that month; and
- (c) the Rectification Costs incurred by the Board in that month;

**“Qualification Criteria”**

means the criteria that the Board requires tenderers to meet as part of the Tender Process, which (subject to compliance with procurement regulations) shall be:

- (a) the New Agreement terms;
- (b) tenderers should have the financial ability to pay the capital sum tendered for the New Agreement and the financial ability to deliver the Works and/or the Services (as appropriate) for the price tendered;
- (c) the tenderers may only bid on the basis of a single capital payment to be made on the date of the New Agreement;
- (d) the tenderer is experienced in providing the Services or similar services;
- (e) the technical solution proposed by the tenderers is capable of delivery and the tenderer is technically capable of delivery of the Services; and
- (f) any other tender criteria agreed by the Board and the Project Co;

**“Rectification Costs”**

means, for the purposes of any Termination Date that occurs after the Actual Completion Date, an amount equal to the reasonable and proper costs incurred by the Board in a particular month or part of a month in ensuring that the Services are available;

**“Redundancy Payments”**

means redundancy payments and other termination payments which are required under Law to be made to employees of Project Co reasonably and properly incurred by Project Co arising as a direct result of terminating this Agreement (provided that Project Co shall use all reasonable endeavours to mitigate its loss) and provided that in calculating such amount no account should be taken of any liabilities and

obligations of Project Co arising out of:

- (a) contracts of employment or other agreements or arrangements entered into by Project Co to the extent that such contracts of employment agreements or arrangements were not entered into in connection with the Project; and/or
- (b) contracts of employment or other agreements or arrangements entered into by Project Co to the extent that such contracts of employment agreements or arrangements were not entered into in the ordinary course of business and on commercial arm's length terms;

**“Relevant Assumptions”**

means the assumptions that the sale of Project Co is on the basis that there is no default by the Board, that the sale is on a going concern basis, that no restrictions exist on the transfer of share capital, that no Additional Permitted Borrowing has taken place and therefore that the effect of the Additional Permitted Borrowing on the calculation of such amount is disregarded but that otherwise the actual state of affairs of Project Co and the Project is taken into account;

**“Revised Senior Debt Termination Amount”**

means, subject to Clause 4.3 (*Changes to Funding Agreements and Refinancing*):

- (a) all amounts outstanding at the Termination Date, including interest and (other than in respect of Additional Permitted Borrowing) Default Interest accrued as at that date, from Project Co to the Senior Funders in respect of Permitted Borrowing; and
- (b) all amounts by way of breakage costs (including without double counting and to the extent not covered by paragraph (a), any SPENS Breakage Costs (only in respect of Section 1 (*Compensation on Termination for Board Default and Voluntary Termination*) of this Schedule Part 17) and any EIB Prepayment Amount) excluding, where any SPENS Breakage Costs are payable, any sum representing outstanding loan principal under the Institutional Investor Senior Facility Agreement and/or Institutional Investor Senior Subordinated Facility Agreement included in Permitted Borrowings in paragraph (a) above, payable by Project Co to the Senior Funders as a result of a prepayment in respect of Permitted Borrowings (other

than in respect of Additional Permitted Borrowing) (or if any such prepayment has not occurred by the Invoice Date, such amount as will become payable on the assumption that such prepayment will be made on (if paragraph 1.2 of Section 5 of this Schedule 17 applies) the date for payment by the Board pursuant to that paragraph, or (where paragraph 1.3 of Section 5 of this Schedule Part 17 applies) on the date for payment, pursuant to that paragraph, of the last of the four instalments there referred to) subject to Project Co and the Senior Funders mitigating all such costs to the extent reasonably possible;(c) less, to the extent it is a positive amount, the aggregate of (without double counting in relation to the calculation of the Revised Senior Debt Termination Amount or the amounts below):

- i. all credit balances on any bank accounts (but excluding the Insurance Proceeds Account and the Surplus Account) held by or on behalf of Project Co on the Termination Date;
- ii. any amounts claimable on or after the Termination Date in respect of Contingent Funding Liabilities; iii. all other amounts received by the Senior Funders on or after the Termination Date and before the date on which any compensation is payable by the Board to Project Co as a result of enforcing any other rights they may have; and
- iv. all APB Distributions;

**“Senior Debt”**

means the financing provided by the Senior Funders under the Senior Funding Agreements;

**“Senior Funding Agreements”**

has the meaning given in Schedule Part 1 (*Definitions and Interpretation*);

**"SPENS Breakage Costs"**

means for the purposes of the Institutional Investor Senior Facility Agreement, the Spens Amount as defined therein and for the purposes of the Institutional Investor Senior Subordinated On-Loan Agreement, the Spens Amount as defined therein;

**“Sub-Contractor Losses”**

means:

- (a) the amount reasonably and properly payable by Project Co to the Contractor under the terms of the Construction

Contract as a direct result of the termination of this Agreement provided that such amount shall be reduced to the extent that Project Co fails to use all reasonable endeavours to mitigate such amount; and

- (b) the amount reasonably and properly payable by Project Co to the Service Providers under their respective contracts with Project Co (as the case may be) as a direct result of the termination of this Agreement provided that such amount shall be reduced to the extent that Project Co fails to use all reasonable endeavours to mitigate such amount;

provided that in both cases no account should be taken of any liabilities and obligation of Project Co to the Sub-Contractors arising out of:

- i. agreements or arrangements entered into by Project Co and/or the Sub-Contractors to the extent that such agreements or arrangements were not entered into in connection with those parties obligations in relation to the Project; and/or
- ii. agreements or arrangements entered into by Project Co and/or the Sub-Contractors to the extent that such agreements or arrangements were not entered into in the ordinary course of business and on commercial arm's length terms;

**“Suitable Substitute Contractor”**

has the meaning given in the Funders' Direct Agreement;

**“Subordinated Debt”**

means the debt contributed by the Subordinated Funders pursuant to the Subordinated Funding Agreements;

**“Tender Costs”**

means the reasonable and proper costs of the Board incurred in carrying out the Tender Process and/or in connection with any calculation of the Estimated Fair Value of the Agreement;

**“Tender Process”**

means the process by which the Board requests tenders from any parties interested in entering into a New Agreement, evaluates the responses from those interested parties and enters into a New Agreement with a new service provider, in accordance with paragraph 3 (*Retendering Process*) of Section 2 (*Compensation for Project Co Default*) of this Schedule Part 17



*(Compensation on Termination);*

**“Tender Process Monitor”**

means the person appointed under paragraph 3.6 of Section 2 (*Compensation for Project Co Default*) of this Schedule Part 17 (*Compensation on Termination*);

**“Termination Sum”**

has the meaning given in paragraph 1.3 of Section 5 (*General*) of this Schedule Part 17 (*Compensation on Termination*).

**SCHEDULE PART 18**  
**HANDBACK PROCEDURE**

**1 DEFINITIONS**

In this Schedule Part 18 (*Handback Procedure*) and elsewhere in this Agreement (save where Schedule Part 1 (*Definitions and Interpretations*) provides to the contrary) the following words shall have the following meanings:

- “Handback Works”** means the maintenance works (if any) required to be carried out in respect of the Facilities in order to procure that they will, on the Expiry Date, satisfy the Handback Requirements;
- “Handback Programme”** means the programme for carrying out the Handback Works over the remainder of the Project Term describing the total works to be carried out and the method of carrying out such works during the overall period in which the Handback Works are to be executed;
- “Handback Amount”** means the estimated cost of carrying out the Handback Works.

2 On the Expiry Date, each element of the Facilities shall be in a condition which is:

- 2.1 consistent with due performance by Project Co of the Service Level Specification and Method Statements; and
- 2.2 consistent with the Facilities and each of the elements of them having been designed and constructed in accordance with the applicable design life requirements set out in paragraph 5.1 of Section C of the Board's Construction Requirements,

together referred to as (the "**Handback Requirements**").

3 Not less than two (2) years prior to the Expiry Date, Project Co and the Board's Representative shall conduct a joint inspection of the Facilities.

4 Within fifteen (15) Business Days after the completion of the inspection, if it is found that any element of the Facilities is not in a condition consistent with the Handback Requirements, Project Co shall forthwith provide to the Board's Representative in accordance with Schedule Part 8 (*Review Procedure*):

- 4.1 Project Co's proposal as to the Handback Works;

- 4.2 Project Co's proposal as to the Handback Programme; and
- 4.3 Project Co's estimate of the cost of the Handback Amount.
- 5 The Board's Representative may, within fifteen (15) Business Days after receipt of the details set out in paragraph 4 from Project Co, raise comments in accordance with paragraph 3 of Schedule Part 8 (*Review Procedure*) on Project Co's Proposals and estimate referred to in paragraph 1 above.
- 6 On agreement, or determination in accordance with Schedule Part 20 (*Dispute Resolution Procedure*), of the Handback Works, the Handback Programme and/or the Handback Amount (as the case may be), Project Co shall procure that the Handback Works are carried out in accordance with the Handback Programme so as to meet the Handback Requirements. Project Co shall carry out the Handback Works at its own cost notwithstanding that the actual cost of the Handback Works may be higher than the Handback Amount.
- 7 From the date of the agreement (or determination in accordance with Schedule Part 20 (*Dispute Resolution Procedure*)) of the matters identified in paragraph 6, the Board shall be entitled to withhold ten per cent (10%) of each subsequent Monthly Service Payment up to the amount of the Handback Amount (the "**Withheld Amount**") and the provisions of paragraph 11 shall apply. The Board shall pay such amounts into an interest bearing account in its own name (the "**Retention Fund**").
- 8 Project Co may elect by notice in writing to the Board within ten (10) Business Days of the agreement (or determination in accordance with Schedule Part 20 (*Dispute Resolution Procedure*)) of the matters identified in paragraph 6 to procure the provision of a bond (the "**Handback Bond**") in favour of the Board (and in a form acceptable to the Board (acting in its sole discretion)) for an amount equal to the Handback Amount and from a bank or insurance company authorised to carry out business in the United Kingdom, and upon delivery of the same to the Board, the provisions of paragraph 7 shall not apply.
- 9 Project Co shall carry out the Handback Works to the satisfaction of the Board's Representative in accordance with Good Industry Practice and in accordance with the Handback Programme so as to meet the Handback Requirements.
- 10 Notwithstanding:
- 10.1 the agreement of the Board's Representative to any Handback Works, the Handback Programme or the Handback Amount;
- 10.2 the participation of the Board's Representative in any inspection under this Schedule; and/or
- 10.3 the complete or partial carrying out of the Handback Works,

Project Co shall not be relieved or absolved from any obligation to conduct any other inspection or to perform any other works in accordance with the Service Level Specification and Method Statement.

- 11 Where this paragraph 11 applies, if and to the extent that Project Co carries out any material part of the Handback Works in accordance with paragraph 6, Project Co may make a claim for payment for the work carried out. Any such claim shall be accompanied by a certificate by Project Co setting out the works performed and the value of such works. The Board shall be entitled to require any reasonable further evidence in respect of the valuation of the works. The Board shall make payment of the amount of a valid claim within fifteen (15) Business Days of the date of the claim and shall be entitled to withdraw that amount from the Retention Fund. If at any time the amount in the Retention Fund is insufficient to cover the costs claimed by Project Co, the Board shall pay the unpaid portion of such valid claim from any amounts which subsequently stand to the credit of the Retention Fund. In the event that the amount remaining in the Retention Fund on the Expiry Date is insufficient to cover Project Co's costs which have not been paid, Project Co shall bear the balance of such costs itself.
- 12 Not later than ninety (90) Business Days before the Expiry Date, Project Co and the Board's Representative shall conduct a joint inspection of the Facilities. Such inspection shall confirm whether or not the condition of the Facilities is in accordance with paragraph 1 above.
- 13 On, or within ten (10) Business Days after, the Expiry Date, the Board's Representative shall either:
- 13.1 issue to Project Co a Handback Certificate and return the Handback Bond or pay any balance standing to the credit of the Retention Fund (as appropriate), to Project Co; or
- 13.2 notify Project Co of its decision not to issue the Handback Certificate stating the reasons for such decision.
- 14 Any notice given by the Board's Representative in accordance with paragraph 13.2 shall set out each respect in which the Handback Works have not been completed or the Facilities do not comply with the Handback Requirements and shall state the Board's Representative's estimate of the cost of procuring that the Facilities comply in all respects with the Handback Requirements.
- 15 Project Co may, within fifteen (15) Business Days after receipt of the notice given in accordance with paragraph 13.2 by notice to the Board's Representative, object to any matter set out in the Board's Representative's notice. The notice from Project Co shall give details of the grounds of such objection and shall set out Project Co's proposals in respect of such matters.
- 16 If no agreement is reached between Project Co and the Board's Representative as to any matter referred to in Project Co's notice given in accordance with paragraph 15 within fifteen (15) Business Days of receipt of that notice by the Board's Representative, then either Project Co or the Board's Representative may refer the matter for determination in accordance with Schedule Part 20 (*Dispute Resolution Procedure*) as to:
- 16.1 whether the Facilities comply in all respects with the Handback Requirements; and
- 16.2 the estimated cost of procuring that the Facilities comply in all respects with the Handback Requirements, where the Facilities do not comply in all respects with the Handback Requirements.

- 17 If it is agreed or determined in accordance with Schedule Part 20 (*Dispute Resolution Procedure*) that the Facilities did not, at the Expiry Date, comply in all respects with the Handback Requirements, Project Co shall pay to the Board an amount equal to the estimated cost of completing such Handback Works (less, where applicable, any amounts standing to the credit of the Retention Fund at that time) or procuring that the Facilities comply in all respects with the Handback Requirements. Such payment shall be made not later than fifteen (15) Business Days after the estimated cost has been agreed or determined and, upon such payment being received by the Board, the Board's Representative shall issue the Handback Certificate and return (where applicable) the Handback Bond to Project Co.

**SCHEDULE PART 19****RECORD PROVISIONS****SECTION 1****GENERAL REQUIREMENTS**

- 1 Project Co shall retain and maintain all the records (including superseded records) referred to in Section 2 (*Records to be Kept*) of this Schedule Part 19 (*Record Provisions*) in accordance with this Section 1 (*General Requirements*) of this Schedule Part 19 (*Record Provisions*), the requirements of Good Industry Practice, in chronological order, in a form that is capable of audit and at its own expense. Project Co shall make such records available for inspection to the Board where it has reasonable cause for requiring such records, on giving reasonable notice shall provide such facilities as the Board may reasonably require for its representatives to visit any place where the records are held and examine the records maintained under this Schedule Part 19 (*Record Provisions*).
- 2 Wherever practical, original records shall be retained and maintained in hard copy form. True copies of the original records may be kept by Project Co where it is not practicable to retain original records.
- 3 Those records relating to the Project Operations (including the design, construction, development, enhancement and maintenance of the Facilities) shall be retained for the duration of the Agreement.
- 4 Financial and other records (including without limitation all information provided in support of any Change) shall be retained and maintained by Project Co for a period of at least six (6) years after the end of the Project Term in sufficient detail, in appropriate categories and generally in such a manner to enable Project Co to comply with its obligations under Clause 63.1 (*Information and Audit Access*) and where appropriate to enable the data in such records to be entered into the Financial Model so that the output from the Financial Model (on the basis of such data) can be directly compared with the actual financial cashflow and performance of Project Co.
- 5 Where Project Co wishes to dispose of any records maintained as provided in this Schedule Part 19 (*Record Provisions*) which are more than fifteen (15) years old, or in respect of which the required period for their retention has expired, then Project Co shall notify the Board and if, within forty (40) Business Days of such notice, the Board elects to receive certain of those records, then Project Co shall deliver up such records to the Board in the manner and at the location as the Board shall reasonably specify, and the costs of retaining those records in safe storage and delivering up the same shall be borne by Project Co.
- 6 Subject to paragraph 5, for a period of not more than six (6) years following the termination for whatever reason of this Agreement, Project Co shall retain in safe storage all such records as are referred to in Section 2 (*Records to be Kept*) of this Schedule Part 19 (*Record Provisions*) which were in existence at the date of termination of this Agreement. On the expiry of such period or at the earlier request of the Board (and the Parties acknowledge that such a request shall be deemed to have been issued by the Board upon the occurrence of any of the events set out in Clause 40.1.1 (*Insolvency*) whether prior to or following termination of this Agreement), Project Co shall deliver up all those records (or where those records are required by statute to remain with Project Co or a Contracting Associate of Project Co, copies thereof) to the Board in the manner and at the location as the Board shall reasonably specify. The Board shall make available to Project Co all the records Project Co delivers up pursuant to this paragraph subject to reasonable notice. The costs of retaining those records in safe storage and delivering up the same shall be borne:

- 6.1 by Project Co where the termination arises as a result of a Project Co Event of Default; and
- 6.2 by the Board where the termination arises for any other cause.
- 7 Without prejudice to the foregoing, Project Co shall provide the Board:
- 7.1 as soon as they may be available and in any event within sixty (60) Business Days after the end of the first six (6) months of each financial year of Project Co which falls during the Project Term, a copy, certified as a true copy by an officer of Project Co, of its unaudited interim accounts and, if appropriate, of consolidated unaudited interim accounts of Project Co, its Subsidiaries and Holding Company (if any) which would (if Project Co were listed on the London Stock Exchange whether or not it is) be required to be sent to shareholders as at the end of and for each such six (6) month period; and
- 7.2 as soon as they shall have been sent to its shareholders in order to be laid before an annual general meeting of Project Co but not later than one hundred and thirty (130) Business Days after the end of each accounting reference period of Project Co part or all of which falls in a Contract Year, a copy of Project Co's audited accounts and if appropriate, of the consolidated audited accounts of Project Co and, its Associated Companies (if any), in respect of that period, prepared in accordance with the Companies Act 1985 and generally accepted accounting principles and bases in Scotland, consistently applied together with copies of all related directors' and auditors' reports and all other notices/circulars to shareholders.
- 8 Project Co shall provide to the Board on 31 March, 30 June, 30 September and 31 December each year a document listing all information provided by it to the Senior Funders during the preceding three month period and, at the request of the Board, provide to the Board any information provided by it to the Senior Funders during the Project Term and any other information relating to the Project that the Board may reasonably require.
- 9 Any drawings required to be made or supplied pursuant to this Agreement shall be of a size appropriate to show the detail to be depicted clearly without magnifying aids and shall conform to British Standards 1192 or 308 or equivalent as appropriate. Where by prior agreement the Board has agreed to accept microfilm, microfiche or other storage media (which must include secure back up facilities), drawings and other documents shall be made or supplied in such form as has been agreed.
- 10 Upon termination or expiry of this Agreement, and in the event that the Board wishes to enter into another contract for the operation and management of the Project, Project Co shall (and shall ensure that the sub-contractors will) comply with all reasonable requests of the Board to provide information relating to Project Co's costs of operating and maintaining the Project.
- 11 Project Co shall use all reasonable endeavours to assist the Board in its preparation of any report and/or return required pursuant to regulations, directions or guidance applicable to the Board (in each case as amended, replaced or consolidated from time to time) or as required by external agencies including without limitation, reports and returns regarding the physical condition of the Facilities, health and safety, under the Fire (Scotland) Regulations 2005 and the Fire Safety (Scotland) Regulations 2006, relating to environmental health and to comply with The NHS and You or any document replacing it or required by the Scottish Government Health Directorates, the Scottish Government or the Scottish Futures Trust from time to time.

## SECTION 2

## RECORDS TO BE KEPT

- 1 This Agreement, its Schedule and the Project Documents and the Funding Agreements including all amendments to such agreements.
  
- 2 Project Co shall at all times maintain a full record of particulars of the costs of performing the Project Operations, including those relating to the design, construction, maintenance, operation and finance of the Facilities and the design, construction and finance of the Retained Estate Handback Infrastructure. This shall require Project Co to keep (and where appropriate to procure that the sub-contractors shall keep) books of account in accordance with best accountancy practice with respect to the Agreement showing in detail:
  - 2.1 administrative overheads;
  
  - 2.2 payments to Sub-Contractors and to sub-contractors;
  
  - 2.3 capital and revenue expenditure;
  
  - 2.4 such other items as the Board may reasonably require to conduct cost audits for verification of cost expenditure or estimated expenditure, for the purpose of Clause 29.11 (*Compensation*), Schedule Part 16 (*Change Protocol*) and Clause 32 (*Changes in Law*).

and Project Co shall have (and procure that the sub-contractors shall have) the books of account evidencing the items listed in paragraphs 2.1 to 2.4 available for inspection by the Board (and any expert) upon reasonable notice, and shall present a report of these to the Board as and when requested.
  
- 3 All other documents, software or other information expressly referred to in this Agreement.
  
- 4 Records relating to the appointment and supersession of the Board's Representative and Project Co's Representative.
  
- 5 Project Data.
  
- 6 Documents, drawings, design data or submissions raised in accordance with Schedule Part 8 (*Review Procedure*).
  
- 7 Documents relating to planning applications, consents, refusals and appeals.
  
- 8 Records relating to any specialist or statutory inspections of the Facilities and the Retained Estate Handback Infrastructure, including any roadways.
  
- 9 Notices, reports, results and certificates relating to completion of the Works and completion of the commissioning activities.



- 10 All operation and maintenance manuals and a full record of all maintenance procedures carried out during the Project Term.
- 11 Documents relating to events of Force Majeure, Delay Events and Relief Events and the consequences of the same.
- 12 All formal notices, reports or submissions made to or received from the Board's Representative in connection with the provision of Services, the Monitoring of Performance or the availability of the Facilities.
- 13 All certificates, licences, registrations or warranties related to the provision of Services.
- 14 Documents in support of claims for Services Payments.
- 15 Documents submitted in accordance with Schedule Part 16 (*Change Protocol*) and all documents provided in support.
- 16 Documents related to referrals to the Dispute Resolution Procedure.
- 17 Documents related to change in ownership or any interest in any or all of the shares in Project Co, Hold Co and/or Top Co.
- 18 Documents relating to the rescheduling of the indebtedness of Project Co or refinancing of the Project.
- 19 Tax invoices and records related to Value Added Tax.
- 20 Financial records, including audited and unaudited accounts of Top Co, Hold Co and Project Co and related reports
- 21 Records required by Law (including in relation to Health and Safety matters and health and safety files prepared pursuant to CDM Regulations) and all Consents.
- 22 Documents relating to insurance and insurance claims.
- 23 All other records, notices or certificates required to be produced and/or maintained by Project Co pursuant to this Agreement or any Project Document.
- 24 Records of all persons employed by Project Co or its sub-contractors and who are wholly or mainly engaged in the delivery of Services.

## SCHEDULE PART 20

### DISPUTE RESOLUTION PROCEDURE

- 1 The procedure set out in this Schedule Part 20 (*Dispute Resolution Procedure*) shall apply to any dispute, claim or difference arising out of or relating to this Agreement ("**Dispute**") except where it has been excluded from this procedure by an express term of this Agreement.
  
- 2 This Dispute Resolution Procedure shall not impose any pre-condition on either party or otherwise prevent or delay either party from commencing proceedings in any court of competent jurisdiction in relation to any Dispute in which that party requires either:
  - 2.1 an order (whether interlocutory or final) restraining the other party from doing any act or compelling the other party to do any act; or
  
  - 2.2 a decree for a liquidated sum to which there is no stateable defence.

### 3 **MEDIATION**

- 3.1 If the parties have been unable to resolve the Dispute within twenty (20) Business Days of the Dispute arising, they may (if both parties so agree) refer the Dispute to mediation on such conditions as may be agreed between the parties. Any mediation shall be completed within thirty (30) Business Days of such referral and any agreement arising therefrom shall be recorded in writing and signed by the parties and shall be binding and final to the extent set out in such agreement unless otherwise agreed.
  
- 3.2 For the avoidance of doubt, mediation shall not be a precondition to the commencement of Adjudication or court proceedings.

### 4 **ADJUDICATION**

- 4.1 Either party may at any time (notwithstanding that other dispute resolution procedures are running concurrently) give the other party to the Dispute notice of its intention to refer the Dispute to adjudication (the "**Notice of Adjudication**"). The party giving the Notice of Adjudication (the "**Referring Party**") shall by the same means of communication send a copy of the Notice of Adjudication to an adjudicator selected in accordance with paragraph 4.2 below or paragraph 4.11 below (the "**Adjudicator**").
  
- 4.2 The Adjudicator nominated to consider a Dispute referred to him shall, subject to paragraph 4.11, be selected on a strictly rotational basis from the relevant panel of adjudicators appointed in accordance with the following:
  - 4.2.1 there shall be two (2) panels of adjudicators, one in respect of construction matters (the "**Construction Panel**") and one in respect of operational and maintenance matters (the "**Operational Panel**"). All the adjudicators on each panel shall be wholly independent of Project Co, the Board, the relevant Sub-Contractor and any of the major competitors of Project Co or the relevant Sub-Contractor;

- 4.2.2 the Construction Panel shall be comprised of three (3) adjudicators as identified in paragraph 7 (*Panel Members*);
- 4.2.3 the Operational Panel shall be comprised of three (3) adjudicators as identified in paragraph 7 (*Panel Members*);
- 4.2.4 if any member of either panel resigns during the term of the Agreement, a replacement adjudicator shall be appointed by Project Co and the Board as soon as practicable;
- 4.2.5 if Project Co and the Board are unable to agree on the identity of the adjudicators to be selected for the panels or any replacement adjudicator, the Chairman (or Vice Chairman) for the time being of the Chartered Institute of Arbitrators Scottish Branch shall appoint such adjudicator(s) within seven (7) days of any application for such appointment by either party;
- 4.2.6 in the event that the first panel member is unable or unwilling to confirm acceptance of his appointment as Adjudicator or where he fails to respond within two (2) days of the date of the Notice of Adjudication, then the Referring Party shall invite the person next in line to act as Adjudicator. In the event that the second panel member is unwilling or unable to confirm acceptance of his appointment as Adjudicator within four (4) days of the date of the Notice of Adjudication or if the parties disagree as to the relevant panel of adjudicators to be used, then the Referring Party may apply to the Chairman (or Vice Chairman) for the time being of the Chartered Institute of Arbitrators Scottish Branch who shall within seven (7) days of the date of the Notice of Adjudication, nominate an Adjudicator (who shall also within the same period, confirm acceptance of his appointment as Adjudicator) to determine the Dispute described in the Notice of Adjudication;
- 4.2.7 no member of either panel shall be entitled to accept an appointment to act as Adjudicator unless he is willing also to be appointed as the adjudicator to adjudicate any dispute which:
- a) may arise between Project Co and the Contractor and raises issues which, in the opinion of Project Co, are substantially the same as or connected with the Dispute in relation to which he has been appointed; and/or
  - b) may arise between Project Co and the Service Provider and raises issues which, in the opinion of Project Co, are substantially the same as or connected with the Dispute in relation to which he has been appointed; and/or
  - c) may arise between Project Co and the Independent Tester and raises issues which, in the opinion of Project Co, are substantially the same as or connected with the Dispute in relation to which he has been appointed.
- 4.3 The Referring Party shall, within seven (7) days of the date of the Notice of Adjudication, serve its statement of case (the "**Referral Notice**") on the Adjudicator (appointed pursuant to paragraph 4.2) and the other party to the Dispute (the "**Responding Party**"). The Referral Notice shall set out each element of the

Referring Party's claim and the relief or remedy sought in sufficient detail so as to enable the Responding Party to understand and, where appropriate, respond to the claim and the Referral Notice shall be accompanied by copies of, or relevant extracts from, this Agreement and such other documents as the Referring Party intends to rely upon. The date of the referral of the Dispute (the "**Referral**") shall be the date of the Referral Notice.

- 4.4 Within seven (7) days of appointment in relation to a particular Dispute, the Adjudicator shall establish the procedure and timetable for the adjudication. The Adjudicator shall have absolute discretion as to how to conduct the adjudication, including whether a meeting is necessary. He shall establish the procedure and timetable subject to any limitation within this Agreement. The parties shall comply with any request or direction of the Adjudicator in relation to the adjudication.
- 4.5 The Adjudicator shall reach a decision on the Dispute within twenty-eight (28) days of the date of the Referral (or such other period as the parties may agree). The Adjudicator may extend the period of twenty eight (28) days by up to fourteen (14) days with the consent of the Referring Party. Unless the parties otherwise agree, the Adjudicator shall give reasons for his decision. Unless and until the Dispute is finally determined by Court proceedings or by an agreement in writing between the parties, the Adjudicator's decision shall be binding on both parties who shall forthwith give effect to the decision.
- 4.6 The Adjudicator's costs of any reference shall be borne as the Adjudicator shall specify or, in default, equally by the parties. Each party shall bear its own costs arising out of the adjudication, including legal costs and the costs and expenses of any witnesses.
- 4.7 The Adjudicator shall be deemed not to be an arbitrator but shall render his decision as an adjudicator and the law relating to arbitration shall not apply to the Adjudicator or his determination or the procedure by which he reached his determination.
- 4.8 The Adjudicator shall act fairly and impartially and may take the initiative in ascertaining the facts and the law. The Adjudicator shall have the power to open up, review and revise any opinion, certificate, instruction, determination or decision of whatever nature given or made under this Agreement.
- 4.9 All information, data or documentation disclosed or delivered by a party to the Adjudicator in consequence of or in connection with his appointment as Adjudicator shall be treated as confidential. The Adjudicator shall not, save as permitted by Clause 61 (*Confidentiality*), disclose to any person or company any such information, data or documentation and all such information, data or documentation shall remain the property of the party disclosing or delivering the same and all copies shall be returned to such party on completion of the Adjudicator's work.
- 4.10 The Adjudicator is not liable for anything done or omitted in the discharge or purported discharge of his functions as Adjudicator unless the act or omission is in bad faith. Any employee or agent of the Adjudicator is similarly protected from liability.
  - 4.10A.1 The Adjudicator may on his own initiative or on the request of the Referring Party or Responding Party correct his decision so as to remove a clerical or typographical error arising by accident or omission.

- 4.10A.2 Any correction of a decision shall be made within five (5) days of the date upon which the Adjudicator's decision was delivered to the parties.
- 4.10A.3 Any correction of a decision shall form part of the decision.
- 4.11 If any Dispute raises issues which, in the opinion of Project Co, are substantially the same as or connected with issues raised in a dispute or difference arising out of or relating to any other agreement (all such agreements being referred to as the "**Related Agreements**") between:
- 4.11.1 Project Co and the Contractor;
- 4.11.2 Project Co and the Service Provider; and/or,
- 4.11.3 Project Co and the Independent Tester,

which was or has been referred to adjudication (the "**Related Adjudication**") and an adjudicator has already been appointed (the "**Related Adjudicator**") then Project Co may request that the Dispute be referred to the Related Adjudicator and paragraphs 4.12 to 4.14 shall apply.

- 4.12 Subject to paragraphs 4.13 and 4.14 below, in the event that a Related Adjudicator orders that a Dispute under this Agreement be consolidated with a Related Adjudication with which he is dealing under the Related Agreement, then:
- 4.12.1 with effect from the time of such order, the Dispute shall be determined by the Related Adjudicator, who shall become the Adjudicator; and
- 4.12.2 such order shall be binding on Project Co and the Board and both of them shall acknowledge the appointment of the Related Adjudicator as the adjudicator of the Dispute, with Project Co or the Board (as the case may be) using its best endeavours to procure that the third party who is a party to the Related Agreement shall with effect from the time of such order comply with the requirements of the Related Agreement (including if applicable any requirement or direction of the Related Adjudicator appointed under such Related Agreement) as to the future conduct of the determination of the Dispute and the Related Adjudication; and
- 4.12.3 notwithstanding paragraph 4.6, Project Co and the Board shall be jointly responsible with the third party who is a party to the Related Agreement for the Related Adjudicator's fees and expenses including those of any specialist consultant appointed under the adjudication procedure in the Related Agreement, in respect of the period in which the Dispute is consolidated with the Related Adjudication pursuant to an order of the Related Adjudicator ("**Consolidated Adjudication Costs**"). Project Co and the Board agree that the Related Adjudicator shall have the discretion to make directions to require Project Co, the Board and the third party who is a party to the Related Agreement to pay or make contribution to the Consolidated Adjudication Costs in different proportions. If no such directions are made, Project Co, the Board and the third party who is a party to the Related Agreement shall bear the Consolidated Adjudication Costs in equal shares, and if Project Co, the Board or the third party has paid more

than such equal share, that party or third party shall be entitled to a contribution from the other party, parties or third party, as the case may be.

- 4.13 Notwithstanding anything to the contrary a Dispute under this Agreement may only be consolidated with a Related Adjudication, if the Related Adjudicator receives particulars of the Dispute within ten (10) days of the referral of the Related Adjudication to the Related Adjudicator under the Related Agreement.
- 4.14 Where Project Co requests that a Dispute under this Agreement be consolidated (in terms of paragraph 4.11) with a Related Adjudication and heard by the Related Adjudicator, the Dispute may only be consolidated where the Board has previously consented in writing to the identity of the Related Adjudicator appointed in respect of the Related Adjudication. The Board's consent to such request shall not be unreasonably withheld and if the Board refuses to consent, it must give reasons in writing for its refusal. Should the Board fail to respond within two (2) days of receipt of such a request it shall be deemed to have consented to the appointment of the Related Adjudicator. Where the Related Adjudicator is on the Construction Panel or Operational Panel at the time of the Referral then the Board shall be deemed to have consented to the appointment of the Related Adjudicator.

## 5 COURT PROCEEDINGS

Subject to paragraph 4 (*Adjudication*) all Disputes, to the extent not finally resolved pursuant to the procedures set out in the foregoing provisions of this Schedule Part 20 (*Dispute Resolution Procedure*), shall be referred to Scottish courts.

## 6 SUBMISSIONS IN RELATION TO ADJUDICATION

6.1 If any Dispute raises issues which relate to:

- 6.1.1 any dispute between Project Co and the Contractor arising under the Construction Contract or otherwise affects the relationship or rights of Project Co and/or the Contractor under the Construction Contract (the "**Construction Contract Dispute**"); or
- 6.1.2 any dispute between Project Co and the Service Provider arising under the Service Contract or otherwise affects the relationship or rights of Project Co and/or the Service Provider under the Service Contract (the "**Service Contract Dispute**"); or
- 6.1.3 any dispute between Project Co and the Independent Tester arising under the Independent Tester Contract or otherwise affects the relationship or rights of Project Co and/or the Independent Tester under the Independent Tester Contract (the "**Independent Tester Contract Dispute**"),

then Project Co may include as part of its submissions made to the Adjudicator submissions made by the Contractor or by the Service Provider or the Independent Tester as appropriate.

6.2 Any submissions made by the Contractor or the Service Provider or the Independent Tester shall:

- 6.2.1 be made within the time limits applicable to the delivery of submissions by Project Co to the Adjudicator; and
- 6.2.2 concern only those matters which relate to the Dispute between the Board and Project Co arising out of this Agreement or in connection therewith.
- 6.3 Where the Contractor or the Service Provider or the Independent Tester makes submissions in any reference before the Adjudicator, the Adjudicator's costs of such reference shall be borne as the Adjudicator shall specify, or in default, one-third by the Board and two-thirds by Project Co.
- 6.4 The Board shall have no liability to the Contractor or the Service Provider or the Independent Tester arising out of or in connection with any decision of the Adjudicator or in respect of the costs of the Contractor or the Service Provider or the Independent Tester in participating in the resolution of any Dispute under this Agreement.
- 6.5 Project Co shall not allow the Contractor or the Service Provider or the Independent Tester access to any Confidential Information relevant to the issues in dispute between the Board and Project Co save where:
- 6.5.1 the Confidential Information is relevant also to the issues relating to the Construction Contract Dispute or the Service Contract Dispute or the Independent Tester Contract Dispute as the case may be; and
- 6.5.2 Project Co has first delivered to the Board a written undertaking from the Contractor and/or the Service Provider and/or the Independent Tester (as appropriate) addressed to the Board that they shall not use any such Confidential Information otherwise than for the purpose of the dispute resolution proceedings under this Agreement and that they shall not disclose such Confidential Information to any third party other than the Adjudicator or the courts or any professional adviser engaged by the Contractor or the Service Provider or Independent Tester (as appropriate) to advise in connection with the Dispute.

## 7 PANEL MEMBERS

The panel members referred to in paragraph 4 are as follows:

Construction Panel		
Item	Type of Dispute	Named individual and nominating body
1.	Legal	Person to be used:  1.1 Jonathan Broome, Axiom Stable, Advocates' Library, Parliament House, Edinburgh, EH1 1RF; or

Construction Panel		
Item	Type of Dispute	Named individual and nominating body
		<p>1.2 Robert Howie QC, Ampersand Stable, Advocates' Library, Parliament House, Edinburgh, EH1 1RF,</p> <p>whom failing such person to be nominated by:</p> <p>1.3 Dean/Vice President of Faculty of Advocates, Parliament House, Edinburgh; or</p> <p>1.4 President/Vice President of Law Society of Scotland</p>
2.	Technical	<p>Person to be used:</p> <p>1.1 Janey Milligan, Construction Dispute Resolution, Pavillion 1, Parkway Court, 291 Springhill Parkway, Glasgow, G69 6GA; or</p> <p>1.2 Trevor Pettigrew Smith, FTI Brewer Consulting, Earlsgate House, 35 St Ninians Road, Stirling, FK8 2HE,</p> <p>whom failing such person to be nominated by:</p> <p>1.3 President/Vice President of the Royal Incorporation of Chartered Surveyors (Scottish Branch); or</p> <p>1.4 President/Vice President of the Royal Incorporation of Architects in Scotland; or</p> <p>1.5 President/Vice President of the Institution of Civil Engineers (Scottish Branch)</p>



Construction Panel		
Item	Type of Dispute	Named individual and nominating body
3.	Financial	<p>Person to be nominated by:</p> <p>1.1 President/Vice President of the Institute of Chartered Accountants in Scotland.</p>

Operational Panel		
Item	Type of Dispute	Person to be used and nominating body
1.	Legal	<p>Person to be used for first five (5) years of the Operational Term:</p> <p>1.1 Jonathan Broome, Axiom Stable, Advocates' Library, Parliament House, Edinburgh, EH1 1RF; or</p> <p>1.2 Robert Howie QC, Ampersand Stable, Advocates' Library, Parliament House, Edinburgh, EH1 1RF,</p> <p>whom failing and/or after such five (5) year period such person to be nominated by:</p> <p>1.3 Dean/Vice President of Faculty of Advocates, Parliament House, Edinburgh; or</p> <p>1.4 President/Vice President of Law Society of Scotland</p>
2.	Technical	<p>Person to be used for first five (5) years of the Operational Term:</p> <p>1.1 Janey Milligan, Construction Dispute Resolution, Pavillion 1, Parkway Court, 291 Springhill Parkway, Glasgow, G69 6GA; or</p> <p>1.2 Trevor Pettigrew Smith, FT1 Brewer Consulting, Earlsgate House, 35 St Ninians</p>

Operational Panel		
Item	Type of Dispute	Person to be used and nominating body
		Road, Stirling, FK8 2HE,  whom failing and/or after such five (5) year period such person to be nominated by:  1.3 President/Vice President of the Royal Incorporation of Chartered Surveyors (Scottish Branch); or  1.4 President/Vice President of the Royal Incorporation of Architects in Scotland; or  1.5 President/Vice President of the Institution of Civil Engineers (Scottish Branch).
3.	Financial	Person to be nominated by:  1.1 President/Vice President of the Institute of Chartered Accountants in Scotland.

## 8 NO LOSS

Where the Board would otherwise be expressly liable to make payment to Project Co of sums which include amounts payable in turn by Project Co to any Sub-Contractor, the Board shall not be entitled to withhold, reduce or avoid any such payment to Project Co in reliance only on the fact that the amount which is due from Project Co to the Sub-Contractor or the entitlement of the Sub-Contractor to payment of such amount as a result of the circumstances giving rise to the Board's obligation to pay, is conditional on the entitlement of, or receipt of payment by Project Co from the Board.

## 9 CONTINUING OBLIGATIONS

Unless this Agreement has already been repudiated or terminated, the parties shall, (notwithstanding that any Dispute is subject to the Dispute Resolution Procedure set out in this Schedule Part 20 (*Dispute Resolution Procedure*)), continue to carry out their obligations in accordance with this Agreement.

## SCHEDULE PART 21

## PROJECT CO INFORMATION

## SECTION 1

## PROJECT CO INFORMATION

Name : IHS Lothian Limited

Date of Incorporation : 18<sup>th</sup> December 2014

Registered number : SC493676

Registered office : Burness Paull LLP  
50 Lothian Road  
Festival Square  
Edinburgh  
EH3 9WJ

Directors :

Name	Address
Mark Jonathan Dooley	[REDACTED]
Mark Dening Bradshaw	[REDACTED]
Brian Saunders	[REDACTED]

Secretary : Helen Louise Everitt

Subsidiary undertakings at the date of this Agreement : none

Authorised and issued share capital at the date of this Agreement: £101

Name and address of registered holder	Number and class held	Amount paid up
Prudential Trustee Company Limited (as Security Trustee)  Laurence Poutney Hill, London, EC4R 0HH	100 ordinary A shares of £1.00	£100.00
Lothian Health Board	1 ordinary B share of £1.00	£1.00

Loan Stock at the date of this Agreement issued as follows:

Name and address of registered holder	Nominal value of Loan stock
IHS Lothian Holdings Limited Ropemaker Place, 28 Ropemaker Street, London, EC2Y 9HD	£14,579,266.73

#### Borrower Loan Note Provisions

- (a) The initial principal amount of the Borrower Loan Note is GBP as above and shall be designated as "unsecured 9.47 per cent. Borrower loan note 2015/01". The Borrower Loan Note shall be issued on financial close but must be paid for by HoldCo on or before the Equity Funding Date.
- (b) The interest rate on the Borrower Loan Notes is 9.47% per annum payable on bi-annual interest payment dates of 31 March and 30 September. The default interest rate is the interest rate plus 2% per annum.
- (c) The Borrower Loan Notes are repayable on any Business Day after the debt of the Senior Funders and the Senior Subordinated On-Loan Debt has been fully repaid by the Borrower (the "Discharge Date") in accordance with the terms of the Shareholder Support Agreement.

**SECTION 2**  
**HOLD CO INFORMATION**

Name : IHS Lothian Holdings Limited  
 Date of Incorporation : 18<sup>th</sup> December 2014  
 Registered number : 09360660  
 Registered office : Ropemaker Place  
 28 Ropemaker Street  
 London  
 EC2Y 9HD

Directors :

Name	Address
Mark Jonathan Dooley	[REDACTED]
Mark Dening Bradshaw	[REDACTED]
Brian Saunders	[REDACTED]

Secretary : Helen Louise Everitt

Subsidiary undertakings at the date of this Agreement : holding company of IHS Lothian Limited

Authorised and issued share capital at the date of this Agreement: £100

Name and address of registered holder	Number and class held	Amount paid up
IHS Lothian Investments Limited	100 ordinary shares of £1.00	£100.00

Loan Stock at the date of this Agreement issued as follows:

Name and address of registered holder	Nominal value of Loan stock
IHS Lothian Investments Limited	£14,579,266.73

**HoldCo Loan Note Provisions**

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- (a) The initial principal amount of the HoldCo Loan Note is GBP as above and shall be designated as "unsecured 9.47 per cent. HoldCo loan note 2015/01". The HoldCo Loan Note shall be issued on financial close but must be paid for by TopCo on or before the Equity Funding Date.
- (b) The interest rate on the HoldCo Loan Notes is 9.47 % per annum payable on bi-annual interest payment dates of 31 March and 30 September. The default interest rate is the interest rate plus 2% per annum.
- (c) The redemption of the Borrower Loan Notes by way of direct payment to the Shareholder will be a deemed redemption of the HoldCo Loan Notes in accordance with the terms of the Shareholder Support Agreement.

## SECTION 3

## TOP CO INFORMATION

Name : IHS Lothian Investments Limited  
 Date of Incorporation : 18<sup>th</sup> December 2014  
 Registered number : 09359641  
 Registered office : Ropemaker Place  
 28 Ropemaker Street  
 London  
 EC2Y 9HD

Directors :

Name	Address
Mark Jonathan Dooley	[REDACTED]
Mark Dening Bradshaw	[REDACTED]
Brian Saunders	[REDACTED]

Secretary : Helen Louise Everitt

Subsidiary undertakings at the date of this Agreement : holding company of IHS Lothian Holdings Limited

Authorised and issued share capital at the date of this Agreement: £100

Name and address of registered holder	Number and class held	Amount paid up
IHS Lothian Corporate Limited	100 ordinary shares of £1.00	£100.00

Loan Stock at the date of this Agreement issued as follows:

Name and address of registered holder	Nominal value of Loan stock
IHS Lothian Corporate Limited	£14,579,266.73

#### TopCo Loan Note Provisions

- (a) The initial principal amount of the TopCo Loan Note is GBP as above and shall be designated as "unsecured 9.47 per cent. TopCo loan note 2015/01". The TopCo Loan Note shall be

issued on financial close but must be paid for by the Shareholder on or before the Equity Funding Date.

- (b) The interest rate on the TopCo Loan Notes is 9.47 % per annum payable on bi-annual interest payment dates of 31 March and 30 September. The default interest rate is the interest rate plus 2% per annum.
- (c) The redemption of the Borrower Loan Notes by way of direct payment to the Shareholder will be a deemed redemption of the TopCo Loan Notes in accordance with the terms of the Shareholder Support Agreement.



## SECTION 4

## MAC CO INFORMATION

Name : IHS Lothian Corporate Limited  
 Date of Incorporation : 18<sup>th</sup> December 2014  
 Registered number : 09359625  
 Registered office : Ropemaker Place  
 28 Ropemaker Street  
 London  
 EC2Y 9HD

Directors :

Name	Address
Mark Jonathan Dooley	[REDACTED]
Mark Dening Bradshaw	[REDACTED]
Brian Saunders	[REDACTED]

Secretary : Helen Louise Everitt

Subsidiary undertakings at the date of this Agreement : holding company of IHS Lothian Investments Limited

Authorised and issued share capital at the date of this Agreement: £100

Name and address of registered holder	Number and class held	Amount paid up
IHS Lothian Corporate Holdings Limited	100 ordinary shares of £1.00	£100.00

Loan Stock at the date of this Agreement issued as follows:

Name and address of registered holder	Nominal value of Loan stock
IHS Lothian Corporate Holdings Limited	£14,579,266.73

**SCHEDULE PART 22**

**CERTIFICATES**

**Handback Certificate**

Issued by: Board's Representative

Address: [ ]

Board: **LOTHIAN HEALTH BOARD**

Address: [ ]

Project Co: **[PROJECT CO]**

Address: [ ]

Issue date: .....

Works :

Situated at :

Project Agreement dated: .....

I/we certify that the condition of the Facilities is in accordance with paragraph 1 of Schedule Part 18 (*Handback Procedure*) of above mentioned Project Agreement.

To be signed by or for the issuer named above.

Signed.....

**LOTHIAN HEALTH BOARD**

**Certificate of Practical Completion**

Issued by: Independent Tester – [ ]

Address: [ ]

Project Co: **[PROJECT CO]**

Address: [ ]

Board: **LOTHIAN HEALTH BOARD**

Address: [ ].

Contractor: **[CONTRACTOR]**

Address: [ ]

Issue date: .....

Works:

Situated at:

Project Agreement dated: .....

Under the terms of the above-mentioned Project Agreement,  
I/we certify that the Actual Completion Date of the Works was achieved on [ ].

To be signed by or for the issuer named above.

Signed.....  
**[INDEPENDENT TESTER]**

**Commissioning Completion Certificate**

Issued by: Independent Tester – [ ]

Address: [ ]

Hold Co: **[PROJECT CO]**

Address: [ ]

Board: **LOTHIAN HEALTH BOARD**

Address: [ ]

Contractor: **[CONTRACTOR]**

Address: [ ]

Issue date: .....

Works:

Situated at:

Project Agreement dated: .....

Under the terms of the above-mentioned Project Agreement,

I/we certify that the Actual Commissioning End Date was achieved on [ ].

To be signed by or for the issuer named above.

Signed.....  
**[INDEPENDENT TESTER]**

**SCHEDULE PART 23****REFINANCING****Requirement for Board Consent**

- 1 Project Co shall obtain the Board's prior written consent to any Qualifying Refinancing and both the Board and Project Co shall at all times act in good faith with respect to any Refinancing.
  
- 2 The Board shall be entitled to receive:
  - 2.1 a 90% share of the Margin Gain arising from any Qualifying Refinancing which gives rise to a reduction in the Margin from the Margin as shown in the Senior Funding Agreements as at Financial Close (or, in the case of a second or subsequent Qualifying Refinancing, from the Margin as shown in the Senior Funding Agreements as updated at the immediately preceding Qualifying Refinancing);
  
  - 2.2 a share of any Refinancing Gain (arising otherwise than from a reduction in Margin) from a Qualifying Refinancing, in respect of any Refinancing Gain (when considered in aggregate with all previous Qualifying Refinancings) as follows:
    - 2.2.1 for a Refinancing Gain from £1 up to £1 million, a 50% share;
  
    - 2.2.2 for a Refinancing Gain from £1 million up to £3 million, a 60% share;
  
    - 2.2.3 for a Refinancing Gain in excess of £3 million, a 70% share.
  
- 3 The Board shall not withhold or delay its consent to a Qualifying Refinancing to obtain a greater share of the Refinancing Gain than that specified in paragraph 2 above.

**Project Co Details**

- 4 Project Co shall promptly provide the Board with full details of any proposed Qualifying Refinancing, including a copy of the proposed financial model relating to it (if any) and the basis for the assumptions used in the proposed financial model. The Board shall (before, during and at any time after any Refinancing) have unrestricted rights of audit over any financial model and documentation (including any aspect of the calculation of the Refinancing Gain) used in connection with the Refinancing whether that Refinancing is a Qualifying Refinancing or not.

**Receipt of Gain**

- 5 The Board shall have the right to elect to receive its share of any Refinancing Gain (including any Margin Gain) as:
  - 5.1 a single payment being the proportion (corresponding to the proportion of the Refinancing Gain to which the Board is entitled pursuant to paragraph 2 above) of the amount which, but for the provisions of this Schedule Part 23 (*Refinancing*), would otherwise be capable of being released as a Distribution and/or a Surplus Payment on

or about the date of the Refinancing;

5.2 a reduction in the Annual Service Payments over the remaining term of this Agreement; or

5.3 a combination of the above.

### Method of Calculation

6 The Board and Project Co will negotiate in good faith to agree the basis and method of calculation of the Refinancing Gain (including any Margin Gain) and payment of the Board's share of the Refinancing Gain (taking into account how the Board has elected to receive its share of the Refinancing Gain under paragraph 5 (*Receipt of Gain*) above). If the parties fail to agree the basis and method of calculation of the Refinancing Gain or the payment of the Board's share, the dispute shall be determined in accordance with Schedule Part 20 (*Dispute Resolution Procedure*).

### Costs

7 The Refinancing Gain (including any Margin Gain) shall be calculated after taking into account any breakage costs necessary to facilitate the Qualifying Refinancing together with the reasonable and proper professional costs that each party directly incurs in relation to the Qualifying Refinancing and on the basis that all reasonable and proper professional costs incurred by the Board will be paid to the Board by Project Co within twenty eight (28) days of any Qualifying Refinancing. Such costs shall be allocated pro rata between the Margin Gain (if any) and the remaining Refinancing Gain.

8 Without prejudice to the other provisions of this Schedule Part 23 (*Refinancing*), Project Co shall:

8.1 notify the Board of all Notifiable Financings on becoming aware of the same and again when they are entered into and provide full details of the same; and

8.2 include a provision in the Funding Agreements (other than the Subordinated Funding Agreements) whereby it is entitled to be informed of any proposals which the Senior Funders may have to refinance the Funding Agreements (other than the Subordinated Funding Agreements).

### Definitions

In this Schedule Part 23 (*Refinancing*) and elsewhere in this Agreement (save where Schedule Part 1 (*Definitions and Interpretation*) provides to the contrary) the following words and expressions shall have the following meanings:

#### “Distribution”

means:

- (a) whether in cash or in kind, any:
  - i. dividend or other distribution in respect of share capital (whether made validly in accordance with the Articles of Association or

- otherwise);
- ii. reduction of capital, redemption or purchase of shares or any other reorganisation or variation to share capital;
  - iii. payments under the Subordinated Funding Agreements (whether of principal, interest, breakage costs or otherwise);
  - iv. payment, loan, contractual arrangement or transfer of assets or rights to the extent (in each case) it was put in place after Financial Close and was neither in the ordinary course of business nor on reasonable commercial terms;
  - v. the receipt of any other benefit which is not received in the ordinary course of business and on reasonable commercial terms; or
- (b) the early release of any Contingent Funding Liabilities, the amount of such release being deemed to be a gain for the purposes of any calculation of Refinancing Gain;

**“EEA”**

means from time to time the European Economic Area as created by The Agreement on the European Economic Area 1992 or any successor or replacement body, association, entity or organisation which has assumed either or both the function and responsibilities of the European Economic Area;

**“Exempt Refinancing”**

means:

- (a) any Refinancing that was fully taken into account in the calculation of the Annual Service Payments;
- (b) a change in taxation or change in accounting treatment;
- (c) the exercise of rights, waivers, consents and similar actions which relate to day to day administrative and supervisory matters, and which are in respect of:
  - i. breach of representations and warranties or undertakings;
  - ii. movement of monies between the Project Accounts in accordance with the terms of the

Senior Funding Agreements as at Financial Close;

- iii. late or non-provision of information, consents or licences;
  - iv. amendments to Sub-Contracts;
  - v. approval of revised technical and economic assumptions for financial model runs (to the extent required for forecasts under the Funding Agreements);
  - vi. restrictions imposed by Senior Funders on the dates at which the debt contributed by the Senior Lenders can be advanced to Project Co under the Senior Funding Agreements and/or amounts released from Drawdown Account during the Availability Period, each as defined in the Common Terms Agreement and which are given as a result of any failure by Project Co to ensure that the construction work is performed in accordance with the agreed construction programme and which is notified in writing by Project Co or the Senior Funders to the Board prior to being given;
  - vii. changes to milestones for drawdown and/or amounts released from the Drawdown Account during the Availability Period set out in the Common Terms Agreement and which are given as a result of any failure by Project Co to ensure that construction work is performed in accordance with the agreed construction programme and which is notified in writing by Project Co or the Senior Funders to the Board prior to being given;
  - viii. failure by Project Co to obtain any consent by statutory bodies required by the Senior Funding Agreements; or
  - ix. voting by Senior Funders and the voting arrangements between the Senior Funders in respect of the levels of approval required by them under the Funding Agreements;
- (d) any amendment, variation or supplement of any agreement approved by the Board



as part of any Qualifying Change under this Agreement;

- (e) any sale of shares in Project Co or HoldCo by the shareholders or securitisation of the existing rights and/or interests attaching to shares in Project Co or HoldCo provided that this paragraph (e) shall, in respect of shares in HoldCo, only apply for so long as HoldCo holds 100% of the issued share capital of Project Co;
- (f) any sale or transfer of the Subordinated Funders' existing rights and/or interests under the Subordinated Funding Agreements or securitisation of the Subordinated Funders' existing rights and/or interests under the Subordinated Funding Agreements; or
- (g) any Qualifying Bank Transaction;

**“Insurance Undertaking”**

has the meaning given in the rules from time to time of the Financial Services Board;

**"Margin"**

has the meaning given to it in the Senior Funding Agreements as at the date immediately prior to the relevant Qualifying Refinancing or in the case of the Institutional Investor Senior Facility Agreement and the Institutional Investor Senior Subordinated On-Loan Facility Agreement, as each are defined in the Common Terms Agreement, the rate of interest on the face value of the loan less the yield on the relevant reference gilt in place on the date of the Senior funding Agreements;

**“Margin Gain”**

means an amount equal to the lower of:

- (a) the Refinancing Gain; and
- (b) the higher of:

zero; and

$D - E$ ;

where:

D = the Net Present Value of the Surplus Payments projected immediately prior to the Refinancing (taking into account the effect of the change in Margin only in relation to the Refinancing and the senior debt repayment profile immediately prior to the Qualifying Refinancing and using the Financial Model as updated (including as to the performance of the

Project) so as to be current immediately prior to the Refinancing but disregarding any Distribution (including any payment under Clauses 5.3 and 5.4 of the Shareholder Support Agreement) that, but for the Refinancing, would not be made) to be made over the remaining term of this Agreement following the Refinancing; and

E = the Net Present Value of the Surplus Payments projected immediately prior to the Refinancing (but without taking into account the effect of the Refinancing and using the Financial Model as updated (including as to the performance of the Project) so as to be current immediately prior to the Refinancing) to be made over the remaining term of this Agreement following the Refinancing;

**“Net Present Value”**

means the aggregate of the discounted values, calculated as at the relevant date, of each of the relevant projected cashflows, in each case discounted at 9.47%.%;

**“Notifiable Financings”**

means any Refinancing described in paragraphs (a) or (c) of the definition of Refinancing and any other arrangement which has or would have a similar effect or which has or would have the effect of limiting Project Co's or any Associated Company's ability to carry out any such refinancing or other arrangements that would have a similar effect;

**“Project Accounts”**

means accounts referred to in and required to be established under the Senior Funding Agreements;

**“Qualifying Bank Transaction”**

means:

- (a) the syndication by a Senior Funder, in the ordinary course of its business, of any of its rights or interests in the Senior Funding Agreements;
- (b) the grant by a Senior Funder of any rights of participation, or the disposition by Senior Funder of any of its rights or interests (other than as specified in paragraph (a) above in respect of the Senior Funding Agreements in favour of:
  - i. any other Senior Funder;
  - ii. any institution which is recognised or permitted under the law of any member state of the EEA to carry on the business of a credit institution pursuant to Council Directive 2006/48/EC relating to the taking up and pursuit of business of credit institutions or which is otherwise permitted to

- accept deposits in the United Kingdom or any other EEA member state;
- iii. a local authority or public authority;
  - iv. a trustee of a charitable trust which has (or has had at any time during the previous two years) assets of at least £10 million (or its equivalent in any other currency at the relevant time);
  - v. a trustee of an occupational pension scheme or stakeholder pension scheme where the trust has (or has had at any time during the previous two years) at least 50 members and assets under management of at least £10 million (or its equivalent in any other currency at the relevant time);
  - vi. an EEA or Swiss Insurance Undertaking;
  - vii. a Regulated Collective Investment Scheme;
  - viii. any Qualifying Institution; or
  - ix. any other institution in respect of which the prior written consent of the Board has been given; and/or
- (c) the grant by a Senior Funder of any other form of benefit or interest in either the Senior Funding Agreements or the revenues or assets of Project Co or HoldCo, whether by way of security or otherwise, in favour of:
- i. any other Senior Funder;
  - ii. any institution specified in paragraphs bii to bvii above;
  - iii. any Qualifying Institution; or
  - iv. any other institution in respect of which the prior written consent of the Board has been given;

**“Qualifying Institutions”**

means any institution which is authorised by the Financial Conduct Authority to accept deposits in the United Kingdom;

**“Qualifying Refinancing”**

means any Refinancing that will give rise to a Refinancing Gain greater than zero that is not an

**“Refinancing”**

Exempt Refinancing;

means:

- (a) any amendment, variation, novation, supplement or replacement of any Funding Agreement (other than any Subordinated Funding Agreement);
- (b) the exercise of any right, or the grant of any waiver or consent, under any Funding Agreement (other than any Subordinated Funding Agreement);
- (c) the disposition of any rights or interests in, or the creation of any rights of participation in respect of, the Funding Agreements (other than the Subordinated Funding Agreements) or the creation or granting of any other form of benefit or interest in either the Funders' Agreements (other than the Subordinated Funding Agreements) or the contracts, revenues or assets of Project Co whether by way of security or otherwise; or
- (d) any other arrangement put in place by Project Co or another person which has an effect which is similar to any of (a)-(c) above or which has the effect of limiting Project Co's or any Associated Company's ability to carry out any of (a)-(c) above;

**“Refinancing Gain”**

means an amount equal to the greater of zero and  $[(A - B)]$ , where:

A = the Net Present Value of the Surplus Payments projected immediately prior to the Refinancing (taking into account the effect of the Refinancing using the Financial Model as updated (including as to the performance of the Project) so as to be current immediately prior to the Refinancing but disregarding any Distribution (including any payment under Clauses 5.3 and 5.4 of the Shareholder Support Agreement) that, but for the Refinancing, would not be made) to be made over the remaining term of this Agreement following the Refinancing; and

B = the Net Present Value of the Surplus Payments projected immediately prior to the Refinancing (but without taking into account the effect of the Refinancing and using the Financial Model as updated (including as to the performance of the Project) so as to be current immediately prior to the Refinancing) to be made over the

remaining term of this Agreement following the Refinancing;

**“Regulated Collective Investment Scheme”**

has the meaning given in the rules from time to time of the Financial Services Authority;

**“Shareholder”**

means any person from time to time holding share capital in Project Co or HoldCo.

**"Shareholder Support Agreement"**

has the meaning given to it in the Common Terms Agreement;

**SCHEDULE PART 24**

**SECTION 1**

**NOT USED**

**SECTION 2**

**NOT USED**

**SECTION 3**

**NOT USED**



## SCHEDULE PART 25

## INSURANCE PROCEEDS ACCOUNT AGREEMENT

## AGREEMENT

## AMONG:

- (1) **IHS LOTHIAN LIMITED** (registered under number SC493676) whose registered office is Burness Paull LLP, 50 Lothian Road, Festival Square, Edinburgh, EH3 9WJ. (the "**Issuer**"); and
- (2) **LOTHIAN HEALTH BOARD**, a health board constituted in Scotland under the National Health Service (Constitution of Health Boards) (Scotland) Order 1974 (S.I. 1974/267) as amended by the National Health Service (Constitution of Health Boards) (Scotland) Amendment Order 2003 (S.S.I. 2003/217) pursuant to Section 2 of the National Health Service (Scotland) Act 1978 as amended by section 28 of the National Health Service and Community Care Act 1990 and having its principal address at Waverley Gate, 2-4 Waterloo Place, Edinburgh EH1 3EG (the "**Board**");
- (3) **SUMITOMO MITSUI BANKING CORPORATION EUROPE LIMITED** (the "**Account Bank**"); and
- (4) **PRUDENTIAL TRUSTEE COMPANY LIMITED** (the "**Security Trustee**").

## WHEREAS

- (A) The Issuer and the Board have agreed to open an insurance proceeds account in their joint names.
- 1 The parties hereto have agreed to set out the terms on which payments may be made to or from that account in this Agreement.

IT IS AGREED as follows:

## 1 DEFINITIONS AND INTERPRETATION

<b>"Credit Provider"</b>	means the Senior Funders, as such term is defined in the Project Agreement;
<b>"Event of Default"</b>	has the meaning given in Clause 4.5 ( <i>General Provisions for the Account</i> ) of this Agreement;
<b>"Proceeds Account"</b>	has the meaning given to it in the Common Terms Agreement;
<b>"Qualifying Bank"</b>	means any institutions which is recognised or permitted under the law of any member state of the EEA to carry on the business of a credit institution pursuant to Council Directive 2006/48EC relating to the taking up and pursuit of the business of credit institutions or which is otherwise permitted to accept deposits in the United Kingdom or any other EU member state;
<b>"Project Agreement"</b>	means the agreement dated on or around the date of this Agreement between the Project Co and the Board in relation to the design, development, construction and provision of certain services in connection with the re-provision of the Royal Hospital for Sick Children, Child and Adolescent Mental Health Service and the Department for Clinical Neuroscience in a single building adjoining the Royal Infirmary of

Edinburgh at Little France at the Site and Off-Site;

**"Senior Finance Documents"**

means the Senior Funding Agreements, as such term is defined in the Project Agreement;

**"Security Documents"**

means:

- (a) Borrower Assignment in Security;
  - (b) Borrower Bond and Floating Charge;
  - (c) Borrower Debenture;
  - (d) HoldCo Share Pledge;
  - (e) HoldCo (First Ranking) Debenture;
  - (f) HoldCo (Second Ranking) Debenture;
  - (g) Intercreditor Agreement,
  - (h) the Assignment in Security of Reversionary Rights;
  - (i) HoldCo Assignment and Pledge,
- (each as defined in the Common Terms Agreement) together with:
- (j) the TopCo Charge (as defined in the Intercreditor Agreement);
  - (k) any present or future document confirming or evidencing any Security (as defined in the Common Terms Agreement) or guarantee for, or in relation to, all the Senior Debt (as defined in the Intercreditor Agreement);
  - (l) all agreements and other documents executed from time to time pursuant to any of the foregoing including all notices of assignment and intimations of assignment given pursuant to, and as contemplated by, the above documents and the acknowledgements to the notices of assignment and intimations of assignment;
  - (m) any other agreement or document which the Security Trustee may from time to time designate as a "Security Document" in accordance with the Common Terms Agreement; and
  - (n) any other agreement or document which the Senior Subordinated Security Trustee (as defined in the Intercreditor Agreement) may from time to time designate as a "Senior Subordinated Security Document" in accordance with the Senior Subordinated Finance Documents (as defined in the Common Terms Agreement)."

1.1 Capitalised terms defined in the Project Agreement shall have the same meaning in

this Agreement.

## 1.2 European Economic and Monetary Union

In the event that the United Kingdom joins EMU any figures expressed in "£" and "sterling" under this Agreement shall be converted into Euro at the rate for conversion of sterling into Euro established by the Council of the European Union pursuant to the Treaty (including compliance with rules relating to rounding in accordance with European Community regulations) and any reference to a figure in "£" or "Sterling" shall mean that figure adjusted into Euro.

## 2 INSURANCE PROCEEDS ACCOUNT

Each of the Issuer and the Board (together the "**Account Holders**") hereby appoint Sumitomo Mitsui Corporation Europe Limited as the Account Bank.

- 2.1 The Account Bank has opened on its books, at its office at 99 Queen Victoria Street, London, EC4V 4EH, an account in the joint names of the Account Holders designated the Board Insurance Proceeds Account (the "**Account**").
- 2.2 The Account Bank shall, save as otherwise provided herein, maintain the Account in accordance with its usual practices, provided that, in the event of any conflict between the provisions of this Agreement and any applicable mandate, the provisions of this Agreement shall prevail.
- 2.3 Notwithstanding anything else in this Agreement, no person shall request or require that any withdrawal be made from the Account if it would cause the Account to become overdrawn and to the extent that any withdrawal (if made in full) would cause the Account to become so overdrawn, such withdrawal shall be made in part in as great an amount as possible as will not result in such Account becoming overdrawn.
- 2.4 Where any withdrawal required under this Agreement cannot be made in its entirety, the Account Bank shall promptly notify both of the Account Holders of that fact and provide details of the payment not made, the date on which it should have been made and the amount unpaid.
- 2.5 Each amount from time to time standing to the credit of the Account shall bear interest at the rate agreed between the Account Bank and the Account Holders from time to time, such interest to be credited to the Account in respect of which such interest has accrued in accordance with the relevant mandate.
- 2.6 Subject to and in accordance with the provisions of this Agreement, including without limitation Clause 4 (*General Provisions for the Account*) of this Agreement, the Account Bank agrees that it shall make such payments out of the amount standing to the credit of the Account as may from time to time be requested by the Account Holders jointly subject to the restrictions as contained in this Agreement. Save as otherwise provided in this Agreement, no party shall be entitled to require the Account Bank to make, and the Account Bank shall not make, any payment out of the amount standing to the credit of the Account.
- 2.7 Subject to Clause 8.6 (*The Account Bank*) of this Agreement, the Account Holders

shall maintain the Account with the Account Bank until the termination of the Project Agreement. If so instructed after the termination of the Project Agreement, the Account Bank shall, at the sole cost and expense of the Issuer, terminate the Account in accordance with the relevant instructions and pay any amount standing to the credit of such accounts as the Account Holders may elect in accordance with Clause 4.1 (*General Provisions for the Account*) of this Agreement.

### 3 RECEIPTS AND PAYMENTS

- 3.1 The Account may only be used in accordance with the terms of and for the purposes set out in this Clause 3 (*Receipts and Payments*).
- 3.2 The Account shall be used for receiving, to the extent required by Clause 53 (*Insurance*) of the Project Agreement, the proceeds of all Insurances (as defined in the Project Agreement).
- 3.3 Subject to restrictions set out in this Agreement, the Account shall only be used for applying the proceeds of the insurances in accordance with Clause 53 (*Insurance*) of the Project Agreement either directly or indirectly by way of the reimbursement to the Issuer of costs or expenses incurred or monies paid by it (or on its behalf) in or towards satisfaction of the reinstatement restoration or replacement requirements of that Clause 53 (*Insurance*). In the event that any amount standing to the credit of the Account is not so required to be applied, such amount shall (subject to Clauses 4.3 and 4.5 (*General Provisions for the Agreement*) below) be paid by the Account Bank to the Proceeds Account, or as otherwise instructed by the Security Trustee pursuant to Clause 4.5 below.

### 4 GENERAL PROVISIONS FOR THE ACCOUNT

- 4.1 Subject to Clauses 4.3 and 4.5 below, and provided that:
- 4.1.1 the Account Bank has received notice in writing from two signatories, one of which shall be an authorised signatory of the Issuer and the other an authorised signatory of the Board, as listed under the applicable mandate that such payment is authorised under this Agreement; and
- 4.1.2 no notice has been given to the Account Bank by the Credit Provider prior to the making of such payment or transfer of an Event of Default which is subsisting and the Account Bank has no actual notice that an Event of Default will occur as a result of the making of any such payment or transfer,

the Account Bank agrees that it shall only make payments or transfers from the Account on the request of the Account Holders.

- 4.2 The Board undertakes to provide notice to the Account Bank as prescribed in Clause 4.1.1 for, the purposes of applying any part of the balance standing to the credit of the Account in accordance with Clause 3.3 (*Receipts and Payments*) of this Agreement.

Each of the Account Bank and the Issuer shall be entitled to treat any act of the authorised signatory of the Board as being expressly authorised by the Board and neither the Account Bank nor the Issuer shall be required to determine whether an

express authority has in fact been given.

- 4.3 No payments or transfers from the Account shall be made after an Event of Default which is continuing until the Credit Provider has confirmed to the Account Bank that such payment or transfer may be made except as expressly permitted under this Agreement. The Account Bank shall not be under any obligation to investigate the compliance of any payment with this Agreement.
- 4.4 All amounts withdrawn from the Account for transfer to another account or for application in or towards making a specific payment or meeting a specific liability shall be transferred to that account or applied in or towards making that payment or meeting that liability, and for no other purpose.
- 4.5 Notwithstanding any other provision of this Agreement, at any time following the occurrence of any Event of Default (as defined in Schedule Part 4 (*Funders' Direct Agreement*) of the Project Agreement) which is continuing and has not been waived or remedied, the Security Trustee may at any time give notice to the Account Bank instructing it not to act on the instructions of or at the request of the Issuer in relation to any sums at any such time standing to the credit of the Account. Without prejudice to the foregoing, the Account Bank agrees that it shall pay any amount standing to the credit of the Account and payable to the Issuer in accordance with Clause 3.3 (*Receipts and Payments*) of this Agreement to such a bank account as the Security Trustee shall direct following the occurrence of any Event of Default. The Account Bank agrees that it shall not so act and shall act on the instructions of the Security Trustee in place of the Issuer.
- 4.6 In establishing the balance standing to the credit of the Account at any time, the Account Bank may take into account credits to and withdrawals from such Account which are to be made on such day.

## **5 QUALIFYING BANK**

If at any time the Account Bank ceases to be a Qualifying Bank, the Account Holders shall promptly open or cause to be opened a new account with a Qualifying Bank on the same terms as the Account and the Account Holders shall take all such action as may be required to open the new account.

## **6 CHARGES**

The charges of the Account Bank (if any) for the operation of the Account shall be for the account of the Account Holders in equal amounts and shall be debited from the balance standing to the credit of the Account as from time to time agreed between the Account Bank, the Board and the Issuer.

## **7 MANDATES**

Each of the Account Holders will deliver to the Account Bank on or prior to the date hereof the applicable mandate together with authorised signature lists for both the Issuer and the Board.

## **8 THE ACCOUNT BANK**

- 8.1 The Account Bank may:
- 8.1.1 engage and pay reasonable fees for the advice or services of any lawyers, accountants or other experts whose advice or services may to it seem necessary, expedient or desirable and rely upon any advice so obtained;
  - 8.1.2 rely upon any communication or document believed by it to be genuine and, in particular, rely upon any notice, request or other communication of the Account Holders for the purposes of this Agreement if such notice, request or other communication purports to be signed or sent by or on behalf of an authorised signatory of the Account Holders;
  - 8.1.3 assume that no Event of Default has occurred unless it has actual notice to the contrary; and
  - 8.1.4 assume that all conditions for the making of any payment out of the amount standing to the credit of the Account which is specified in the Project Agreement or any of the Senior Finance Documents has been satisfied, unless it has actual notice to the contrary.
- 8.2 Notwithstanding anything to the contrary expressed or implied herein and subject to Clause 2 (*Insurance Proceeds Account*) of this Agreement, the Account Bank shall not:
- 8.2.1 be bound to enquire as to the occurrence or otherwise of an Event of Default or be affected by notice of any of the same except by reason of and to the extent expressly provided in this Agreement;
  - 8.2.2 be bound to account to any other party hereto for any sum or the profit element of any sum received by it for its own account;
  - 8.2.3 save as provided in this Agreement be bound to disclose to any other person any information relating to any other party hereto;
  - 8.2.4 be under any fiduciary duty towards any other party hereto or under any obligations other than those for which express provision is made in this Agreement;
  - 8.2.5 have any responsibility to ensure that the information set out in any instructions received by it hereunder are correct or to check or enquire as to or otherwise be affected by whether any condition has been or will be met or fulfilled or any instruction is properly given on behalf of the person from whom it purports to be given or any instruction is given properly other than to exercise the bankers duty of care; or
  - 8.2.6 have any responsibility to any party if any instruction which should be given by the Account Holders to the Account Bank under or in connection with this Agreement is for any reason not received by the Account Bank or is not made at the time it should be made.

- 8.3 The Account Bank does not have and does not accept any responsibility for the accuracy and/or completeness of any information (other than statements provided in accordance with Clause 9.2 (*Acknowledgements by the Account Bank*) of this Agreement) and the Account Bank shall not be under any liability as a result of taking or omitting to take any action in relation to the Account, save in the case of negligence or wilful misconduct or breach of its obligations under this Agreement.
- 8.4 Each of the other parties hereto agrees that it will not assert or seek to assert against any director, officer or employee of the Account Bank any claim it might have against the Account Bank in respect of the matters referred to in Clause 8.3 above.
- 8.5 The Account Bank may accept deposits from, lend money to, invest in and generally engage in any kind of banking or other business with the Account Holders, the Shareholders and any other party to any of the Project Documents.
- 8.6 The Account Bank may, at any time, (without assigning any reason therefor) notify the Account Holders in writing that it wishes to cease to be a party hereto as Account Bank (a "**cessation notice**"). Upon receipt of a cessation notice the Account Holders may nominate a Qualifying Bank as a successor to the Account Bank (a "**successor Account Bank**"). If no such nomination is made before the date specified in the cessation notice as being the date on which the Account Bank wishes to cease to be a party hereto (the "**cessation date**") (which date shall be a Business Day falling not less than thirty (30) days after the date of delivery of the cessation notice to the Account Holders) then the Account Bank may nominate a Qualifying Bank as successor Account Bank itself.
- 8.7 If a successor Account Bank is nominated under the provisions of Clause 8.6 above, then on the cessation date, provided the successor Account Bank has executed and delivered to the Account Holders a deed of novation in such form as the Account Holders may require undertaking to become a party to and bound by the terms and conditions of this Agreement and to become a party to such other documents as may be required by the Security Trustee in order to perfect the security created by the Senior Finance Documents:
- 8.7.1 the successor Account Bank shall open on its books at its principal office an account equivalent to that described in Clause 2 (*Insurance Proceeds Account*) of this Agreement and any amounts standing to the credit of the Account shall be transferred to the corresponding one of such account;
- 8.7.2 any reference in the Project Agreement or any Senior Finance Document to the Account shall be deemed to refer to the corresponding account opened pursuant to Clause 8.7.1;
- 8.7.3 the Account Bank shall cease to be a party hereto as Account Bank and shall cease to have any obligation hereunder in such capacity (but without prejudice to any accrued liabilities under this Agreement and its obligations under this Clause 8 (*The Account Bank*)) (but shall remain entitled to the benefit of the provisions of this Clause 8 (*The Account Bank*)); and
- 8.7.4 the successor Account Bank and each of the other parties hereto shall have the same rights and obligations amongst themselves as they would have had if such successor Account Bank had been an original party hereto as Account Bank.

## **9 ACKNOWLEDGEMENTS BY THE ACCOUNT BANK**

- 9.1 Notwithstanding anything to the contrary in any applicable mandate, the Account Bank hereby waives so far as it may validly and lawfully do so any right it has or may hereafter acquire to combine, consolidate or merge the Account with any other account of the Account Bank, Account Holders or the Security Trustee or any other person or with any liabilities of Account Holders or the Security Trustee or any other person to the Account Bank. In addition, the Account Bank agrees so far as it may validly and lawfully do so that it may not set off, combine, withhold or transfer any sum standing to the credit of the Account in or towards satisfaction of any liabilities to the Account Bank of the Account Holders, the Security Trustee or any other person.
- 9.2 After the date hereof and until the Account Bank has been notified by the Account Holders of the termination of the Project Agreement or until the Account Bank ceases to be a party to this Agreement pursuant to the provisions of Clause 8.7 (*The Account Bank*) above, the Account Bank shall provide each of the Account Holders and the Security Trustee with statements in respect of the Account, such statement to be supplied in accordance with any reasonable request therefore by the Account Holders.

## **10 ASSIGNATION**

The Account Holders may not assign any of their rights under this Agreement or in relation to the Account otherwise than pursuant to the Security Documents or as permitted under the Project Agreement. The Security Trustee may assign its rights under this Agreement to a successor Security Trustee appointed in accordance with the Security Trust and Intercreditor Deed and shall promptly give notice of any such assignation to the Account Bank. The Account Bank shall not be entitled to novate (except in accordance with Clause 8.7 (*The Account Bank*) above) or assign all or any part of its rights under this Agreement.

## **11 SECURITY TRUSTEE**

The Security Trustee is party hereto solely for the purpose of receiving the benefits and exercising the rights specifically allocated to it under the terms of this Agreement.

## **12 FURTHER ASSURANCE**

The parties hereto agree that they will co-operate fully to do all such further acts and things and execute any further documents as may be necessary or reasonably desirable to give full effect to the arrangements contemplated by this Agreement, subject to any such party being reimbursed to its satisfaction for any costs, expenses (including VAT) liabilities or fees reasonably incurred by it in the negotiation, preparation or execution of any such further documents.

## **13 AMENDMENTS**

The provisions of this Agreement may not be amended (otherwise than in accordance with the terms hereof) except by written agreement between all the parties hereto.

## **14 NOTICES**



14.1 Each communication to be made hereunder shall be made in writing and, unless otherwise stated, may be made by facsimile or letter delivered by registered post or courier.

14.2 Any communication or document to be made or delivered by one person to another pursuant to or in connection with this Agreement shall (unless that other person has by ten days' written notice to the other specified another address) be made or delivered to that other person at the address set out below identified with its signature below or identified with its signature in any deed of novation and shall be deemed to have been made or delivered:

14.2.1 (in the case of any communication made by letter) when delivered to that address; or

14.2.2 (in the case of any communication by facsimile) when transmission of such facsimile communication has been received in legible form and receipt has been confirmed, and communication verified, by telephone,

provided that (a) if such communication or document would otherwise be deemed to have been received on a day which is not a Business Day it shall be deemed to have been received on the next subsequent Business Day, (b) if any communication is made or document is delivered to the Security Trustee, such communication or document shall be effective only if the same is expressly marked for the attention of the officer identified the Security Trustee, as the case may be, below (or such other officer as the Credit Provider or the Security Trustee, as the case may be, shall from time to time specify for this purpose) and (c) if any communication or document is made or delivered to the Account Bank or the Security Trustee, such communication or document shall be effective only when received by the Account Bank, or the Security Trustee.

14.3 Notice to the Account Bank at any other office than the address shown beside its execution of this Agreement or such substitute address notified in accordance with Clause 14.2 above shall not constitute notice to the Account Bank unless agreed in writing by the Account Bank by reference to this Agreement.

## **15 MISCELLANEOUS**

The parties hereto each acknowledge that the Security Trustee when acting hereunder shall be acting in accordance with and subject to the terms of the Security Trust and Intercreditor Deed.

## **16 GOVERNING LAW AND JURISDICTION**

This Agreement is governed by, and shall be construed in accordance with, Scottish law.

## **17 THIRD PARTY RIGHTS**

Save to the extent expressly provided in this Agreement, it is expressly declared that no rights shall be conferred under and arising out of this Agreement upon any person who is not a party to this Agreement and, without prejudice to the foregoing generality, there shall not be created by this Agreement a jus quaesitum tertio in favour of any person whatsoever.

**IN WITNESS WHEREOF:** these presents typewritten on this and the preceding [ ] pages are executed by the parties hereto as follows:

**SIGNED** for and on behalf of the said **IHS LOTHIAN LIMITED** acting under a power of attorney

at

on

by

.....

Print Full Name Attorney

and

.....

Print Full Name Attorney

**SIGNED** for and on behalf of  
**LOTHIAN HEALTH BOARD**

at

on the day  
of 2015

by

.....  
Authorised Signatory

..... Full Name

Before this witness

.....Witness

..... Full Name

..... Address

.....

Signed by  
**SUMITOMO MITSUI BANKING CORPORATION EUROPE LIMITED**

at

on the                      day  
of                              2015

by

.....  
Authorised Signatory

.....Full Name

.....  
Authorised Signatory

.....Full Name

Signed by

**PRUDENTIAL TRUSTEE  
COMPANY LIMITED**

at

on

Acting by its duly  
Authorised Sealing Officer

.....  
**Sealing Officer**

Before this witness

.....

.....  
**Witness**

Address

.....

.....

## SCHEDULE PART 26

## COMMERCIALLY SENSITIVE INFORMATION

Where information or material falls within more than one category identified in column 1 of the table below, it shall be deemed to fall within the category whose corresponding period of confidentiality identified in column 2 of the table below will expire the soonest.

Category of Information/Material	Period for which information is to be kept confidential
Financial Model (as at Financial Close)	From the Effective Date until the date falling two (2) years after the Actual Completion Date
Financial Model (amended from time to time in accordance with this Agreement)	From the date of the relevant Financial Model until the date falling two (2) years after the later of: <ol style="list-style-type: none"> <li>1 the Actual Completion Date; and</li> <li>2 the date on which the amendments to Financial Model are agreed in accordance with this Agreement</li> </ol>
Prices within the Catalogue of Small Works and Services	Period during which the relevant prices are applicable
Small Works and Services Rates	Period during which the relevant Small Works and Services Rates are applicable
Project Co bank account information	Project Term
Project IRR	In the case of the Project IRR contained in the Financial Model as at Financial Close from the Effective Date until the date falling two (2) years after the Actual Completion Date  In the case of the Project IRR contained in the Financial Model as amended from time to time in accordance with this Agreement, from the date of the relevant Financial Model until the date falling two (2) years after the later of: <ol style="list-style-type: none"> <li>3 the Actual Completion Date; and</li> <li>4 the date of the Financial Model containing the relevant information</li> </ol>
Ancillary Documents	Project Term
Funding Agreements	Project Term
Information about Project Co's processes, methodologies, working methods and information relating to the development of new processes and methodologies which amounts to a trade secret or which, if disclosed, could reasonably be considered to provide a commercial advantage to Project	Trade secrets – Project Term  All other cases – five (5) years from the date on which the information is produced to the Board

Co's competitors	
Breakdown of prices within the overall contract price (to the extent not disclosed within the Financial Model)	Project Term
Information on Project Co's costing mechanisms including information obtained from Project Co relating to project risks and pricing of the same and cost information relating to third party contractors and the Sub-Contractors	Project Term
Financial term sheets and related funding information including any funder pricing	Two (2) years from the date on which the information is produced to the Board
Information relating to the appointment of Project Co as the preferred bidder to the Project (including the preferred bidder letter and correspondence and minutes relating to the same)	Until the date falling two (2) years after the Actual Completion Date
Information contained within or relating to Project Co's bid for the Project except as otherwise listed in this Schedule Part 26 ( <i>Commercially Sensitive Information</i> ) or otherwise provided in the Agreement	Until the date falling two (2) years after the Actual Completion Date

**SCHEDULE PART 27**

**PLANS**

**Plan 1 (RHSC and DCN Site)**



**Plan 2 (Yellow Area, Orange Area, Correction Area, Service Strip and Petrol Station Site)**





**Plan 2A (Foul Service Strip)**



**Plan 3 (Car Park E)**



**Plan 4**  
**Not Used.**



**Plan 5 (Car Park Layout Plan)**





**Plan 6 (Roads Layout)**



**Plan 7 (Campus Site Plan)**



**Plan 8 (Access Roads)**



**Plan 9 (217 Old Dalkeith Road)**





**Plan 10 (Little France Steading)**



**Plan 11 (Sewer)**



**Plan 12 (Manhole)**



**SCHEDULE PART 28**

**BOARD POLICIES**

The Board Policies are the Board Policies as set out below and as set out on the disc in the Agreed Form identified and executed as the Schedule Part 28 (*Board Policies*) of this Agreement, referred to in and forming part of this Agreement.

<b>Policy Type</b>	<b>Name of Board Policy</b>
<b>Employment</b>	
	Alcohol and substance use
	Dealing positively with stress at work
	Dignity at work
	Facilities Agreement
	Freedom of speech
	Healthcare associated infection: staff screening during incidents and outbreaks
	Management of employee capability
	Management of violence and aggression
	Recruitment guide and Selection Policy
	Social media
	Tobacco policy
	Dress code
<b>Financial</b>	
	Business conduct procedure
<b>Health and Safety</b>	
	Safety Alarm system and emergency response
	Control of contractors
	Fire safety
	First aid
	Health and safety
	Management and control of hot water
	Advance Event Management Policy
	Legionella
	Lone working



	Manual handling
	Pseudomonas
	Waste Disposal
	Window management
<b>Infection Control</b>	
	National Infection Prevention and Control Manual
<b>Information Governance</b>	
	Code of practice on the discharge of functions by public authorities under the Freedom of Information (Scotland) Act 2002
	Confidentiality of personal health information
<b>Business Continuity and Emergency Planning</b>	
	NHSL Reliance – Role and Duties of the Board and Partners
	Business Continuity Tactical Plan: Estates - Hard Facilities Management
<b>Sustainability</b>	
	Carbon management plan
	Sustainable development strategy

## SCHEDULE PART 29

## PLANNING

## PART 1

## PLANNING CONDITION RESPONSIBILITIES

For the purposes of this Schedule Part 29 (*Planning Condition Responsibilities*):

"AMSC" means application for approval of matters specified in conditions;

"Council" or CEC" means the City of Edinburgh Council;

"Enabling Works" means the flood protection works, road infrastructure works, vacuum insulated evaporator relocation works, link building works, service diversion works, sewer diversion works, clinical facilities works and the off-site flood protection works, as more fully described in paragraph 4.3 of the Board's Construction Requirements.

"PPiP or PPP" means planning permission in principle.

The planning condition responsibilities for each party are identified in the table below:

Item	Planning Condition in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
1	<p><b>Specified Matters to be Approved</b></p> <p>Prior to the commencement of works on site and excluding the enabling road works detailed in condition 2 below, details of the following under-noted matters, shall be submitted and approved by the planning authority in the form of a detailed layout of the site (including landscaping and car parking), and detailed plans, sections and elevations of the building(s) and all other structures:</p>		Project Co. (with the exception of the agreed Enabling Works)	Project Co. with the exception of the Enabling Works.
	(a) The precise location and extent of the various hospital and ancillary uses;	✓		Details provided in AMSC 14/01796/AMC progressed by Project Co. as approved by the

Item	Planning Condition in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
				Council on 27.08.14. This condition is discharged by grant of such AMSC which addresses this issue
(b)	Siting, design and height of individual developments, including design of all external features and glazing specifications (including acoustic capabilities), all external materials and finishes, including their colour;	✓	Project Co.	<p>Details provided in AMSC 14/01796/AMC progressed by Project Co. as approved by the Council on 27.08.14.</p> <p>Planning Permission progressed (Ref: 14/03599/AMC): Project Co. application for flu stack at Energy Centre associated with Condition 19b of PPP Planning (Ref:11/02454/PP). This condition is discharged by grant of 14/01796/AMC</p>
(c)	The design and configuration of all external spaces including internal courtyard and roof areas, demonstrating the extent and means of public access, details and extent of green roofs, and details of subsequent maintenance;		Project Co.	<p>Details provided in AMSC 14/01796/AMC progressed by Project Co. as approved by the Council on 27.08.14.</p> <p>The internal courtyards will be the subject of a further AMSC application for internal courtyards by Project Co. to be lodged with the planning authority prior to 05 April 2015.</p>
(d)	Details of alternative transport arrangements for passenger service vehicles;	✓	The Board	As a result of the legal agreement associated with the PPIp (in particular in relation to flood prevention) a separate detailed application (12/00479/FUL) was approved on 04.06.12 following the conclusion of the Section 75 legal agreement) relating to revised access and public transport arrangements to allow for the Enabling Works to commence outwith the context of the PPIp. Discussions with the Council have suggested that decision 12/00479/FUL can be regarded as having

Item	Planning Condition in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
				<p>addressed this condition. Formal confirmation presently being sought in this regard.</p> <p>Correspondence circulated dated 9 September 2014 from CEC confirming that the planning permission 12/00479/FUL satisfies the requirements of condition 2(i), 3 and 4 of 11/02454/PPP (and consequently 1d) and that no further AMSC application is required in this regard (in response to the Board's letter dated 25 June, previously circulated to Project Co.).</p>
(e)	Details of car, cycle and motor cycle parking including location, design and access arrangements including details of ticket machines and access barriers, details of intended use and car park management;	✓	Project Co. with the exception of the Enabling Works.	<p>Project Co. with the exception of the Enabling Works.</p> <p>Details provided in AMSC 14/01796/AMC progressed by Project Co. as approved by the Council on 27.08.14. This condition is discharged by grant of 14/01796/AMC.</p>
(f)	Details of road layouts, footpaths and cycle routes including existing and finished ground levels in relation to Ordnance Datum; and details of the location and design of pedestrian crossing facilities;	✓	Project Co. with the exception of the Enabling Works.	<p>Project Co. with the exception of the Enabling Works.</p> <p>Details provided in AMSC 14/01796/AMC progressed by Project Co. as approved by the Council on 27.08.14. This condition is discharged by grant of 14/01796/AMC</p>
(g)	<p>Hard and soft landscaping details which shall include:</p> <p>(i) Existing and finished ground levels in relation to Ordnance Datum;</p> <p>(ii) Layout and design, including walls, fences, gates and any other boundary treatments;</p>	✓	Project Co. with the exception of the (i) Enabling Works and (ii) the pro-	Project Co. with the exception of the (i) Enabling Works and (ii) the proposed landscaping between the Orange Area and the RIE Facilities as delineated in red diagonal hatching on the Landscape Site Plan (drawing number HLM-Z0-00-PL-700-020) Rev 11 dated



Item	Planning Condition in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
	<ul style="list-style-type: none"> <li>(iii) The location of new trees, shrubs and hedges;</li> <li>(iv) An assessment of existing trees and potential for retention;</li> <li>(v) A schedule of plants to comprise species, plant size and proposed number/density;</li> <li>(vi) The programme for completion and subsequent maintenance;</li> <li>(vii) Existing and proposed services such as cables, pipelines, substations;</li> <li>(viii) Other artefacts and structures such as street furniture, lighting columns and fittings, shelters and covered walkways, play equipment; details of public art;</li> </ul>		<p>posed landscaping between the Orange Area and the RIE Facilities as delineated in red diagonal hatching on the Landscape Site Plan (drawing number HLM-Z0-00-PL-700-020) Rev 11 dated 7.11.14 set out in Section 4.4 (<i>Architectural and Landscaping</i>) of Section 4 (<i>Project Co's Proposals</i>) of Part 6 (<i>Construction Matters</i>) of this Agreement.</p>	<p>7.11.14 set out in Section 4.4 (<i>Architectural and Landscaping</i>) of Section 4 (<i>Project Co's Proposals</i>) of Part 6 (<i>Construction Matters</i>) of this Agreement.</p> <p>Details provided in AMSC 14/01796/AMC and in full 14/01797/FUL progressed by Project Co. as approved by the Council on 27.08.14. This condition is discharged by grant of 14/01796/AMC</p> <p>Relative to (i), Full 14/01797 contains detail re area outwith PPP application site.</p>
	(h) A full site specific environmental management plan (EMP) detailing measures to be employed during the construction to prevent pollution to air land and water;	✓	Project Co. with the exception of the Enabling Works.	<p>Project Co. with the exception of the Enabling Works.</p> <p>Details provided in AMSC 14/01796/AMC and in full 14/01797/FUL progressed by Project Co. as approved by the Council on 27.08.14. This condition is discharged by grant of 14/01796/AMC.</p>

Item	Planning Condition in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
				Consent 14/01797/FUL contains detail re area outwith PPP application site.
	(i) Details of the flood prevention works and SUDS;	<p>✓</p> <p>✓</p>	<p>The Board in respect of the flood prevention works</p> <p>Project Co. in respect of the Surface Water Drainage Works.</p>	<p>Surface Water Drainage Works and associated strategy to be dealt with by Project Co.</p> <p>The Board to cover all other issues in accordance with the Draft Flood Management Scheme and Section 75 requirements.</p> <p>Details provided by the Board in AMSC 14/00078/AMC as approved by the Council on 10.04.14.</p> <p>Details provided in AMSC 14/01796/AMC progressed by Project Co. as approved by the Council on 27.08.14 re surface water This condition is discharged by grant of 14/01796/AMC</p> <p>The Board progressed an application for the off-site flood defence works (14/01810/FUL) which was approved 24 September 2014 re flood prevention works.</p>
	(j) Sustainability details in the form of an overall strategy and site specific details demonstrating how the hospital and associated developments shall meet or exceed the Edinburgh Standards for Sustainable Building (2010) or the equivalent standard at the time of submission;	✓	Project Co.	<p>Details provided in AMSC 14/01796/AMC progressed by Project Co. as approved by the Council on 27.08.14.</p> <p>Full 14/01797 contains detail re area outwith PPP application site.</p>
	(k) A detailed lighting strategy for the development including details demonstrating that light pollution and associated	✓	Project Co.	Details provided in AMSC 14/01796/AMC progressed by Project Co. as approved by the

Item	Planning Condition in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
	impacts on ecology have been minimised in line with the Environmental Statement and have been designed along of Secure by Design principles;			Council on 27.08.14.
(l)	Further details of noise attenuation and air quality measures in relation to the various uses;	✓	Project Co.	Details provided in AMSC 14/01796/AMC progressed by Project Co. as approved by the Council on 27.08.14.
(m)	The detailed siting and design of the rooftop helipad including details of night time lighting.		Project Co.	AMSC application in respect of the helipad to be submitted to the planning authority for approval prior to 05 April 2015.
	<i>Reason: In order to accord with the statutory requirements of the Town and Country Planning (Scotland) Acts.</i>			
2	<p><b>Revisions to the Enabling Road Works</b></p> <p>In terms of the enabling road works itemised A - E shown on the road layout reference drawing AT/209592/x(90)x/02 and the accompanying cycle track drawing SK 070 Issue I2 the following further revisions and further submission requirements shall apply:</p>	✓	The Board & Project Co.	<p>As a result of the legal agreement associated with the PPIp (in particular in relation to flood prevention) a separate detailed application (12/00479/FUL) was approved on 04.06.12 following the conclusion of the Section 75 legal agreement) relating to revised access and public transport arrangements to allow for the Enabling Works to commence outwith the context of the PPIp. Discussions with the Council have suggested that decision 12/00479/FUL can be regarded as having addressed this condition. Formal confirmation presently being sought in this regard.</p> <p>Correspondence circulated dated 9 September 2014 from CEC confirming that the planning permission 12/00479/FUL satisfies the requirements of condition 2(i), 3 and 4 of 11/02454/PPP (and consequently 1d) and that</p>

Item	Planning Condition in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
				<p>no further AMSC application is required in this regard (in response to the Board's letter dated 25 June previously circulated to Project Co)</p> <p>D (Hospital Square) and E (A&amp;E drop off) - temporary arrangements will have been approved and will be in place (as approved in the application for the Link Building) but Project Co will be responsible for delivering the final design solution.</p>
	<p>(i) Items A and C are not approved and a revised plan shall be prepared as part of a further application for Approval of Matters (AMC) as detailed in condition 1 part (d) above. Further consultation shall be undertaken with the planning authority and relevant consultees to consider the various pedestrian and vehicular movements including servicing and emergency movements and matters relating to landscaping and public realm. These shall be considered in a comprehensive manner and the potential for more direct vehicular connections to the public car parks thereby avoiding the bus terminus shall be explored and where practicable incorporated into the finalised design. The design shall include full details of lighting, pedestrian crossings, bus stop and any associated layover facilities, detailed junction arrangements, vehicular access and egress arrangements for the adjacent MS Centre, landscaping, SUDS and associated construction details;</p>	✓	The Board	<p>As a result of the legal agreement associated with the PPIP (in particular in relation to flood prevention) a separate detailed application (12/00479/FUL) was approved on 04.06.12 following the conclusion of the Section 75 legal agreement) relating to revised access and public transport arrangements to allow for the Enabling Works to commence outwith the context of the PPIP. Discussions with the Council have suggested that decision 12/00479/FUL can be regarded as having addressed this condition.</p> <p>Formal confirmation presently being sought in this regard.</p> <p>Correspondence circulated dated 9 September 2014 from CEC confirming that the planning permission 12/00479/FUL satisfies the requirements of condition 2(i), 3 and 4 of 11/02454/PPP (and consequently 1d) and that no further AMSC application is required in this regard (in response to Project Co's letter dated 25 June previously circulated to Project Co.)</p>



Item	Planning Condition in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
	(ii) Item B relating to the cycle track is approved subject to the prior written agreement by the Head of Planning of details of lighting, SUDS, landscaping and associated construction details;	✓	The Board / Project Co.	<p>The Cycle Path Works shall be the responsibility of Project Co. with the route through the Site.</p> <p>The Board shall be responsible for the remainder of the cycle path route.</p> <p>The condition shall be discharged on completion of the entire cycle path link. Project Co. proposals submitted and approved with 14/01796/AMC, including lighting details.</p>
	(iii) Items D and E shall form part of a further application for Approval of Matters (AMC) as detailed in condition 1 parts (e) and (f) above;	✓	The Board / Project Co.	<p>D (Hospital Square) and E (A&amp;E drop off) – It is understood that temporary arrangements will be in place (as approved in the application for the Link Building) but that Project Co. shall be responsible for delivering the final design solution.</p> <p>Details provided in AMSC 14/01796/AMC progressed by Project Co. as approved by the Council on 27.08.14</p>
	Following detailed approval in accordance with the requirements specified above, the enabling road works items A-E shall be implemented in accordance with the timescales specified in condition 3 below and with the details shown on the accompanying phasing drawing AT/209592/x(90)x/01.		The Board/ Project Co.	Project Co. and the Board should keep the Council advised of phasing in relation to elements D and E (Hospital Square and A&E parking) as appropriate. Project Co. in relation to the design solution, the Board in relation to implementation.
	<b>Reasons:</b> In order for the details to be submitted to and approved for the development			

Item	Planning Condition in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
3	<p><b>Implementation in accordance with Phasing Drawing</b></p> <p>The items referred to on the approved phasing drawing AT/209592/x(90)x/01 relate to the further approval of matters specified in conditions 1 and 2 and matters contained in the legal agreement for the development. Following approval, the individual parts of the development shall be implemented solely in accordance with the approved phasing drawing or such other drawing which shall be submitted to and approved in writing by the Head of Planning.</p> <p>For the avoidance of doubt, no works involving the stopping up of Little France Crescent shall take place until the enabling road works specified in items A and C on the road layout reference drawing AT/209592/x(90)x/02 have first been approved in terms of conditions 1 and 2 and those works having first been constructed and certified in writing by the Head of Planning as being completed and open for use by two way bus and general traffic.</p> <p><i>Reason: To ensure that the works required to accommodate the new hospital on the existing RIE site are completed in a timely manner as part of the development.</i></p>	✓	The Board	<p>This condition requires the various Enabling Works, including revised public transport arrangements to be in place, allowing for a phased development.</p> <p>As a result of the legal agreement associated with the PPIp (in particular in relation to flood prevention) a separate detailed application (12/00479/FUL) was approved on 04.06.12 following the conclusion of the Section 75 legal agreement) relating to revised access and public transport arrangements to allow for the Enabling Works to commence outwith the context of the PPIp. Discussions with the Council have suggested that decision 12/00479/FUL can be regarded as having addressed this condition. Formal confirmation presently being sought in this regard. Item A (revisions to the loop road) and C (revised bus infrastructure), as referred to in this condition, are dealt with by the above application.</p> <p>An Order in relation to the Stopping Up of Little France Crescent was made on 15 May 2013 and Confirmed on 20 November 2013.</p> <p>Correspondence circulated dated 9 September 2014 from CEC confirming that the planning permission 12/00479/FUL satisfies the requirements of condition 2(i), 3 and 4 of 11/02454/PPP (and consequently 1d) and that no further AMSC application is required in this regard (in response to the Board's letter dated 25 June previously circulated to Project Co.)</p>

Item	Planning Condition in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
4	<p><b>Approval of Detailed Landscape Proposals</b></p> <p>In terms of landscape details for the site wide road works referred to and itemised A - C in condition 2, the further submissions shall comprise a fully detailed landscape plan, including details of all hard and soft surface and boundary treatments and all planting. The total amount of replacement planting shall as far as practicable reflect the overall loss of existing tree cover to be generated by the road enabling works, currently estimated at approximately 458 trees or thereby. The approved landscaping scheme shall be fully implemented within six months of the completion of the road works, [and thereafter shall be maintained by the applicants and/or their successors to the entire satisfaction of the planning authority; maintenance shall include the replacement of plant stock which fails to survive, for whatever reason, as often as is required to ensure the establishment of the approved 4 landscaping scheme.]</p> <p><i>Reason: In order to ensure that a high standard of landscaping is achieved, appropriate to the location of the site.</i></p>	✓	The Board	<p>As a result of the legal agreement associated with the PPIp (in particular in relation to flood prevention) a separate detailed application (12/00479/FUL) was approved on 04.06.12 following the conclusion of the Section 75 legal agreement) relating to revised access and public transport arrangements to allow for the Enabling Works to commence outwith the context of the PPIp. Discussions with the Council have suggested that decision 12/00479/FUL can be regarded as having addressed this condition.</p> <p>Correspondence circulated dated 9 September 2014 from CEC confirming that the planning permission 12/00479/FUL satisfies the requirements of condition 2(i), 3 and 4 of 11/02454/PPP (and consequently 1d) and that no further AMSC application is required in this regard (in response to the Board's letter dated 25 June previously circulated to Project Co. )</p> <p>In relation to the planting on site, Project Co. shall be liable for 2 years post Actual Completion, thereafter the Board take full responsibility.</p>
	<p>...and thereafter shall be maintained by the applicants and/or their successors to the entire satisfaction of the planning authority; maintenance shall include the replacement of plant stock which fails to survive, for whatever reason, as often as is required to ensure the establishment of the approved 4 landscaping scheme.</p>	Compliance	The Board	The Board are liable for the two (2) year liability period and responsibility thereafter.
5	<b>Maximum Building Heights</b>	✓	Project Co.	Details provided in AMSC 14/01796/AMC



Item	Planning Condition in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
	<p>The finished building heights for the development to be submitted and agreed as matters in condition 1(b) shall be substantively in accordance with the massing drawing NA/10727/L(100)G/06.</p> <p><i>Reason: In order to ensure that the impact of the development accords with the details shown in the Environmental Statement.</i></p>			progressed by Project Co. as approved by the Council on 27.08.14.
6	<p><b>Rooftop Helipad</b></p> <p>The height and position of the rooftop helipad to be submitted and agreed as matters 1 (a) - (c) shall be substantively in accordance with the massing drawing NA/10727/L(100)G/06 which demonstrates the proximity of the helipad to residential properties on Old Dalkeith Road.</p> <p><i>Reason: In order to safeguard the amenity of neighbouring residents and other occupiers</i></p>		Project Co.	AMSC application in respect of helipad to be submitted to the planning authority for approval prior to 05 April 2015. Work in progress.
7	<p><b>Gross Internal Area</b></p> <p>The maximum Gross Internal Area of the new hospital including basement accommodation and enclosed plant rooms at roof level but excluding the separate energy centre, shall be limited to a maximum of 48,500 square metres.</p> <p><i>Reason: In order to ensure that the impact of the development accords with the details shown in the Environmental Statement</i></p>	✓	Project Co.	Details provided in AMSC 14/01796/AMC progressed by Project Co. as approved by the Council on 27.08.14.
8	<p><b>Compliance with Environmental Statement</b></p> <p>The development shall be constructed and thereafter operated in</p>	Compliance	Project Co.	

Item	Planning Condition in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
	<p>accordance with the details set out in the Environmental Statement dated July 2011 and in the accompanying Addendums dated August and October 2011.</p> <p><i>Reason: In order to ensure that the impact of the development accords with the details shown in the Environmental Statement</i></p>			
9	<p><b>Construction Environmental Management Plan</b></p> <p>Prior to the commencement of the development hereby permitted a detailed Construction Environmental Management Plan shall be submitted to and approved in writing by the Head of Planning dealing with the mitigation of construction impacts as detailed in the Environmental Statement dated July 2011 including but not limited to the air quality mitigation detailed in section 6.9 of the Environmental Statement. Thereafter the construction works shall be carried out in accordance with the approved details.</p> <p><i>Reason: In order to enable the Head of Planning &amp; Building Standards to consider this/these matter/s in detail</i></p>	✓	Project Co.	Details provided in AMSC 14/01796/AMC progressed by Project Co. as approved by the Council on 27.08.14. Condition discharged by grant of 14/01796/AMC
10	<p><b>Programme of Archaeological Works</b></p> <p>No development shall take place on the site identified in blue on the site plan drawing NA / 10727 / L(100)G/02 Rev P2 for the new hospital or any amended site boundary plan agreed either in writing by the Head of Planning or as part of a future approval of matters submission until the applicant has secured the implementation of a programme of archaeological work (excavation, analysis &amp; reporting, publication) in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Planning Authority</p> <p><i>Reason: In order to enable the Head of Planning &amp; Building Standards to consider this/these matter/s in detail</i></p>	✓	The Board	<p>WSI's have been agreed between consultants acting on behalf of the Board (AOC Archaeology) and the City Archaeologist 17 December 2013 in relation to this condition 10, and subsequently 14 April 2014 (in relation to the on Site flood works – condition 2(i))</p> <p>Condition superseded by equivalent condition on 14/01796/AMC approval.</p> <p>Letter obtained by Board from CEC agreeing to revised written scheme of investigation and watching brief and confirms development can take place.</p>

Item	Planning Condition in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
11	<p><b>SI for Contaminants and Risk Assessment</b></p> <p>i) Prior to the commencement of construction works on site:</p> <p>a) A site survey (including intrusive investigation where necessary) must be carried out to establish to the satisfaction of the Head of Planning and Building Standards, either that the level of risk posed to human health and the wider environment by contaminants in, on or under the land is acceptable, or that remedial and/or protective measures could be undertaken to bring the risks to an acceptable level in relation to the development; and</p> <p>b) Where necessary, a detailed schedule of any required remedial and /or protective measures, including their programming, must be submitted to and approved in writing by the Head of Planning and Building Standards.</p> <p>ii) Any required remedial and/or protective measures shall be implemented in accordance with the approved schedule and documentary evidence to certify those works shall be provided to the satisfaction of the Head of Planning and Building Standards.</p> <p><i>Reason: In order to ensure that the site is suitable for redevelopment, given the nature of previous uses/processes on the site.</i></p>	✓	Project Co.	Details provided in AMSC 14/01796/AMC progressed by Project Co. as approved by the Council on 27.08.14.
12	<p><b>Compliance with NR25 Noise Standard</b></p> <p>The design and installation of any plant, machinery or equipment shall be such that any associated noise complies with NR25 when measured within any nearby living apartment, and no structure borne vibration is perceptible within any nearby living apartment.</p>	Compliance	Project Co.	Compliance.



Item	Planning Condition in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
	<i>Reason: In order to safeguard the amenity of neighbouring residents and other occupiers.</i>			

Item	Informatives in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
1(a)	Application for the approval of matters specified in conditions shall be made before the expiration of 5 years from the date of the grant of planning permission in principle, unless an earlier application for such approval has been refused or an appeal against such refusal has been dismissed, in which case application for the approval of all outstanding matters specified in conditions must be made within 6 months of the date of such refusal or dismissal.		The Board / Project Co. as appropriate as per above	Note: Board legal advice has confirmed that the statutory time period for the grant of planning permission (i.e. 3 years) continues to apply given that no formal direction was issued by the Council in seeking to extend the time periods.  All applications for the Approval of Matters Specified in Conditions will be submitted by 05 April 2015.
1(b)	The approved development shall be commenced not later than the expiration of 5 years from the date of grant of planning permission in principle or 2 years from the final approval of matters specified in conditions, whichever is later.		The Board/ Project Co. as appropriate as per above	
2	No development shall take place on the site until a 'Notice of Initiation of Development' has been submitted to the Council stating the intended date on which the development is to commence. Failure to do so constitutes a breach of planning control, under Section 123(1) of the Town and Country Planning (Scotland) Act 1997.	✓	The Board	Project Co. will issue a NID for the PPP application, following discharge of the pre-start planning conditions in the week beginning 19 January 2015.

Item	Informatives in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
3	As soon as practicable upon the completion of the development of the site, as authorised in the associated grant of permission, a 'Notice of Completion of Development' must be given, in writing to the Council.		The Board/ Project Co. as appropriate as per above	
4	<p>Please refer to the final response from the Head of Transport dated 16 November 2011 for detailed requirements for the design and construction and subsequent operation of roads, footpaths and cycle tracks to be formed as part of the development including requirements for separate approval under Road Construction Consent. In terms of that response please note that the extent of adoptable roads and the justification for the placement and design of individual pedestrian crossings requires to be submitted for the prior agreement of the Head of Transport in line with the timescales set out in the response.</p> <p>In terms of traffic orders, no development shall commence on site until relevant traffic orders have been promoted and concluded for the roads and footpaths affected by the development, including but not exclusively for the permanent stopping up of Little France Crescent to allow for the construction of the new hospital on Car Park B, linking with the existing Royal Infirmary of Edinburgh Accident and Emergency Department. These shall be progressed under Sections 207 and 208 of the Town and Country Planning (Scotland) Act 1997 or the appropriate amended legislation at the time of application.</p>	✓	The Board	<p>Applications for road construction consents are being progressed by Consort's contractors.</p> <p>An Order in relation to the Stopping Up of Little France Crescent was made by the Board on 15 May 2013 and Confirmed on 20 November 2013</p> <p>The Council confirmed in e-mail correspondence 6 March 2014 that no stopping up of the existing established cycle route was required, to allow for its relocation.</p>
5A	<p>Vehicles</p> <p>The developer shall investigate the installation of electric vehicle charging points for service vehicles associated with the development with reference to Making the Connection - The Plug-in Vehicle Infrastructure Strategy, Office for Low Emission Vehicles (June 2011)</p>		Project Co. (the Board may also have a role in this respect).	<p>Superseded by equivalent Condition attaching to approval of 14/01796/AMC</p> <p>Project Co. to make a proposal.</p> <p>Supplemented by Informative 1 of this Planning Condition.</p>



Item	Informatives in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application	Condition satisfied	Party responsible	Comments
5B	Energy Centre  (i) Any chimney serving the emergency generators for the energy centre should terminate at the same point as the Gas CHP chimney.	✓	Project Co. (the Board may also have a role in this respect).	Discharged by approval of 14/03599/AMC
	(ii) A note should be made in the log book of the periods during which any standby boiler or furnace is fired or any alternative fuel is used.	Compliance	The Board	Operational issue
6	The applicant has indicated a willingness to enter into a Good Neighbour Agreement for the development		The Board	The Board shall commit to and implement a Good Neighbour Agreement. Project Co. input provided through PCPs.
7	For the avoidance of doubt, although the reference design presented for Planning Permission in Principle (PPP) demonstrates that the proposals can in principle be accommodated on the site, the various design and critical adjacency issues require to be further analysed in a comprehensive manner in advance of a future submission for Approval of Matters (AMC). To assist this process, it is recommended that a further design exercise is undertaken involving the applicant, the final appointed design team, Architecture and Design Scotland who commented on previous iterations of the reference design and representatives of CEC planning.	✓	Project Co.	Condition discharged by grant of applications 14/01796/AMC, 14/1797/FUL and 14/03599/AMC.
8	A legal agreement has been concluded in respect of this application and is available to view on the Council website		Board	

Item	Summary of Planning Obligation (Section 75 agreement of the Town and Country Planning (Scotland) Act 1997) in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application.	Condition satisfied	Party responsible	Comments
3.1	<p><b>Flood Management Work</b></p> <p>Before any work is begun on site, a scheme outlining flood mitigation and management measures is to be submitted to the City of Edinburgh Council for approval, to include details of the works, maintenance and any third party land required for implementation. The City of Edinburgh Council can ask for additional information if needed, but if not approved then the matter can be referred to an arbitrator (or you may rely upon the parallel right of appeal to the Scottish Ministers, since the same information must be approved in terms of a planning condition attached to the permission).</p> <p>No work can be undertaken until the scheme is approved and all third party land rights have been secured. If this is not done, then the City of Edinburgh Council can revoke the permission with no compensation payable. However, this is not considered to be unduly onerous, as planning permission would in any event expire if not lawfully implemented in accordance with the requirement to secure the flood mitigation works.</p>	✓	The Board	<p>Pre-commencement requirement. Works being progressed by the Board (TAWO 156).</p> <p>Draft Flood Management scheme dated 31 August 2012. E-mail approval Stephen Haydock  <span style="background-color: black; color: black;">[REDACTED]</span>            Sent: 10 January 2013 14:54</p> <p>Application for Planning Permission 14/01810/FUL progressed by the Board in relation to the development of off-site flood defences. Application approved by the City of Edinburgh Council 24 September 2014.</p> <p>The on-site flood works come under the S75</p> <p>On site flood works come under 14/00078/AMC.</p>
	The approved flood mitigation scheme must be implemented and thereafter maintained in perpetuity.	Ongoing		
3.2	<p><b>Off Site Road Works</b></p> <p>Before the new hospital is occupied, certain off site road works must be completed (subject to the Council confirming all orders and granting any rights of access required for the works to be undertaken). These include an increase in the length of the right</p>	✓	The Board / Project Co.	Works in part being progressed by the Board (TAWO 159). Section 56 agreement obtained. Works completed.

Item	Summary of Planning Obligation (Section 75 agreement of the Town and Country Planning (Scotland) Act 1997) in relation to PPP Planning (Ref:11/02454/PP): Site and Off-Site planning application.	Condition satisfied	Party responsible	Comments
	turn lane from Old Dalkeith Road onto to Little France Drive, to ensure sufficient junction capacity to accommodate north bound traffic at the time of first occupation of the new hospital; and the provision of yellow keep clear markings on the north bound carriageway of Old Dalkeith Road at its junction with Craigmillar Castle Road.			
3.3	<p><b>Contribution Towards Real Time Bus Information</b></p> <p>Bus stop information boards are to be provided and a contribution of £15,000 is to be made in respect of each. The number of bus information boards required is not known and the value of the contribution to be made to the City of Edinburgh Council is not capped. The contribution must be paid in full before works are undertaken on site. If the City of Edinburgh Council does not spend the contribution within ten years of the date of payment, then it is to be repaid to NHS Lothian or its successors as primary healthcare provider in Edinburgh.</p>	✓	The Board	Determined following the submission of AMSC following the submission of the non-material variation to application reference 12/00479/FUL. Cheque for £60K submitted to CEC by the Board on 13 May 2014.
3.4	<p><b>Travel Plan</b></p> <p><b>Before any part of the hospital is occupied</b>, a travel plan is to be submitted to the City of Edinburgh Council for approval. The approved travel plan is to be implemented within twelve months of the date of first occupation of the new hospital.</p>		The Board	Board to progress.
3.5	<p><b>Traffic Regulation Order Provision</b></p> <p>A contribution of £2,000 is payable to the City of Edinburgh Council in respect of each and any traffic regulation order required as part of the construction or operation of the new hospital development.</p> <p>Note.</p>	Compliance	The Board	

Item	Planning Condition in relation to AMSC Planning (Ref:14/00078/AMC): On-site flood application	Condition satisfied	Party responsible	Comments
1	<p>Prior to commencement on site for the construction of the Royal Hospital for Sick Children and the Department of Clinical Neuroscience's building, details of SUDS for that site shall be submitted and approved by the Planning Authority.</p> <p><i>Reason: To ensure satisfactory drainage within the site.</i></p>	✓	Project Co.	Details provided in AMSC 14/01796/AMC progressed by Project Co. as approved by the Council on 27.08.14. Condition discharged by approval of 14/01796/AMC
2	<p>No development shall take place until the applicant has secured the implementation of a programme of archaeological work, in accordance with a written scheme of investigation which has been submitted to and approved in writing by the Planning Authority, having first been agreed by the City Archaeologist.</p> <p><i>Reason: In order to safeguard the interests of archaeological heritage.</i></p>		The Board	See PPP Condition 10.
3	<p>The approved landscaping scheme shall be fully implemented within six months of the completion of the development.</p> <p><i>Reason: In order to ensure that the approved landscaping works are properly established on site.</i></p>		The Board	
4	<p>Prior to commencement of works on site for the flood prevention works, details of the proposed cut in the embankment that is south east of the homes at Little France Mills shall be submitted and approved by the Head of Planning and Building Standards.</p> <p><i>Reason: To ensure flood risk to the homes at Little France Mills is adequately managed.</i></p>	✓	The Board	



Item	Planning Condition in relation to AMSC Planning (Ref:14/01796/AMC): Project Co application in relation to the detail of the Facilities	Condition satisfied	Party responsible	Comments
1	<p>A detailed specification, including trade names where appropriate, of all the proposed external materials shall be submitted to and approved in writing by the Planning Authority within 6 months of the date of this consent; Note: samples of the materials will be required.</p> <p><i>Reason: In order to enable the planning authority to consider this/these matter/s in detail.</i></p>		Project Co.	Trade names and samples to be submitted to CEC Planning prior to 27 February 2015 for approval. Any change to materials samples post approval to be agreed with CEC Planning.
2	<p>No development shall take place on the site until the applicant has secured the implementation of a programme of archaeological work (excavation, analysis &amp; reporting, publication) in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Planning Authority.</p> <p><i>Reason: In the interests of cultural heritage.</i></p>		The Board	See Condition 10 of the PPP.
3	<p>No development shall take place on site until details have been submitted and approved by SEPA and City of Edinburgh Council's Flood Prevention Unit regarding that the methodology for the dewatering of the excavation.</p> <p><i>Reason: In the interests of flood prevention.</i></p>		Project Co.	Dewatering methodology with CEC Flood Risk & Planning and SEPA. To be discharged in week beginning 19 January 2015.
4	<p>The approved landscaping scheme shall be fully implemented within six months of the completion of the development. Any trees or plants which within a period of five years from the completion of the development die, are removed or become seriously damaged or diseased shall be replaced with others of a size and species similar to those originally required to be planted, or in accordance with such other scheme as may be submitted to and approved in writing by the Planning Authority.</p>	Compliance	Project Co.	Project Co. will be responsible for the two (2) year maintenance liability period with the Board responsible thereafter.

Item	Planning Condition in relation to AMSC Planning (Ref:14/01796/AMC): Project Co application in relation to the detail of the Facilities	Condition satisfied	Party responsible	Comments
	<i>Reason: In order to ensure that the approved landscaping works are properly established on site.</i>			
5	<p>The approved landscaping scheme for the bund on the southern boundary of the site adjacent to Little France Mills shall be fully implemented within six months of the completion of the development. Any trees or plants which within a period of five years from the completion of the development die, are removed or become seriously damaged or diseased shall be replaced with others of a size and species similar to those originally required to be planted, or in accordance with such other scheme as may be submitted to and approved in writing by the Planning Authority.</p> <p><i>Reason: In the interests of residential amenity.</i></p>	Compliance	Project Co.	Project Co. will be responsible for the two (2) year maintenance liability period with the Board responsible thereafter.
6	<p>Deliveries and vehicle movements to the service yard shall be restricted to between the hours of 0700 and 2300.</p> <p><i>Reason: In the interests of residential amenity.</i></p>	Compliance	The Board	The Board's position in this respect has been clarified to the Council i.e. exclusions of emergency vehicles.

Item	Informatives in relation to (Ref:14/01796/AMC): Project Co. application in relation to the detail of the Facilities	Condition satisfied	Party responsible	Comments
1	<p>The developer should seek to install electric car charging points to the following specification:</p> <p>70 or 50kW (32 Amp) DC with 43kW (32 Amp) AC unit. DC charge delivered via both JEVS G105 and 62196-3 sockets, the AC supply by a 62196-2 socket. Must have the ability to be de-rated to supply 25kW to any two of the three outlets simultaneously.</p>	Compliance	Project Co.	The Board's Construction Requirements refer to these.

Item	Informatives in relation to (Ref:14/01796/AMC): Project Co. application in relation to the detail of the Facilities	Condition satisfied	Party responsible	Comments
2	The floodlighting system shall be so controlled so there is no direct illumination of neighbouring land, and so that any light spillage onto neighbouring land shall not exceed 25 lux.		Project Co.	Note that this is assumed to be 'lighting' generally as there are no floodlights.
3	The design, installation and operation of any plant, machinery or equipment shall be such that any associated noise complies with NR25 when measured within any nearby living apartment.		Project Co.	
4	The proposed cycle track and works to Little France Crescent must be open for use by the public in terms of the statutory definition of 'road' and will require to be the subject of applications for road construction consent (RCC). Such application to include extent of adoptable roads, bus stops / stances, footways, footpaths, accesses, cycle tracks, verges and service strips along with details of lighting, drainage, signs and markings, SUDs, materials, structures, layout, design and specification and proposed improvements works as appropriate. Clear identification of adoptable areas should be agreed as early as possible.		Project Co.	
5	No development to commence on site until relevant traffic orders have been promoted and implemented for the roads, footways etc. affected by the development, including the stopping up of Little France Crescent to allow for the construction of the new hospital. These are to be progressed under Sections 207 and 208 of the Town and Country Planning (Scotland) Act 1997 as amended and have been consented under a separate planning application.		The Board	
6	All disabled persons parking places should comply with Disabled Persons Parking Places (Scotland) Act 2009. The applicant should therefore advise the Head of Transport if he wishes the bays to be enforced under this legislation. A contribution of £2,000 will be required to progress the necessary traffic order. All disabled		The Board	This is covered by Section 75 Agreement.

Item	Informatives in relation to (Ref:14/01796/AMC): Project Co. application in relation to the detail of the Facilities	Condition satisfied	Party responsible	Comments
	persons parking places must comply with Traffic Signs Regulations and General Directions 2002 regulations or British Standard 8300:2009 as approved by the Head of Transport.			
7	<p>It should be noted that if the applicant is seeking the Council to promote traffic regulation orders, the following contributions will be sought to:</p> <p>a. fund the progression of traffic orders including those to re-determine sections of road, introduce waiting and loading restrictions at appropriate locations, introduce taxi ranks, disabled parking and stopping up orders as necessary at no cost to the Council. Note that any objections to any traffic orders will require to be considered by the Transport and Environment Committee of this Council and therefore no guarantee can be given that orders can be successfully implemented. A contribution of £2,000 per order will be required;</p> <p>b. provide real time bus infrastructure to serve the development;</p> <p>c. submit a draft travel plan prior to first occupation and a final travel plan within 12 months of that date.</p>		The Board	This is covered by Section 75 Agreement.
8	For clarification purposes, no approval is given to the location or details of the flue stack.	✓	Project Co.	<p>Planning Condition in relation to the detailed Planning Permission (Ref: 14/03599/AMC): Project Co. application for flue stack at Energy Centre associated with Condition 19 b of PPP Planning (Ref:11/02454/PP). Application approved 6 November 2014.</p> <p>Informative addressed by approval of 14/03599/AMC</p>
9	For the avoidance of doubt, no consent is given to the location of	Compliance	Project Co./	Board to provide specification of compactors.



Item	Informatives in relation to (Ref:14/01798/AMC): Project Co. application in relation to the detail of the Facilities	Condition satisfied	Party responsible	Comments
	<p>the compactors. The developer is advised that further noise mitigation must be established once the energy unit is occupied and detailed usage of the service yard is known such as the equipment to be installed in the service yard. The developer shall submit further details which demonstrate that there will be no adverse impact on the neighbouring amenity. Any suggested mitigation measures must be enforceable in planning terms and exact mitigation details provided upfront.</p>		Board	<p>On the basis of the specification, Project Co. will be able to determine the precise location by way of suitable mitigation.</p> <p>Noise assessment to be based on final type and location of the compactors to be provided by the Board.</p>

Item	Planning Condition in relation to the detailed Planning Permission (Ref:14/01797/FUL): Project Co. application for landscaping and parking proposals	Condition satisfied	Party responsible	Comments
1	<p>No development shall take place on site until surface water drainage details have been submitted and approved by CEC Flood Prevention. The surface water drainage details shall be supplied once ground investigations relating to the previous petrol station are completed and all surface water drainage shall be installed as per the approved details. For the avoidance of doubt, no water shall be directed to Little France Mills or Old Dalkeith Road.</p> <p><b>Reason:</b> <i>In the interests of flood prevention.</i></p>		Project Co.	<p>No surface water drainage is required.</p> <p>GI undertaken. CEC to approve.</p> <p>Condition to be discharged by CEC Planning in the week beginning 19 January 2015.</p>
2	<p>i) Prior to the commencement of construction works on site:</p> <p>a) A site survey (including intrusive investigation where necessary) must be carried out to establish, either that the level of risk posed to human health and the wider environment by contaminants in, on or under the land is acceptable, or that remedial and/or protective measures could be undertaken to bring the risks to an acceptable level in relation to the development; and</p> <p>b) Where necessary, a detailed schedule of any required remedial and /or protective measures, including their programming, must be submitted to and approved in writing by the Planning Authority.</p> <p>ii) Any required remedial and/or protective measures shall be implemented in accordance with the approved schedule and documentary evidence to certify those works shall be provided for the approval of the Planning Authority.</p> <p><b>Reason:</b> <i>In order to ensure that the site is suitable for redevelopment, given the nature of previous uses/processes on the site.</i></p>		Project Co.	<p>No surface water drainage is required.</p> <p>GI undertaken. CEC to approve.</p> <p>Recommended for discharge by CEC Environmental Assessment on 06 January 2015. Awaiting discharge by CEC Planning in week beginning 12 January 2015</p>

3	<p>The approved landscaping scheme shall be fully implemented within one year of occupation of the hospital. Any trees or plants which within a period of five years from the completion of the development die, are removed or become seriously damaged or diseased shall be replaced with others of a size and species similar to those originally required to be planted, or in accordance with such other scheme as may be submitted to and approved in writing by the Planning Authority.</p> <p><i>Reason: In order to ensure that the approved landscaping works are properly established on site.</i></p>	Compliance	Project Co./ The Board	Project Co. obligation for the two (2) years post Actual Completion Date, hereafter this becomes the responsibility of the Board.
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Item	Informatives in relation to the detailed Planning Permission (Ref:14/01797/FUL): Project Co. application for landscaping and parking proposals	Condition satisfied	Party responsible	Comments
1	<p>The proposed cycle track and works to Little France Crescent must be open for use by the public in terms of the statutory definition of 'road' and will require to be the subject of applications for road construction consent ("<b>RCC</b>"). Such application to include extent of adoptable roads, bus stops / stances, footways, footpaths, accesses, cycle tracks, verges and service strips along with details of lighting, drainage, signs and markings, SUDs, materials, structures, layout, design and specification and proposed improvements works as appropriate. Clear identification of adoptable areas should be agreed as early as possible.</p>	Compliance	Project Co.	
2	<p>No development to commence on site until relevant traffic orders have been promoted and implemented for the roads, footways etc affected by the development, including the stopping up of Little France Crescent to allow for the construction of the new hospital. These are to be progressed under Sections 207 and 208 of the</p>	N/A	Project Co.	<p>None required.</p> <p>Little France Crescent Stopping Up Order 2013 PO/13/2 was approved 22 November 2013.</p>

Item	Informatives in relation to the detailed Planning Permission (Ref:14/01797/FUL): Project Co. application for landscaping and parking proposals	Condition satisfied	Party responsible	Comments
	Town and Country Planning (Scotland) Act 1997 as amended and have been consented under separate planning application.			
3	All disabled persons parking places should comply with Disabled Persons Parking Places (Scotland) Act 2009. The Act places a duty on the local authority to promote proper use of parking places for disabled persons' vehicles. The applicant should therefore advise the Head of Transport if he wishes the bays to be enforced under this legislation. A contribution of £2,000 will be required to progress the necessary traffic order. All disabled persons parking places must comply with Traffic Signs Regulations and General Directions 2002 regulations or British Standard 8300:2009 as approved by the Head of Transport.	Compliance	Project Co.	Covered by the S75 Agreement (May 2012).
4	<p>Planning permission should not be granted until the applicant has entered into a suitable legal agreement to:</p> <p>a) fund the progression of traffic orders including those to re-determine sections of road, introduce waiting and loading restrictions at appropriate locations, introduce taxi ranks, disabled parking and stopping up orders as necessary at no cost to the Council.</p> <p>Note that any objections to any traffic orders will require to be considered by the Transport and Environment Committee of this Council and therefore no guarantee can be given that orders can be successfully implemented. A contribution of £2,000 per order will be required;</p> <p>b) provide real time bus infrastructure to serve the development.</p>	N/A	The Board	<p>Already covered in PPP application- see note 4 on Full Consent.</p> <p>Covered by the S75 Agreement (May 2012).</p> <p>Previously agreed that this was covered in the PPP application and was not therefore required.</p>
5	The development hereby permitted shall be commenced no later than the expiration of three years from the date of this consent.	Compliance	Project Co.	

Item	Informatives in relation to the detailed Planning Permission (Ref:14/01797/FUL): Project Co. application for landscaping and parking proposals	Condition satisfied	Party responsible	Comments
6	No development shall take place on the site until a 'Notice of Initiation of Development' has been submitted to the Council stating the intended date on which the development is to commence. Failure to do so constitutes a breach of planning control, under Section 123(1) of the Town and Country Planning (Scotland) Act 1997.	Compliance	Project Co.	
7	As soon as practicable upon the completion of the development of the site, as authorised in the associated grant of permission, a 'Notice of Completion of Development' must be given, in writing to the Council.	Compliance	Project Co.	

Item	Planning Condition in relation to the detailed Planning Permission (Ref: 14/03599/AMC): Project Co. application for flue stack at Energy Centre associated with Condition 1 b of PPP Planning (Ref:11/02454/PP).	Condition satisfied	Party responsible	Comments
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No conditions imposed by the planning authority.

N/A

N/A

No conditions imposed by the planning authority.

Item	Informatives in relation to Planning Condition in relation to the detailed Planning Permission (Ref: 14/03599/AMC): Project Co. application for flue stack at Energy Centre associated with Condition 1 b of PPP Planning (Ref:11/02454/PP).	Condition satisfied	Party responsible	Comments
1	Any relevant alterations to the plan will require the chimney height to be recalculated. A note should be made in the log book of the periods during which any standby boiler or furnace is fired or any alternative fuel is used. Furthermore the construction or alteration of a chimney and/or the installation of a furnace or other heat producing appliance whether by way of new work or by way of replacement requires approval under the provisions of the Building Regulations.	Compliance	The Board	



## PART 2

## PLANNING APPROVAL

The Planning Approval is the Planning Approval as set out below and as set out on the disc in the Agreed Form identified and executed as Part 2 (*Planning Approval*) of Schedule Part 29 (*Planning*) of this Agreement, referred to in and forming part of this Agreement.

Reference number	Date	Description
11/02454/PPP	Dated 5 <sup>th</sup> April 2012	PPP decision in relation to the Site and Off Site Works application
11/02454/PPP	Dated 30 <sup>th</sup> March 2012	Associated Legal Agreement
14/00078/AMC	Dated 10 <sup>th</sup> April 2014	AMSC decision in relation to the on site flood application
14/01796/AMC	Dated 28 <sup>th</sup> August 2014	AMSC decision in relation to the detail of the facilities
14/01797/AMC	Dated 23 <sup>rd</sup> September 2014	AMSC decision in respect of landscaping and parking proposals
14/03599/AMC	Dated 6 <sup>th</sup> November 2014	AMSC decision in relation to the Flue Stack
14/01797/FUL	Dated 15 <sup>th</sup> January 2015	Letter of discharge of a planning condition number 2 on consent notice 14/01797/FUL in relation to the ground contamination report for the petrol filling station.

**SCHEDULE PART 30**

**BOARD WORKS**

**Section 1**

**Board Enabling Works**

**"Flood Protection Enabling Works"** means the works being separately procured by the Board to meet current flood design criteria for hospitals expressed as a 1:1000 year flood event at the Campus Site.

**"Link Building Enabling Works"** means the works being separately procured by the Board to create a new build extension to the RIE Facilities to allow the Facilities to tie into the existing RIE Facilities at ground and first floor levels.

**"PTS Enabling Works"** means the works being separately procured by the Board in relation to the provision of the power requirements for the PTS as follows:

- (1) to supply, install and commission the cable and the 8 way (three phase & neutral) distribution board to the second floor plantroom to be fed from section board (spare way reference 52C/1L); and
- (2) to supply, install and commission the cable and the switched fused connection unit fed from distribution board reference DB-6-2 D-A to the ground floor pharmacy department within the RIE Facilities.

**"Sewer Diversions Enabling Works"** means the works being separately procured by the Board to clear as far as is possible the Site of existing sewers (namely the Little France/Niddrie sewer and the south eastern relief sewer) for the construction of the Facilities. New sewers are to be 1050mm and 1200mm diameter and shall comprise precast concrete pipes.

**"Services Diversions Enabling Works"** means the works being separately procured by the Board to divert all live services serving the RIE Facilities, and which are under the Site to a location outwith the Site. In respect of electric, data and gas services and sewer pipes any services which are diverted, any apparatus, pipes, or other service media which is redundant may be left in the Site provided it is disconnected, non functioning and redundant and left in a safe condition so that it may be safely removed by Project Co.

<b>Element of Enabling Works</b>	<b>Completion Date</b>
Flood Protection Enabling Works	31 <sup>st</sup> March 2015
Link Building Enabling Works	31 <sup>st</sup> March 2015
Sewer Diversions Enabling Works	31 <sup>st</sup> May 2014
Services Diversion Enabling Works	31 <sup>st</sup> March 2015
PTS Enabling Works	31 <sup>st</sup> July 2015



## Section 2

## Board Neighbouring Works

**"Link Building Temporary Compound Removal"** means the works being separately procured by the Board to remove all temporary site compound related items adjacent to the Link Building to allow formation of the temporary ambulance drop off as part of Project Co Interface Proposals and activities.

**"Reconfiguration of RIE Facilities A&E Entrances"** means the works being separately procured by the Board to re-site the RIE Facilities A&E entrance to suit temporary ambulance drop off area.

**"A&E New Ambulant Road Works"** means the works being separately procured by the Board to form a new access road from Little France Crescent adjacent to Little France Drive, to the existing RIE Facilities ambulance drop off area.

**"MRI / Endoscopy Works"** means the works separately procured by the Board that shall form a new facility on the west elevation of the RIE Facility on Little France Crescent attached to and within the RIE Facilities.

Element of Neighbouring Works	Completion Date
Link Building Temporary Compound Removal	23 <sup>rd</sup> January 2015
Reconfiguration of RIE Facilities A&E Entrances	9 <sup>th</sup> March 2015
A&E New Ambulant Road Works	2 <sup>nd</sup> March 2015
MRI / Endoscopy Works	6 <sup>th</sup> June 2016

**SCHEDULE PART 31**

**CONSORT INTERFACE WITH CAMPUS SITE AND/OR CAMPUS FACILITIES**

**CONTENTS**

**Part 1: Interface Construction Issues and Interface Proposals**

**Section 1 – Construction Access**

**Section 2 – Operational Construction Access**

**Section 3 – Site Compound/Car Park E**

**Section 4 – Oversail**

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**Section 6 – Service Strip and Foul Service Strip**

**Section 7 – Link Building**

**Part 2: Interface Proposals Procedure**

**Section 1 – Oversail**

**Section 2 – Access Areas and Amended Supplemental Drainage Proposal**

**Section 3 – Amended Service Proposal**

**Part 3: General Matters**

**Appendices – Interface Proposals and relevant forms of notices**

## Part 1

### Interface Construction Issues and Interface Proposals

#### Section 1

#### Construction Access

#### 1 Construction Access over the Yellow Area and/or Petrol Station Site

- 1.1 Project Co acknowledges that it is intended that the primary construction access to the Site will be via a dedicated access route which may comprise a temporary road or bridge, or a combination of both from Old Dalkeith Road or Little France Drive over the Yellow Area and/or Petrol Station Site (the "**Construction Access**").
- 1.2 Project Co shall give the Board not less than twenty (20) Business Days written notice in the form of notice set out in Annex 1 of Part B of Appendix 1 of this Schedule Part 31 prior to commencing works to hoard off the affected part of the Yellow Area and/or Petrol Station Site from the remainder of the Yellow Area and/or Petrol Station Site and form the Construction Access in accordance with paragraph 1.1 and in accordance with the Construction Access Proposal which shall identify the proposed location of the Construction Access and provide details of the proposed methodology of construction of the Construction Access.
- 1.3 Prior to Project Co commencing works within the Yellow Area and/or Petrol Station Site the condition of the Yellow Area and/or Petrol Station Site shall be recorded in a Schedule of Condition to be prepared pursuant to paragraph 2 of Part 3 (*General Matters*) of this Schedule Part 31.
- 1.4 On commencement of the works to form the Construction Access in accordance with paragraph 1.2 the affected part of the Yellow Area and/or Petrol Station Site shall be securely hoarded off by Project Co from the remainder of the Yellow Area and/or Petrol Station Site.
- 1.5 Project Co shall and shall procure that all Project Co Parties shall not damage and shall take all necessary measures to protect the Yellow Area and/or Petrol Station Site, and any service media, buildings, structures and others erected thereon and any plant, machinery and equipment within the Yellow Area and/or Petrol Station Site. In the event of damage being caused to the Yellow Area and/or Petrol Station Site, and/or any service media, buildings, structures and/or others erected thereon and/or any plant, machinery and/or equipment by Project Co and/or any Project Co Party, Project Co will immediately notify the Board.
- 1.6 Project Co shall and shall procure that all Project Co Parties shall reinstate any damage caused to the Yellow Area and/or Petrol Station Site to the satisfaction of the Board in accordance with paragraph 3 of Part 3 (*General Matters*) and shall comply with the requirements in paragraphs 3 and 4 of Section 3 (*General Matters*) of this Schedule Part 31.
- 1.7 Project Co shall and shall procure that all Project Co Parties shall comply with and permit access to the Yellow Area and/or Petrol Station Site in accordance with paragraph 11 of Section 2 (*Reserved Rights*) of Schedule Part 5 (*Land Matters*) of this Agreement.
- 1.8 Project Co shall be liable and the provisions of Clause 49.1 (*Project Co Indemnities to Board*) of this Agreement shall apply for the consequences of failing to comply with and/or any breach of and/or any negligent act in complying with the requirements in this paragraph 1 of Section 1 (*Construction Access*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31 and/or the losses which may be suffered or incurred by any Campus Party as a result of any act or omission of Project Co and/or a Project Co Party exercising any of the rights and/or performing any of its obligations and/or failing to do so including without limitation costs of rectification as a consequence of any damage to the Yellow Area and/or Petrol Station Site, and/or any service media, buildings, structures, plants and others erected thereon and any plant, machinery and equipment within the Yellow Area and/or Petrol Station Site.
- 1.9 As at the Commencement Date, the Construction Access Proposal shall be deemed to be agreed by the Board as satisfying the requirements of this paragraph 1 of Section 1 of Part 1

of this Schedule Part 31 (*Consort interface with the Campus Site and/or Campus Facilities*), subject to any outstanding deliverables referred to in Part 5 of Section 5 (*Reviewable Design Data*) of Schedule Part 6 (*Construction Matters*) being submitted by Project Co to the Board pursuant to Schedule Part 8 (*Review Procedure*).

## 2 Construction Access over the Orange Area

2.1 In the event that Project Co considers: -

- 2.1.1 it is not possible for Project Co to construct and use a Construction Access to the Site over the Yellow Area and/or Petrol Station Site which complies with Law; or
- 2.1.2 it is not reasonably practicable for Project Co to construct and use a suitable Construction Access to the Site over the Yellow Area and/or Petrol Station Site from a technical and/or safety perspective; or
- 2.1.3 it is technically feasible to construct and use a Construction Access to the Site over the Yellow Area and/or Petrol Station Site but the Construction Access would not represent value for money to the Board when compared to an alternative traffic strategy involving access to and egress from the Site over the Orange Area; or
- 2.1.4 a Construction Access to the Site is (or is to be) constructed over the Yellow Area and/or Petrol Station Site by Project Co but it is not possible or it is not reasonably practicable from a technical and/or safety perspective for Project Co to carry out the Works without a secondary construction access/egress route over the Orange Area during all or part(s) of the Construction Phase,

then Project Co shall notify the Board in writing not later than ten (10) Business Days in the form of notice set out in Annex 1 of Part B of Appendix 2 of this Schedule Part 31 stipulating which of the provisions of this paragraph 2.1 it considers are not possible and/or not reasonably practicable (as applicable). At the Board's option in the event that Board considers any of the provisions of this paragraph 2.1 are not possible and/or not reasonably practicable (as applicable) whether or not it has received notice from Project Co aforesaid, then the Board may at its entire discretion and subject to the remaining provisions of this paragraph 2 of Section 1 (*Construction Access*) of Part 1 (*Construction Interface Issues and Interface Proposals*) of this Schedule Part 31 give written notice to Project Co permitting Project Co to take construction access to and egress from the Site for the carrying out and completion of the Works over the Orange Area.

2.2 In the event that Project Co is permitted to take construction access to the Site for the Works over the Orange Area and/or the Petrol Station Site Project Co shall and shall procure that all Project Co Parties shall do so in accordance with the TMS which shall address the following:

- 2.2.1 the health and safety of all users of the Campus Site and/or Campus Facilities must be safeguarded at all times;
- 2.2.2 the RIE Facilities are a working hospital to which access must be maintained at all times;
- 2.2.3 traffic to the Campus Site will be prioritised in accordance with the following hierarchy:
  - (a) blue light traffic access/egress;
  - (b) staff, patients and visitors to Campus Site and/or Campus Facilities (public transport);
  - (c) staff, patients and visitors to Campus Site and/or Campus Facilities (car parking);
  - (d) Campus Site and/or Campus Facilities deliveries, FM supplies and waste collection; and
  - (e) Project Co's construction traffic; and

- 2.2.4 insofar as reasonably practicable and appropriate in the circumstances (taking into consideration, for example, the number of construction vehicles involved, the number of journeys anticipated, the time of the day when access is required and the part(s) of the Orange Area and/or the Petrol Station Site affected) Project Co's construction traffic using the Orange Area shall require to be segregated from other traffic and/or pedestrians using the Orange Area (for example, through contra-flow or one way traffic arrangements and safe routes for pedestrians).
- 2.3 Subject to Clause 5.2.7 (*General Standards*), Project Co shall and shall procure that all Project Co Parties shall also comply with any other measures or requirements of the Board as regards the TMS such as:
- 2.3.1 appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area and/or the Petrol Station Site (for example, where the TMS envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area);
- 2.3.2 the imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works;
- 2.3.3 restrictions on the periods during which construction access may be taken;
- 2.3.4 the physical separation of construction traffic from other traffic and pedestrians using the Orange Area and/or the Petrol Station Site;
- 2.3.5 the re-sequencing (and/or temporary cessation) of the performance of elements of the Works; and
- 2.3.6 other reasonable measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities.
- 2.4 Notwithstanding the foregoing, at the Board's option on giving written notice to Project Co, Project Co shall be entitled to take construction access over the Orange Area subject to the following conditions:
- 2.4.1 Project Co shall give the Board not less than twenty (20) Business Days prior written notice in the form of notice set out in Annex 1 of Part B of Appendix 2 of this Schedule Part 31 of the date upon which Project Co intends to first take access over the Orange Area and/or the Petrol Station Site; and
- 2.4.2 during any period when construction access is being taken by Project Co over the Orange Area and/or the Petrol Station Site, Project Co shall be responsible for (i) the management of traffic across the Orange Area and/or the Petrol Station Site and shall have primary responsibility for the health and safety of all users of the Orange Area and/or the Petrol Station Site; and (ii) road traffic signage and pedestrian crossings within the Orange Area and/or the Petrol Station Site.
- 2.5 Prior to Project Co first taking construction access over the Orange Area and/or the Petrol Station Site the condition of the Orange Area and/or the Petrol Station Site shall be recorded in a Schedule of Condition to be prepared pursuant to paragraph 2 of Part 3 (*General Matters*) of this Schedule Part 31.
- 2.6 Project Co shall and shall procure that all Project Co Parties shall not damage and shall take all necessary measures to protect the Orange Area and/or the Petrol Station Site, and any service media, buildings, structures and others erected thereon and any plant, machinery and equipment within the Orange Area and/or the Petrol Station Site. In the event of damage being caused to the Orange Area and/or the Petrol Station Site, and/or any service media, buildings, structures and/or others erected thereon and/or any plant, machinery and/or equipment by Project Co and/or any Project Co Party, Project Co will immediately notify the Board.

- 2.7 Project Co shall and shall procure that all Project Co Parties reinstate any damage caused to the Orange Area and/or the Petrol Station Site to the satisfaction of the Board in accordance with paragraph 3 of Part 3 (*General Matters*) and shall comply with the requirements in paragraphs 3 and 4 of Part 3 (*General Matters*) of this Schedule Part 31.
- 2.8 Project Co shall and shall procure that all Project Co Parties shall comply with and permit access to the Orange Area in accordance with Clause 9 (*Nature of Land Interests*) including without limitation paragraph 11 of Section 2 (*Reserved Rights*) of Schedule Part 5 (*Land Matters*) of this Agreement.
- 2.9 Project Co shall be liable and the provisions of Clause 49.1 (*Project Co Indemnities to Board*) of this Agreement shall apply for the consequences of failing to comply with and/or any breach of and/or any negligent act in complying with the requirements in this paragraph 2 of this Section 1 (*Construction Access*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31 and/or the losses which may be suffered or incurred by any Campus Party as a result of any act or omission of Project Co and/or a Project Co Party exercising any of the rights and/or performing any of its obligations and/or failing to do so including without limitation costs of rectification as a consequence of any damage to the Orange Area, and/or any service media, buildings, structures and others erected thereon and any plant, machinery and equipment within the Orange Area and/or the Petrol Station Site.
- 2.10 As at the Commencement Date, the TMS shall be deemed to be agreed by the Board as satisfying the requirements of paragraphs 2.2 and 2.3 of Section 1 of Part 1 of this Schedule Part 31 (*Consort interface with the Campus Site and/or Campus Facilities*), subject to any outstanding deliverables referred to in Part 5 of Section 5 (*Reviewable Design Data*) of Schedule Part 6 (*Construction Matters*) being submitted by Project Co to the Board pursuant to Schedule Part 8 (*Review Procedure*).

## Section 2

## Operational Construction Issues

## 1. Access to RIE Site and RIE Facilities

- 1.1 When carrying out works of maintenance, repair and renewal to the Facilities where access over any part of the RIE Site and/or RIE Facilities is permitted pursuant to Clause 9 (*Nature of Land Interests*) including without limitation Section 3 (*Ancillary Rights*) of Schedule Part 5 (*Land Matters*) of this Agreement and required during the Operational Term, Project Co shall comply and shall procure Project Co Parties comply with the following conditions:
- 1.1.1 prior to carrying out any such works the condition of relevant part of the RIE Site and/or RIE Facilities shall either (1) where expressly required in accordance with this Schedule Part 31 be recorded in a Schedule of Condition to be prepared pursuant to paragraph 2 of Part 3 (*General Matters*) of this Schedule Part 31 or (2) where there are no express provisions requiring a Schedule of Condition then prior to any such works being undertaken in the RIE Site and/or RIE Facilities or any part (a) Project Co shall at its cost prepare a record of the condition of the relevant part of the RIE Site and/or RIE Facilities such record to comprise photographs along with, if necessary to properly record the condition of the area, a written commentary together with such specification and drawings as are available of any service media running through, under and over the relevant area and any buildings, structures and others erected thereon and any plant, machinery and equipment located thereon and (b) Project Co shall provide three copies of such record to the Board and (c) where the Board acting reasonably considers it is necessary Project Co and the Board or representatives on behalf of the Board shall jointly inspect the relevant part of the RIE Site and/or RIE Facilities;
- 1.1.2 reasonable prior notice of not less than ten (10) Business Days in the form of notice set out in Annex 5 of Part C of Appendix 4, Annex 5 and/or Annex 6 of Part C of Appendix 7, Annex 5, Annex 6, Annex 7 or Annex 8 of Part C of Appendix 8, to this Schedule Part 31 as applicable to the works shall be given to the Board (except in an emergency (which for the purposes of this paragraph shall include any circumstances which give or may give rise to the occurrence of a Service Event) where Project Co shall provide as much prior notice as is reasonably practicable in the circumstances);
- 1.1.3 the minimum practicable disruption to the use and occupation of the Retained Site and/or Retained Estate shall be caused; and
- 1.1.4 Project Co shall and shall procure that all Project Co Parties (1) shall not damage the Retained Site and/or Retained Estate or any part of them and any plant, machinery and equipment and/or other assets at them and (2) shall make good any damage to the Retained Site and/or Retained Estate or any part of them and any plant, machinery and equipment and/or other assets at them resulting from the exercise of the rights to the Board's satisfaction unless, at the Board's option it is agreed that any Campus Party shall make good any such damage. In the event of damage being caused to the Retained Site and/or Retained Estate or any part of them and any plant, machinery and equipment and/or other assets by Project Co and/or any Project Co Party in the exercise of the rights under this paragraph 1 Project Co will immediately notify the Board. In the event Project Co fails or fails to procure any such damage is made good as soon as reasonably practicable having regard to the nature of the damage using best endeavours to mitigate the effects of any such damage then any Campus Party shall be entitled to make good any such damage.
- 1.1.5 Project Co shall and shall procure that all Project Co Parties shall comply with and permit access to the Retained Site and/or Retained Estate or any part of them and any plant, machinery and equipment and/or other assets at them in accordance with Clause 9 (*Nature of Land Interests*) including without limitation Section 2 (*Reserved Rights*) of Schedule Part 5 (*Land Matters*) of this Agreement; and
- 1.1.6 Project Co shall be liable and the provisions of Clause 49.1 (*Project Co Indemnities to Board*) of this Agreement shall apply for the consequences of failing to comply with

and/or any breach of and/or any negligent act in complying with the requirements in this paragraph 1 of this Section 2 (*Operational Construction Issues*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31 and/or the losses which may be suffered or incurred by any Campus Party as a result of any act or omission of Project Co and/or a Project Co Party exercising any of the rights and/or performing any of its obligations and/or failing to do so including without limitation costs of rectification as a consequence of any damage to the Retained Site and/or Retained Estate or any part of them and/or any plant, machinery and equipment and/or other assets at them.

## **2. Service Strip and Foul Service Strip**

- 2.1 Without limiting the terms of paragraph 1 (*Access to RIE Site and RIE Facilities*), during the Operational Term Project Co shall repair, maintain, replace and renew service media serving the Facilities located within the Service Strip or the Foul Service Strip subject to the terms of Section 6 (*Service Strip and Foul Service Strip*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31 and the Initial Drainage Proposal, the Supplemental Drainage Proposal, the Service Proposal, the Access Strategy and where applicable any Amended Service Proposal and/or Access Strategy and/or Amended Supplemental Drainage Proposal agreed or determined pursuant to Section 2 (*Access Areas and Amended Supplemental Drainage Proposal*) and/or Section 3 (*Amended Service Proposal*) of Part 2 (*Interface Proposals Procedure*) of this Schedule Part 31.

## **3. PTS, ICT, Joint and Fire Alarm System**

- 3.1 Without limiting the terms of paragraph 1 (*Access to RIE Site and RIE Facilities*), during the Operational Term Project Co shall repair, maintain, replace and renew the interface links between the Fire Alarm System, PTS and ICT and the Joint to be installed pursuant to the Board's Construction Requirements and Section 7 (*Link Building*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31, subject to and in accordance with Section 7 (*Link Building*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31 and the Interface Output Specification and the Connection Proposal.

## **4. Not Used**



## Section 3

## Site Compound/Car Park E

1. During the Construction Phase Project Co shall be entitled to occupy Car Park E and where necessary hoard off and segregate Car Park E or the relevant part thereof being occupied from the remainder of the Campus Site subject to the following conditions:
  - 1.1 Project Co shall be obliged to give the Board at least twenty five (25) Business Days prior written notice in the form of notice set out in Annex 1 of Appendix 9 of this Schedule Part 31 of the intention to occupy Car Park E;
  - 1.2 prior to Project Co first taking occupation of Car Park E the condition of Car Park E shall be recorded in a Schedule of Condition to be prepared pursuant to paragraph 2 of Part 3 (*General Matters*) of this Schedule Part 31;
  - 1.3 Car Park E may be used by Project Co only for office accommodation, welfare accommodation and parking for staff and contractors (but not Commercial Vehicles) necessarily required for the Works. For the purposes of this paragraph, "**Commercial Vehicles**" means any vehicle which requires a HGV or PSV licence and/or any vehicle used for retail purpose. No construction materials may be stored on Car Park E except with the prior written agreement of the Board, such agreement not to be unreasonably withheld, provided the Board may withhold agreement unless the Board is satisfied any such construction materials are being stored properly, safely and securely and are adequately protected, and that such storage is compatible with the permitted use of Car Park E for office and welfare accommodation and parking for staff and contractors;
  - 1.4 Car Park E shall be kept in a neat and tidy condition at all times;
  - 1.5 Project Co shall and shall procure that all Project Co Parties (1) shall not damage Car Park E and/or the relevant part and/or any service media, buildings, structures and others erected thereon and any plant, machinery and equipment at Car Park E and (2) shall take all necessary measures to protect Car Park E and any service media, buildings, structures and others erected thereon and any plant, machinery and equipment at Car Park E. In the event of damage being caused to Car Park E and/or any service media, buildings, structures and/or others erected thereon and/or any plant, machinery and/or equipment by Project Co and/or any Project Co Party, Project Co will immediately notify the Board;
  - 1.6 Project Co shall and shall procure that all Project Co Parties shall reinstate any damage to Car Park E and/or the relevant part and/or any service media, buildings, structures and others erected thereon and any plant, machinery and equipment at Car Park E to the satisfaction of the Board in accordance with paragraph 3 (*Reinstatement of Damage*) of Part 3 (*General Matters*) and shall comply with the requirements in paragraphs 3 (*Reinstatement of Damage*) and 4 (*Repair of Defects*) of Section 3 (*General Matters*) of this Schedule Part 31;
  - 1.7 Project Co shall and shall procure that all Project Co Parties shall comply with and permit access to Car Park E and/or the relevant part and/or any service media, buildings, structures and others erected thereon and any plant, machinery and equipment at Car Park E in accordance with Clause 9 (*Nature of Land Interests*) including without limitation paragraph 12 of Section 2 (*Reserved Rights*) of Schedule Part 5 (*Land Matters*) of this Agreement and without prejudice to the foregoing generality shall ensure that the areas of Car Park E under which service media are located are not obstructed; and
  - 1.8 Project Co shall be liable and the provisions of Clause 49.1 (*Project Co Indemnities to Board*) of this Agreement shall apply for the consequences of failing to comply with and/or any breach of and/or any negligent act in complying with the requirements in this Section 3 (*Site Compound/Car Park E*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31 and/or the losses which may be suffered or incurred by any Campus Party as a result of any act or omission of Project Co and/or a Project Co Party exercising any of the rights and/or performing any of its obligations and/or failing to do so including without limitation costs of rectification as a consequence of any damage to

Car Park E and/or the relevant part and/or any service media, buildings, structures and others erected thereon and any plant, machinery and equipment at Car Park E.

## Section 4

### Oversail

- 1 Subject to the following provisions of this Section 4 of this Part 1 (*Construction Interface Issues and Interface Proposals*) of this Schedule Part 31, Project Co shall be permitted in connection with the Works to oversail parts of the Retained Site and/or Retained Estate with the jib and/or counterweight of any crane in accordance with the Oversail Strategy and, where applicable any Additional Oversail Strategy agreed or determined pursuant to Section 1 (*Oversail*) of Part 2 (*Interface Proposals Procedure*) of this Schedule Part 31.
  
- 2 Project Co shall and where applicable the Oversail Strategy and where applicable the Additional Oversail Strategy shall provide that Project Co shall:
  - 2.1 have due regard to the safeguarding of the health and safety of all persons on the Campus Site at all times and due regard to RIE Facilities as an operational hospital;
  
  - 2.2 obtain and comply with all Laws applicable to crane use and operation;
  
  - 2.3 ensure that no part of any crane or load carried by it shall be lower than three (3) metres above any part of any building and/or other structure erected on the Campus Site;
  
  - 2.4 engage only properly qualified employees to erect, operate and dismantle any crane or any part of any crane, and whenever reasonably requested in writing by the Board, Project Co shall provide copies of any appropriate test and/or competence certificate for any such persons;
  
  - 2.5 take all reasonable steps to ensure that the security of the Campus Site and/or Campus Facilities are not compromised by the existence of any crane and that all cranes are kept secure and that all reasonable steps are taken to prevent unauthorised access and/or vandalism to all cranes including removing ladders and other means of access thereto when any crane is not in use;
  
  - 2.6 ensure that all cranes are erected, used and dismantled in a good and workmanlike manner consistent with the Good Industry Practice;
  
  - 2.7 take all reasonable and practicable measures to minimise the inconvenience and disturbance to other occupiers of the Campus Site and/or Campus Facilities;
  
  - 2.8 use risk based criteria in assessing oversail operations over the Campus Site and/or Campus Facilities;
  
  - 2.9 ensure all proper safety precautions are taken and all safety and warning devices in, on or relating to any crane are visible and function properly at all times;
  
  - 2.10 ensure the jib of any tower crane shall freely caster through 360 degrees;
  
  - 2.11 ensure no crane loads shall be suspended above other parts of the Campus Facilities;
  
  - 2.12 ensure all cranes are kept in good working order and maintained in full compliance with the maintenance and operating instructions of the manufacturer and any requirements

of the supplier of the cranes and any Laws;

- 2.13 ensure no crane is used for any load that is unsuitable or larger or heavier than it is designed to carry;
  - 2.14 ensure all cranes are regularly inspected at reasonable intervals by an appropriately qualified engineer and that any reasonable recommendations made by the engineer to carry out any works or remedy any defects that are necessary to put and keep all cranes safe and in proper working order are carried out as soon as is practicable; and
  - 2.15 ensure that at such times as any crane is at the Site but is not in use it is left secure and is parked in accordance with the operating instructions and shall not be parked in a position oversailing any part of the Retained Site and/or Retained Estate unless required for health and safety reasons.
3. Where there is any dispute or disagreement about the Oversail Strategy and/or any Additional Oversail Strategy agreed or determined pursuant to Section 1 (*Oversail*) of Part 2 (*Interface Proposals Procedure*) of this Schedule Part 31, including the requirement for any change to the Oversail Strategy and/or Additional Oversail Strategy, then the disputed element of the Oversail Strategy and/or Additional Oversail Strategy and/or applicable oversailing activities shall not proceed pending agreement or determination or such dispute or disagreement.
  4. As at the Commencement Date, the Oversail Strategy shall be deemed to be agreed by the Board as satisfying the requirements of paragraph 2.3 of Section 4 of Part 1 of this Schedule Part 31 (*Consort interface with the Campus Site and/or Campus Facilities*), subject to any outstanding deliverables referred to in Part 5 of Section 5 (*Reviewable Design Data*) of Schedule Part 6 (*Construction Matters*) being submitted by Project Co to the Board pursuant to Schedule Part 8 (*Review Procedure*).

## Section 5

### Access Areas and Drainage

#### 1. Access Areas

- 1.1 On giving not less than twenty (20) Business Days prior written notice, in the forms of notices referred to in paragraphs 1.1.1 to 1.1.6 below, to the Board and subject to compliance with the following provisions of this Section 5 (*Access Areas and Drainage*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31, Project Co shall and shall procure Project Co Parties during the Construction Phase as part of the Works:
- 1.1.1 hoard off from the remainder of the Campus Site any part or parts of the Access Areas in connection with the carrying out of any works in terms of this paragraph 1 and in terms of Section 6 (*Service Strip and Foul Service Strip*) of this Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule, in the form of notice set out in Annex 1, and/or Annex 3 of Part B of Appendix 7 of this Schedule Part 31, and where applicable the Access Strategy; and/or
  - 1.1.2 carry out works to form pedestrian and vehicular accesses to and from the Site onto the Orange Area, in the form of notice set out in Annex 1 of Part B of Appendix 4 of Schedule Part 31; and/or
  - 1.1.3 carry out works to reconfigure the roads, footpaths and landscaped areas within the Hatched Orange Area, in the form of notice set out in Annex 2 of Part B of Appendix 4 of this Schedule Part 31; and/or
  - 1.1.4 carry out the Surface Water Drainage Works connections from the Site to the existing surface water drain within the Orange Area in the form of notice set out in Annex 1 of Part B of Appendix 5 of Schedule Part 31; and/or
  - 1.1.5 Not Used.
  - 1.1.6 carry out works to form the Cycle Path Works in the form of notice set out in Annex 3 of Part B of Appendix 4 of this Schedule Part 31.

#### 1.2 Access Strategy

- 1.2.1 Where the part or parts of the Access Areas to be occupied by Project Co include any part or parts of the Orange Area pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times (albeit that the access arrangements may require to be subject to restrictions or diversions during any periods of occupation such restrictions to be approved by the Board and Consort) and Project Co shall comply with and procure compliance by Project Co Parties with the Access Strategy which shall ensure:
- (a) the health and safety of all users of the Campus Site and Campus Facilities must be safeguarded at all times;
  - (b) regard is had to RIE Facilities as a working hospital to which appropriate pedestrian and vehicular access must be maintained at all times;
  - (c) pedestrian and vehicular access must be maintained (albeit, at times it may be restricted) over the section of Little France Crescent lying within the part of the Orange Area shown shaded orange (but not hatched black) on Plan 2; and
  - (d) traffic will be prioritised in accordance with the following hierarchy:
    - (i) blue light traffic access/egress;
    - (ii) staff, patients and visitors to the Campus Site and/or Campus Facilities (public

- transport);
- (iii) staff, patients and visitors to the Campus Site and/or Campus Facilities (car parking);
  - (iv) Campus Site and/or Campus Facilities deliveries, FM supplies and waste collection; and
  - (v) Project Co's construction traffic.

Subject to Clause 5.2.7 (*General Standards*), Project Co shall also implement and comply with and ensure Project Co Parties implement and comply with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities.

- 1.3 Notwithstanding the foregoing, at the Board's option on giving written notice to Project Co, Project Co shall be entitled to occupy the relevant parts or parts of the Access Areas subject to the following conditions:
- 1.3.1 Project Co shall give the Board not less than twenty (20) Business Days notice in the form of notice set out in Part B of Appendix 4 of this Schedule Part 31 of the date upon which Project Co intends to occupy the relevant part or parts of the Access Areas; and
  - 1.3.2 during any period when Project Co is occupying the relevant part or parts of the Access Areas Project Co shall be responsible for (i) the management of traffic across the Orange Area and shall have primary responsibility for the health and safety of all users of the Orange Area; and (ii) road traffic signage and pedestrian crossings within the Orange Area.

#### **1.4 Conditions of occupation and use of Access Areas**

- 1.4.1 On any part or parts of the Access Areas being occupied by Project Co pursuant to this Section 5 (*Access Areas and Drainage*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31 the affected part of the Access Areas shall be securely hoarded off by Project Co; and
- 1.4.2 Prior to any part or parts of the Access Areas being occupied by Project Co the condition of the Access Areas shall be recorded in a Schedule of Condition to be prepared pursuant to paragraph 2 (*Schedule of Condition*) of Part 3 (*General Matters*) of this Schedule Part 31; and
- 1.4.3 Project Co shall and shall procure that all Project Co Parties shall (1) not damage the Access Areas and/or any service media within and/or, buildings, structures and/or others erected thereon and/or any plant, machinery and/or equipment within the Access Areas and (2) take all necessary measures to protect the Access Areas and any service media within and, buildings, structures and others erected thereon and any plant, machinery and equipment within the Access Areas. In the event of damage being caused to the Access Areas, and/or any service media within and/or buildings, structures and/or others erected thereon and/or any plant, machinery and/or equipment by Project Co and/or any Project Co Party in the exercise of the rights over such parts of the Access Areas Project Co will immediately notify the Board; and
- 1.4.4 Project Co shall and shall procure that all Project Co Parties shall reinstate any damage caused to the Access Areas and/or any service media within and/or buildings, structures and/or others erected thereon and/or any plant, machinery and/or equipment to the satisfaction of the Board in accordance with paragraph 3 (*Reinstatement of Damage*) of Part 3 (*General Matters*) and shall comply with the requirements in paragraphs 3 (*Reinstatement of Damage*) and 4 (*Repair of Defects*) of Section 3 (*General Matters*) of this Schedule Part 31; and
- 1.4.5 Project Co shall and shall procure that all Project Co Parties shall comply with and permit access to the Access Areas and/or any service media within and/or buildings, structures and/or others erected thereon and/or any plant, machinery and/or equipment in accordance with Clause 9 (*Nature of Land Interests*) including without limitation paragraphs 3, 4 and 11 of Section 2 (*Reserved Rights*) of Schedule Part 5 (*Land Matters*) of this Agreement; and

- 1.4.6 Project Co shall be liable and the provisions of Clause 49.1 (*Project Co Indemnities to Board*) of this Agreement shall apply for the consequences of failing to comply with and/or any breach of and/or any negligent act in complying with the requirements in paragraph 1 of this Section 5 (*Access Areas and Drainage*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31 and/or the losses which may be suffered or incurred by any Campus Party as a result of any act or omission of Project Co and/or a Project Co Party exercising any of the rights and/or performing any of its obligations and/or failing to do so including without limitation costs of rectification as a consequence of any damage to the Access Areas and/or any service media within and/or buildings, structures and/or others erected thereon and/or any plant, machinery and/or equipment.
- 1.5 As at the Commencement Date, the Access Strategy shall be deemed to be agreed by the Board as satisfying the requirements of paragraph 1.2 of Section 5 of Part 1 of this Schedule Part 31 (*Consort interface with the Campus Site and/or Campus Facilities*), subject to any outstanding deliverables referred to in Part 5 of Section 5 (*Reviewable Design Data*) of Schedule Part 6 (*Construction Matters*) being submitted by Project Co to the Board pursuant to Schedule Part 8 (*Review Procedure*).

## 2. Drainage Proposals

- 2.1 In addition to the requirements of paragraph 1 of this Section 5 (*Access Areas and Drainage*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31, the following additional provisions will apply in respect of the installation of the Surface Water Drainage Works connections from the Site to the existing surface water drainage within the Orange Area:
- 2.1.1 the Surface Water Drainage Works shall conform to the Initial Drainage Proposal and the Supplemental Drainage Proposal which shall contain full details of the design, construction, programme and method statements sufficient to enable a full assessment of the proposed works and shall provide that the works will:
- (a) be safe to any personnel or equipment or any part of the Campus Site and/or Campus Facilities; and
  - (b) comply with Good Industry Practice and Law; and
  - (c) have the effect that the operational and/or structural performance of the Campus Site and/or Campus Facilities will be of an equivalent standard of performance compared with the standard of performance if the Supplemental Drainage Proposal were not implemented and/or that the functionality or design life of the Campus Site and/or Campus Facilities or any material part thereof and/or the Board's, Consort's and/or the University's and/or any other operations at the Campus Site and Campus Facilities are not materially adversely affected.
- 2.1.2 the Board and/or any Board Party and/or Consort and/or any Consort Party or any party on behalf of any of them shall be entitled to observe the works for the protection of existing service media serving the Campus Site and/or Campus Facilities within the relevant part of the Access Areas;
- 2.1.3 In advance of any such proposed works Project Co shall undertake a camera survey to document the condition of the existing surface water drainage system within the RIE Site. The camera survey will be carried out in accordance with Good Industry Practice and cover the full section of the RIE Site surface water drainage system that will serve the Site, from the point of the first connection from the Site to the drainage system to the point at which the drainage system discharges from the RIE Site to the Niddrie Burn. Four hard copies and an electronic version of the camera survey will be delivered to the Board and no works may be carried out until the said camera survey has been carried out and requisite copies delivered to the Board.
- 2.2 As at the Commencement Date, the Supplemental Drainage Proposal shall be deemed to be agreed by the Board as satisfying the requirements of paragraph 2 of Section 5 of Part 1 of this Schedule Part 31 (*Consort interface with the Campus Site and/or Campus Facilities*), subject to

any outstanding deliverables referred to in Part 5 of Section 5 (*Reviewable Design Data*) of Schedule Part 6 (*Construction Matters*) being submitted by Project Co to the Board pursuant to Schedule Part 8 (*Review Procedure*)

**3. Not Used.**

**4. Not Used.**

**5. Other General Matters**

5.1 Project Co shall notify the Board on completion of the works within the parts of the Access Areas referred to in paragraph 1. As soon as reasonably practicable following receipt of such notification:

5.1.1 the condition of the relevant parts of the Access Areas shall be recorded in a Schedule of Condition to be prepared pursuant to paragraph 2 (*Schedules of Condition*) of Part 3 (*General Matters*) of this Schedule Part 31; and

5.1.2 Project Co will repeat the camera survey to be carried out pursuant to paragraph 2.1.3 (*Drainage Proposals*) of this Section 5, to document the condition of the surface water drainage system following the installation of the new connections and four hard copies and an electronic version of the repeated camera survey will be delivered to the Board.



## Section 6

## Service Strip and Foul Service Strip

1. Project Co shall carry out any works to construct and lay and thereafter maintain, repair and renew service media pursuant to paragraph 2 (*Service Strip and Foul Service Strip*) of Section 2 (*Operational Construction Issues*) of this Part 1 of Schedule Part 31, through, under and over (1) the Service Strip for the passage of water, sewage, drainage or oil, gas, electricity, telephone (and other telecommunications), and (2) the Foul Service Strip for the passage of Foul Water Drainage, in each case as necessary in connection with the Works subject to the following conditions:
  - 1.1 Project Co shall exhibit to the Board the approval of Scottish Water or other relevant statutory authority and/or utility provider with jurisdiction in relation to the works to the connection of service media from the Site to the mains sewer located on the RIE Site;
  - 1.2 Project Co shall comply with and procure compliance by Project Co Parties with, as applicable the Access Strategy, the Initial Drainage Proposal, the Supplemental Drainage Proposal, the Service Proposal and/or any Access Strategy and/or Amended Service Proposal and/or Amended Supplemental Drainage Proposal agreed or determined pursuant to Part 2 (*Interface Proposals Procedure*) of this Schedule Part 31;
  - 1.3 save where the Service Proposal and/or any Amended Service Proposal and/or if applicable the Supplemental Drainage Proposal and/or any Amended Supplemental Drainage Proposal contains method statements for constructing and laying, maintaining, repairing and renewing such service media through, under and over the Service Strip or the Foul Service Strip (as applicable), Project Co shall provide detailed method statements a reasonable period, and in any event no fewer than twenty five (25) Business Days, in advance of the date for any proposed works to construct and lay, maintain, repair and renew such service media through, under and over the Service Strip or the Foul Service Strip (as applicable) to the Board, save that in an emergency (which for the purposes of this paragraph shall include any circumstances which give or may give rise to the occurrence of a Service Event) Project Co shall provide such method statements to the Board as soon as possible but not necessarily in advance and the Project Co shall notify the Board of such emergency as soon as possible;
  - 1.4 the Board and/or any Board Party and/or Consort and/or any Consort Party and/or any party on behalf of any of them shall be entitled to (a) make representations with regard to the conduct of any such proposed works to construct and lay, maintain, repair and renew such service media (to which representations given in advance of the relevant works commencing and communicated to Project Co, Project Co shall be obliged to and shall ensure Project Co Parties shall give due regard), (b) observe such works for the protection of existing service media within the Service Strip or the Foul Service Strip (as applicable) serving the Campus Site and/or Campus Facilities save in the event that the works are emergency works (which for the purposes of this paragraph shall include any circumstances which give or may give rise to the occurrence of a Service Event) and sufficient notification was not possible (in which circumstances the Board and/or any Board Party and/or Consort and/or any Consort Party and/or any person on behalf of any of them shall be permitted to view the Campus Site and/or Campus Facilities service media within the Service Strip or the Foul Service Strip (as applicable) following completion of such emergency works but before reinstatement of the ground);
  - 1.5 prior to Project Co commencing works to install service media within the Service Strip or Foul Service Strip (as applicable) the condition of the Service Strip or Foul Service Strip (as applicable) and any existing service media within them will be recorded in a Schedule of Condition to be prepared pursuant to paragraph 2 (*Schedules of Condition*) of Part 3 (*General Matters*) of this Schedule Part 31;
  - 1.6 Project Co shall and shall procure that all Project Co Parties shall not damage and shall take all necessary measures to protect the Service Strip or the Foul Service Strip (as applicable) and the existing service media within either of them. In the event of damage being caused to Service Strip or the Foul Service Strip (as applicable) and/or the

existing service media within either of them by Project Co and/or any Project Co Party, Project Co will immediately notify the Board;

- 1.7 Project Co shall and shall procure that all Project Co Parties shall reinstate any damage caused to the Service Strip or the Foul Service Strip (as applicable) and/or the existing service media within either of them to the satisfaction of the Board in accordance with paragraph 3 (*Reinstatement of Damage*) of Part 3 (*General Matters*) and shall comply with the requirements in paragraphs 3 (*Reinstatement of Damage*) and 4 (*Repair of Defects*) of Section 3 (*General Matters*) of this Schedule Part 31;
  - 1.8 Project Co shall and shall procure that all Project Co Parties shall comply with and permit access to the Service Strip or the Foul Service Strip (as applicable) and/or the existing service media within either of them in accordance with Clause 9 (*Nature of Land Interests*) and including without limitation paragraphs 1 to 4 and 11 of Section 2 (*Reserved Rights*) of Schedule Part 5 (*Land Matters*) of this Agreement; and
  - 1.9 Project Co shall be liable and the provisions of Clause 49.1 (*Project Co Indemnities to Board*) of this Agreement shall apply for the consequences of failing to comply with and/or any breach of and/or any negligent act in complying with the requirements in this paragraph 1 of this Section 6 (*Service Strip and Foul Service Strip*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31 and/or the losses which may be suffered or incurred by any Campus Party as a result of any act or omission of Project Co and/or a Project Co Party exercising any of the rights and/or performing any of its obligations and/or failing to do so including without limitation costs of rectification as a consequence of any damage to the Service Strip or the Foul Service Strip (as applicable) and/or the existing service media within either of them.
2. Where the works to be carried out by Project Co pursuant to paragraph 1 involve the repair, maintenance or renewal of service media previously installed by Project Co within the Service Strip or the Foul Service Strip (as applicable) pursuant to paragraph 2 (*Service Strip and Foul Service Strip*) of Section 2 (*Operational Construction Issues*) of this Part 1 of Schedule Part 31 and serving the Site rather than the initial installation of the service media the following provisions shall apply:
- 2.1 except in the case of emergency works (which for the purposes of this paragraph shall include any circumstances which give or may give rise to the occurrence of a Service Event) of repair, maintenance or renewal, the condition of the Service Strip or Foul Service Strip (as applicable) will be recorded in a Schedule of Condition to be prepared pursuant to paragraph 2 (*Schedules of Condition*) of Part 3 (*General Matters*) of this Schedule Part 31;
  - 2.2 the works shall be carried out in such a manner as shall cause the minimum practicable disruption to the use and occupation of the relevant area and completed as soon as reasonably practicable;
  - 2.3 on completion of the works Project Co shall and shall procure Project Co Parties shall reinstate the relevant area and any buildings, structures and others erected thereon and any plant, machinery and equipment to no worse condition than that which existed prior to Project Co taking occupation of the relevant area to carry out the works evidenced by the Schedule of Condition referred to at paragraph 2.1 and that as soon as practicable, and in the event Project Co fails or fails to procure any such reinstatement is effected as soon as reasonably practicable then the Board and/or any Board Party and/or Consort and/or any Consort Party and/or any party on behalf of any of them shall be entitled to effect such reinstatement at Project Co's cost;
  - 2.4 Project Co shall be obliged to give the Board notice of completion of the works in the form of notice set out in Annex 8 and/or Annex 9 of Part B of Appendix 10 of this Schedule Part 31 as applicable and the reinstatement works forthwith on the works being completed and the relevant area being vacated by Project Co; and
  - 2.5 Project Co shall be liable and the provisions of Clause 49.1 (*Project Co Indemnities to Board*) of this Agreement shall apply for the consequences of failing to comply with and/or any breach of and/or any negligent act in complying with the requirements in this

paragraph 2 of this Section 6 (*Service Strip and Foul Service Strip*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31 and/or the losses which may be suffered or incurred by any Campus Party a result of any act or omission of Project Co and/or a Project Co Party exercising any of the rights and/or performing any of its obligations and/or failing to do so including without limitation costs of reinstatement of the Service Strip or the Foul Service Strip (as applicable) and/or the existing service media within either of them.

3. As at the Commencement Date, the Service Proposal shall be deemed to be agreed by the Board as satisfying the requirements of paragraph 1 of Section 6 of Part 1 of this Schedule Part 31 (*Consort interface with the Campus Site and/or Campus Facilities*), subject to any outstanding deliverables referred to in Part 5 of Section 5 (*Reviewable Design Data*) of Schedule Part 6 (*Construction Matters*) being submitted by Project Co to the Board pursuant to Schedule Part 8 (*Review Procedure*).

## Section 7

### Link Building

1. Project Co shall, as part of the Works, form a Joint connection between the Facilities and the Link Building, install and commission and thereafter maintain, repair, replace and renew interface links between the Fire Alarm System within the Facilities with those within the RIE Facilities and install and commission and thereafter maintain, repair, replace and renew the PTS and ICT and the Joint.
2. The Board requires to be satisfied with regard to design and the methodology for the Works described in paragraph 1.
- 2A Prior to commencing the Works described in paragraph 1, Project Co shall notify the Board not less than ten (10) Business Days of the date upon which Project Co intends to access the relevant part of the RIE Site and/or RIE Facilities to carry out such Works as follows:
  - 2A.1 in the form of notice set out in Annex 1 of Part B of Appendix 8 of this Schedule Part 31 in respect of the ICT;
  - 2A.2 in the form of notice set out in Annex 2 of Part B of Appendix 8 of this Schedule Part 31 in respect of the PTS;
  - 2A.3 in the form of notice set out in Annex 3 of Part B of Appendix 8 of this Schedule Part 31 in respect of the Joint; and/or
  - 2A.4 in the form of notice set out in Annex 4 of Part B of Appendix 8 of this Schedule Part 31 in respect of the Fire Alarm System.
3. Project Co shall comply with and procure compliance by Project Co Parties with the Interface Output Specification. The Connection Proposal shall be prepared by Project Co and shall set out the following specific connection information in relation to the Works described in paragraph 1:
  - 3.1 Joint: (i) Design and commissioning package for method of connection of the Facilities to the Link Building; (ii) a proposal/construction method statement in respect of the Joint connection between the Facilities and the Link Building; and (iii) a Method Statement for the maintenance, repair, renewal and replacement of the Joint connection between the Facilities and the Link Building;
  - 3.2 Fire Alarm System: (i) The Fire Alarm System specification for the interface link between the Fire Alarm System within the Facilities and the RIE Facilities; (ii) design and commissioning package information for method of installation for the interface link between the Fire Alarm System within the Facilities and the RIE Facilities; (iii) a proposal for the interface link between the Fire Alarm System within the Facilities and the RIE Facilities; and (iv) a Method Statement for the maintenance, repair, renewal and replacement of the interface link between the Fire Alarm System within the Facilities and the RIE Facilities;
  - 3.3 Not Used;
  - 3.4 PTS: (i) The PTS specifications for the Facilities and the RIE Facilities; (ii) design and commissioning package information for the proposed method of installation of the PTS within the Facilities and the RIE Facilities; (iii) a proposal for the installation of the PTS within the Facilities and RIE Facilities; and (iv) a Method Statement for the maintenance, repair, renewal and replacement of the PTS within the Facilities and RIE Facilities;
  - 3.5 ICT: (i) The ICT specifications for the Facilities and the RIE Facilities; (ii) design and commissioning package information for the proposed method of installation of the ICT within the Facilities and the RIE Facilities; (iii) proposal for the installation of the ICT within the Facilities and RIE Facilities; and (iv) a Method Statement for the maintenance and repair of the ICT within the Facilities and RIE Facilities

4. Project Co shall also comply with and procure compliance by Project Co Parties with the Connection Proposal and in a manner which means the works and the manner in which they are carried out are safe to any personnel or equipment or any part of the Campus Site and/or Campus Facilities, comply with Good Industry Practice and Law and do not affect the operational and/or structural performance of the RIE Facilities nor the functionality or design life of the RIE Facilities or otherwise materially adversely affect any material part thereof, and shall not damage and shall take all necessary measures to protect the Campus Site and/or Campus Facilities in which the works described in paragraph 1 are being carried out.
5. Project Co shall and shall procure that all Project Co Parties shall comply with and permit access to any areas affected by the works described in this Section 7 (*Link Building*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31 in accordance with Clause 9 (*Nature of Land Interests*) including without limitation Section 2 (*Reserved Rights*) of Schedule Part 5 (*Land Matters*) of this Agreement.
6. Project Co shall be liable and the provisions of Clause 49.1 (*Project Co Indemnities to Board*) of this Agreement shall apply for the consequences of failing to comply with and/or any breach of and/or any negligent act in complying with the requirements in this Section 7 (*Link Building*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31 and/or the losses which may be suffered or incurred by any Campus Party as a result of any act or omission of Project Co and/or a Project Co Party exercising any of the rights and/or performing any of its obligations and/or failing to do so including without limitation costs of rectification as a consequence of any damage to the Campus Site and/or Campus Facilities.
7. As at the Commencement Date, the Connection Proposal shall be deemed to be agreed by the Board as satisfying the requirements of paragraph 3 of Section 7 of Part 1 of this Schedule Part 31 (*Consort interface with the Campus Site and/or Campus Facilities*), subject to any outstanding deliverables referred to in Part 5 of Section 5 (*Reviewable Design Data*) of Schedule Part 6 (*Construction Matters*) being submitted by Project Co to the Board pursuant to Schedule Part 8 (*Review Procedure*).

## Part 2

### Interface Proposals Procedure

#### General

Notwithstanding any other provision of this, including without limitation any provisions regarding Change, the provisions of this Part 2 (*Interface Proposals Procedure*) of this Schedule Part 31 shall prevail in respect of the matters to which it relates.

#### Section 1

#### Oversail

- 1 In the event the Oversail Strategy requires to be amended and/or Project Co requires to oversail in a manner and/or for a period and/or for a purpose not in the Oversail Strategy then Project Co shall prepare and issue to the Board as far in advance as possible of (but in any event not later than ten (10) Business Days prior to) any proposed oversailing (such notice period to apply to each individual period of oversailing and/or for every crane which will oversail (as applicable)), a notice in the form of notice set out in Annex 1 of Part B and/or Part C of Appendix 3 of this Schedule Part 31 as applicable together with an oversailing strategy (or, as the case may be, strategies) which shall include (as a minimum) a programme of proposed oversailing activities, risk assessments and method statements for the erection, operation and dismantling of any crane(s) intended to oversail ("**the Additional Oversail Strategy**").
- 2 In the preparation of the Additional Oversail Strategy Project Co shall:
  - 2.1 have due regard to the safeguarding of the health and safety of all persons on the Campus Site and/or Campus Facilities at all times; and
  - 2.2 have due regard to RIE Facilities as an operational hospital; and
  - 2.3 meet all of the requirements detailed in paragraph 2 of Section 4 (*Oversail*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31.
3. Not later than fifteen (15) Business Days of receipt of the Additional Oversail Strategy from Project Co pursuant to paragraph 1 the Board shall provide Consort with a copy of the Additional Oversail Strategy.
4. The Board shall use reasonable endeavours to procure that Consort have been provided with a copy of the Additional Oversail Strategy pursuant to paragraph 3 to:
  - 4.1 review the Additional Oversail Strategy and consider the impact (if any) of the proposed oversailing activities on Consort's and/or Consort Party, the University's and/or any University Party's and/or the Board's and/or others operations at the Campus Site and/or Campus Facilities;
  - 4.2 consider any measures that require to be taken within the Campus Site and/or the Campus Facilities in the interests of health and safety during periods of oversailing; and
  - 4.3 consider any amendment(s) to the Additional Oversail Strategy which are necessary in order to address the requirements set out in paragraph 2.

Project Co shall also implement and comply with any other measures and operations reasonably requested by the Board for the proper implementation of the Additional Oversail Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities including addressing any objections to and/or suggest changes to the Additional Oversail Strategy if the Board and/or Consort and/or the University considers that the Additional Oversail Strategy does not meet the requirements of paragraph 2.

5. If requested by the Board, Project Co shall attend any meeting and/or provide such information as the Board may reasonably request in support of the Additional Oversail Strategy. The Board

shall take account of and put forward to Consort and/or the University, if applicable representations made by Project Co in support of the Additional Oversail Strategy which the Board acting reasonably consider are proper and reasonable.

6. If the Board notifies Project Co that the Additional Oversail Strategy has been approved then Project Co shall be entitled to commence oversailing activities in accordance with the approved Additional Oversail Strategy.
7. If the Board notifies Project Co of objections and/or suggested changes to the Additional Oversail Strategy then Project Co shall consider those objections and/or suggested changes and within ten (10) Business Days of the date of notification by the Board and shall provide the Board with a written response confirming:
  - 7.1 whether Project Co considers that the objections are valid (and if not, providing reasons); and/or
  - 7.2 whether the suggested changes (if any) are accepted (and if not accepted, providing reasons).
8. If pursuant to paragraph 7 Project Co:
  - 8.1 notifies the Board that Project Co does not accept the objections and/or suggested changes to the Additional Oversail Strategy and gives reasons which show that the Additional Oversail Strategy does comply with paragraph 2; and/or
  - 8.2 suggests a counter proposal to the proposed objections and/or suggested changes,

then the Board shall issue a copy of Project Co's response to Consort and/or Consort Party and shall use reasonable endeavours to procure a meeting as soon as reasonably practicable thereafter to review Project Co's objection or counter proposal.
9. As soon as reasonably practicable following the meeting held pursuant to paragraph 8 the Board shall notify Project Co either:
  - 9.1 that the Additional Oversail Strategy has been approved; or
  - 9.2 of any objections and/or suggested changes to the Additional Oversail Strategy put forward at the meeting.
10. If the Board notifies Project Co pursuant to paragraph 9 of objections and/or suggested changes to the Additional Oversail Strategy then Project Co shall consider those objections and/or suggested changes and within ten (10) Business Days of the date of notification by the Board shall provide the Board with a written response confirming whether Project Co considers the objections to be valid (and if not, providing reasons) and/or whether the suggested changes (if any) are acceptable (and if not accepted, providing reasons).
11. If pursuant to paragraph 10 Project Co notifies the Board that it does not consider the objections to be valid and/or does not accept the suggested changes and where the objections and/or suggested changes are from Consort and/or Consort Party then the Board shall if requested by Project Co refer the matters in dispute to an official of Consort and/or Consort Party (nominated from time to time for the resolution of disputes, failing which, the Chief Executive of Consort) and an official of the Board (nominated from time to time for the resolution of disputes, failing which, the Chief Executive of the Board), and the Board shall reasonably endeavour and shall use reasonable endeavours to procure the official or Chief Executive of Consort use its reasonable endeavours to negotiate (in good faith) to resolve the dispute. Failing agreement being reached between the officials of Consort and the Board, if requested by Project Co, the Board shall call for the matters in dispute to be referred to the Independent Expert who will act as an expert and will accept as a condition of his appointment that he shall give a decision within five (5) Business Days of his appointment. Before nominating a person to act as Independent Expert or agreeing to the nomination by Consort, the Board shall take account of any reasonable representations made by Project Co with regard to the identity of the proposed Independent Expert. In referring matters to the Independent Expert, the Board shall give due regard to any written representations received from Project Co which the Board acting

reasonably consider are proper and reasonable and shall keep Project Co advised as to all communications to and from the Independent Expert and Project Co agrees to be bound by the decision of the Independent Expert. In the event that the Independent Expert decides wholly or partly in favour of Consort, Project Co shall meet any award as to the costs of and associated with the referral proceedings including without limitation the costs of the Independent Expert, Consort, the Board and any other party involved in the referral.

12. Until agreement has been reached or a dispute has been determined on the terms of the Additional Oversail Strategy, including the requirement for any change to the Additional Oversail Strategy, then the disputed element of the Additional Oversail Strategy and/or applicable oversailing activities shall not proceed pending such agreement or determination.



## Section 2

### Access Areas and Amended Supplemental Drainage Proposal

#### Access Strategy

- 1.1 Where the part or parts of the Access Areas to be occupied by Project Co include any part or parts of the Orange Area pedestrian and vehicular access to Campus must be maintained at all times (albeit that the access arrangements may require to be subject to restrictions or diversions during any periods of occupation such restrictions to be approved by the Board and Consort and the University) and where there is no Access Strategy or the Access Strategy does not apply to the access arrangements being sought at the particular time then Project Co shall prepare a strategy ("**the Access Strategy**") for the continued access and egress of pedestrians and vehicles to and from the Campus Site and/or Campus Facilities during any such period of occupation and Project Co shall send the Access Strategy together with a notice to the Board in the form of notice set out in Annex 4 of Part B of Appendix 4 of this Schedule Part 31 detailing the required occupation at least ten (10) Business Days in advance of the intention to occupy.
- 1.2 Project Co shall prepare the Access Strategy which shall ensure:
  - 1.2.1 the health and safety of all users of the Campus Site and/or Campus Facilities must be safeguarded at all times;
  - 1.2.2 regard is had to RIE Facilities as a working hospital to which appropriate pedestrian and vehicular access must be maintained at all times;
  - 1.2.3 pedestrian and vehicular access must be maintained (albeit, at times it may be restricted) over the section of Little France Crescent lying within the part of the Orange Area shown shaded orange (but not hatched black) on Plan 2; and
  - 1.2.4 traffic will be prioritised in accordance with the following hierarchy:
    - (a) blue light traffic access/egress;
    - (b) staff, patients and visitors to the Campus Site and/or Campus Facilities (public transport);
    - (c) staff, patients and visitors to the Campus Site and/or Campus Facilities (car parking);
    - (d) Campus Site and/or Campus Facilities deliveries, FM supplies and waste collection; and
    - (e) Project Co's construction traffic.
- 1.3 When serving notice on the Board pursuant to paragraph 1 Project Co shall provide the Board with a copy of the Access Strategy. Not later than five (5) Business Days of receipt of the notice and Access Strategy from Project Co the Board shall provide Consort with a copy of the Access Strategy. The Board shall use reasonable endeavours to procure a meeting not later than ten (10) Business Days of the date upon which the Board has provided Consort with a copy of the Access Strategy to:
  - 1.3.1 review the Access Strategy and consider whether it will ensure sufficient and appropriate continued pedestrian and vehicular access to the Campus Site and/or Campus Facilities and parts of the Retained Site and/or Retained Estate during the period of occupation; and
  - 1.3.2 consider the impact of the Access Strategy on operations at the Campus Site and/or Campus Facilities and to agree appropriate measures for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities;

- 1.4 The Board shall intimate to Project Co the measures agreed at the meeting referred to in paragraph 1.3 and Project Co shall, in occupying the relevant part or parts of the Access Areas, be obliged to comply with those measures.
- 1.5 In the event that at the meeting referred to in paragraph 1.3 the Board and/or others are unable to agree the measures to be taken pursuant to paragraph 1.3 by the date eight (8) weeks after the Access Strategy was provided to the Board pursuant to paragraph 1.3 then Project Co shall be entitled to occupy the relevant parts or parts of the Access Areas subject to the following conditions: -
- 1.5.1 Project Co shall give the Board not less than twenty (20) Business Days notice in the form of notice set out in Annex 4 of Part B of Appendix 4 of this Schedule Part 31 of the date upon which Project Co intends to occupy the relevant part or parts of the Access Areas; and
- 1.5.2 during any period when Project Co is occupying the relevant part or parts of the Access Areas Project Co shall be responsible for (i) the management of traffic across the Orange Area and shall have primary responsibility for the health and safety of all users of the Orange Area; and (ii) road traffic signage and pedestrian crossings within the Orange Area; and
- 1.5.3 prior to Project Co first taking construction access over the Orange Area the condition of the Orange Area shall be recorded in a Schedule of Condition to be prepared pursuant to paragraph 2 of Part 3 (*General Matters*) of this Schedule Part 31; and
- 1.5.4 Project Co shall and shall procure that all Project Co Parties shall not damage and shall take all necessary measures to protect the Orange Area, and any service media, buildings, structures and others erected thereon and any plant, machinery and equipment within the Orange Area. In the event of damage being caused to the Orange Area, and/or any service media, buildings, structures and/or others erected thereon and/or any plant, machinery and/or equipment by Project Co and/or any Project Co Party, Project Co will immediately notify the Board; and
- 1.5.5 Project Co shall and shall procure that all Project Co Parties reinstate any damage caused to the Orange Area to the satisfaction of the Board in accordance with paragraph 3 (*Reinstatement of Damage*) of Part 3 of (*General Matters*) and shall comply with the requirements in paragraphs 3 (*Reinstatement of Damage*) and 4 (*Repair of Defects*) of Section 3 (*General Matters*) of this Schedule Part 31; and
- 1.5.6 Project Co shall and shall procure that all Project Co Parties shall comply with and permit access to the Orange Area in accordance with Clause 9 (*Nature of Land Interests*) including without limitation paragraph 11 of Section 2 (*Reserved Rights*) of Schedule Part 5 (*Land Matters*) of this Agreement; and
- 1.5.7 Project Co shall be liable and the provisions of Clause 49.1 (*Project Co Indemnities to Board*) of this Agreement shall apply for the consequences of failing to comply with and/or any breach of and/or any negligent act in complying with the requirements in this paragraph 1 of Section 2 (*Access Areas and Amended Supplemental Drainage Proposal*) of Part 2 (*Interface Proposals Procedure*) of this Schedule Part 31 and/or the losses which may be suffered or incurred by any Campus Party as a result of any act or omission of Project Co and/or a Project Co Party exercising any of the rights and/or performing any of its obligations and/or failing to do so including without limitation costs of rectification as a consequence of any damage to the Orange Area, and/or any service media, buildings, structures and others erected thereon and any plant, machinery and equipment within the Orange Area.

### **Drainage Proposals**

2. In the event the route, depth, size or condition of any existing service media within the Orange Area is found to be different from the Supplemental Drainage Proposal with the result that the Supplemental Drainage Proposal cannot be implemented and requires to be amended then:

- 2.1 Project Co shall provide written notice to the Board in the form of notice set out in Annex 2 of Part B of Appendix 5 of this Schedule Part 31 together with information outlining the details of the issue with the existing service media and providing an amended Supplemental Drainage Proposal (the "**Amended Supplemental Drainage Proposal**") with such additional detail, information and drawings in relation to Amended Supplemental Drainage Proposal as are available. The Board shall deliver a copy of the Amended Supplemental Drainage Proposal to Consort not later than two (2) Business Days of receipt of the Amended Supplemental Drainage Proposal from Project Co;
- 2.2 not later than seven (7) Business Days of the date upon which notice has been given to the Board pursuant to paragraph 2.1, Project Co and the Board shall, and the Board shall use reasonable endeavours to procure that Consort (or the respective representatives thereof) shall meet on site to review the Amended Supplemental Drainage Proposal, inspect the existing service media and, Project Co and the Board, shall use all reasonable endeavours and the Board shall use reasonable endeavours to procure that Consort shall use all reasonable endeavours (acting in good faith) to provisionally agree the Amended Supplemental Drainage Proposal and any variations thereto which will allow the drainage installation(s) to proceed;
- 2.3 not later than five (5) Business Days following the meeting held pursuant to paragraph 2.2 Project Co and the Board shall and the Board shall use reasonable endeavours to procure Consort shall further review the detail of the Amended Supplemental Drainage Proposal proposed at the meeting, with a view to reaching agreement on a final Amended Supplemental Drainage Proposal including updated plans and/or specifications for the drainage installations; and
- 2.4 in the event that the Board have not intimated to Project Co that the Amended Supplemental Drainage Proposal has been agreed by the Board and Consort by the date seven (7) Business Days after the date of the meeting held pursuant to paragraph 2.3 then the Board shall, where the Amended Supplemental Drainage Proposal is not agreed by Consort if requested to do so by Project Co, refer the determination of the Amended Supplemental Drainage Proposal to the Independent Expert (who in this case, in the event of a failure by the Board and Consort to agree on the proposed expert, shall be nominated by the Institution of Engineering and Technology, Institution of Mechanical Engineers or the Chartered Institution of Building Services Engineers, as appropriate). The Independent Expert shall act as an expert and will accept as a condition of his appointment that he shall give a decision within five (5) Business Days of his appointment. The Independent Expert shall require to determine the amendments that should be made to the Drainage Proposal to enable the drainage installations to proceed within the Orange Area while taking into account the need to protect the existing service media within the Orange Area serving the RIE Site and/or RIE Facilities and the requirement for the Board and/or any Board Party and/or Consort and/or any Consort Party to access such service media in order to comply with its maintenance obligations. Before nominating a person to act as Independent Expert or agreeing to the nomination by Consort the Board shall take account of any reasonable representations made by Project Co with regard to the identity of the proposed Independent Expert. In referring matters to the Independent Expert the Board shall give due regard to any written representations received from Project Co which the Board acting reasonably consider are proper and reasonable and shall keep Project Co advised as to all communications to and from the Independent Expert. The decision of the Independent Expert shall be final and binding on the Board, Project Co and Consort. In the event that the Independent Expert decides wholly or partly in favour of Consort, Project Co shall meet any award as to the costs of and associated with the referral proceedings including without limitation the costs of the Independent Expert, Consort, the Board and any other party involved in the referral.
- 2.5 Project Co shall and shall procure that Project Co Parties shall comply with and the provisions of paragraphs 1 and 2 and 5 of Section 5 (*Access Areas and Drainage*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31 shall apply in respect of any matters carried out pursuant to the Amended Supplemental Drainage Proposal agreed or determined pursuant to paragraph 2 of

this Section 2 (*Access Areas and Amended Supplemental Drainage Proposal*) of Part 2 (*Interface Proposals Procedure*) of this Schedule Part 31.

### Section 3

#### Amended Service Proposal (Service Strip and Foul Service Strip)

1. In the event that the route, depth, size or condition of any existing service media within the Service Strip or the Foul Service Strip (as applicable) is found to be different from the Service Proposal, with the result that the Service Proposal cannot be implemented and requires to be amended then:
  - 1.1 Project Co shall provide written notice to the Board in the form of notice set out in Annex 2 and/or Annex 4 of Part B of Appendix 7 of this Schedule Part 31 as applicable of how the Service Proposal cannot be implemented and the changes required together with details outlining the issue with the existing service media and providing an amended Service Proposal (the "**Amended Service Proposal**") with such additional detail, information and drawings in relation to Amended Service Proposal. The Board shall deliver a copy of the Amended Service Proposal to Consort;
  - 1.2 not later than seven (7) Business Days following the date upon which notice has been given to the Board pursuant to paragraph 1.1 Project Co and the Board shall and the Board shall use reasonable endeavours to procure that Consort (or the respective representatives thereof) shall meet on site to review the Amended Service Proposal and inspect the existing service media, and the Board and Project Co shall use all reasonable endeavours, and the Board shall use reasonable endeavours to procure that Consort use all reasonable endeavours (acting in good faith) to provisionally agree the Amended Service Proposal and any variations thereto which will allow the service installation(s) to proceed;
  - 1.3 not later than five (5) Business Days following the meeting held pursuant to paragraph 1.2 Project Co and the Board, and the Board shall use reasonable endeavours to procure that Consort shall further review the detail of the Amended Service Proposal proposed at the meeting, with a view to reaching agreement on a final Amended Service Proposal including updated plans and/or specifications for the service installations; and
  - 1.4 in the event that the Board has not intimated to Project Co that the Amended Service Proposal has not been agreed by the Board and Consort by the date seven (7) Business Days after the date of the meeting held pursuant to paragraph 1.2 then the Board shall, where not agreed by Consort and if requested to do by Project Co, refer the determination of the Amended Service Proposal to the Independent Expert (who in this case, in the event of a failure by the Board and Consort to agree on the proposed expert, shall be nominated by the Institution of Engineering and Technology, Institution of Mechanical Engineers or the Chartered Institution of Building Services Engineers, as appropriate). The Independent Expert shall act as an expert and will accept as a condition of his appointment that he shall give a decision within five (5) Business Days of his appointment. The Independent Expert shall require to determine the amendments that should be made to the Amended Service Proposal to enable the service installations to proceed within the Service Strip or the Foul Service Strip (as applicable) while taking into account the need to protect the existing service media within the Service Strip or the Foul Service Strip (as applicable) serving the Campus Site and/or Campus Facilities and the requirement for the Board and/or any Board Party and/or Consort and/or any Consort Party to access such service media in order to comply with its maintenance obligations. Before nominating a person to act as Independent Expert or agreeing to the nomination by Consort the Board shall take account of any reasonable representations made by Project Co with regard to the identity of the proposed Independent Expert. In referring matters to the Independent Expert the Board shall give due regard to any written representations received from Project Co which the Board acting reasonably consider are proper and reasonable and shall keep Project Co advised as to all communications to and from the Independent Expert. The decision of the Independent Expert shall be final and binding on the Board, Project Co and Consort. In the event that the Independent Expert decides wholly or

partly in favour of Consort, Project Co shall meet any award as to the costs of and associated with the referral proceedings including without limitation the costs of the Independent Expert, Consort, the Board and any other party involved in the referral; and

- 1.5 Project Co shall and shall procure that Project Co Parties shall comply with and the provisions of paragraphs 1 and 2 and 5 of Section 5 (*Access Areas and Drainage*) and with Section 6 (*Service Strip and Foul Service Strip*) of Part 1 (*Interface Construction Issues and Interface Proposals*) of this Schedule Part 31 shall apply in respect of any matters carried out pursuant to the Amended Service Proposal agreed or determined pursuant to this Section 3.

### Part 3

#### General Matters

#### 1. Interface Proposals

- 1.1 Project Co shall comply with and implement the Works and where applicable provide the Services in accordance with all of the Interface Proposals.
- 1.2 Wherever in this Schedule Part 31 Project Co has an obligation to perform or comply with any matter, Project Co shall procure that Project Co Parties shall perform or comply with any such matter.
- 1.3 Not Used.
- 1.4 Whenever Project Co has given a notice pursuant to any of the following provisions of this Schedule Part 31, namely:
- 1.4.1 paragraphs 1.2, 2.1 and/or 2.4 of Section 1 (*Construction Access*) of Part 1;
  - 1.4.2 paragraph 1.1.2 of Section 2 (*Operational Construction Access*) of Part 1;
  - 1.4.3 paragraph 1.1 of Section 3 (*Site Compound/Car Park E*) of Part 1;
  - 1.4.4 paragraphs 1.1, 1.3.1 and/or 4.1.1 of Section 5 (*Access Areas and Drainage*) of Part 1;
  - 1.4.5 paragraph 1 of Section 1 (*Oversail*) of Part 2;
  - 1.4.6 paragraphs 1.1, 1.5.1 and/or 2.1 of Section 2 (*Access Areas and Amended Supplemental Drainage Proposal*) of Part 2; and/or
  - 1.4.7 paragraph 1.1 of Section 3 (*Amended Service Proposal*) of Part 2,

proposing to undertake any works and/or carry out any works of repair, maintenance, replacement and/or renewal pursuant to the relevant provisions of this Schedule Part 31 on, over or under any part of the Retained Site and/or Retained Estate ("**Project Co's Activities**"), then notwithstanding any other provision of this Schedule Part 31, where the Board is aware of any clinical and/or other related activities and/or operations which are being or which it is proposed will be carried out in that part of the Retained Site and/or Retained Estate which would be affected by Project Co's Activities, then the Board shall refer the matter to the Little France Campus Working Group for consideration and the Board may request having regard where appropriate to any recommendation of the Little France Campus Working Group that any of the Project Co Activities, subject to Clause 5.2.7 (*General Standards*), be rescheduled to such other time as may be reasonably required by the Board having regard to the nature, extent and duration of the clinical and/or other related activities and/or operations and to Project Co's Activities.

#### 2. Schedules of Condition

- 2.1 Where in this Agreement the condition of an area is to be recorded in a Schedule of Condition the following provisions shall apply:
- 2.1.1 the Schedule of Condition will comprise photographs along with, if necessary to properly record the condition of the area, a written commentary together with such specification and drawings as are available of any service media running through, under and over the relevant area and any buildings, structures and others erected thereon and any plant, machinery and equipment located thereon. The Schedule of Condition shall record that the service media is operating normally and any buildings, structures and others erected thereon and any plant, machinery and equipment located thereon are defective, except to the extent that any performance

issues or defects are known to Consort and/or the Board (the Board being obliged to take account of any representations from Project Co which the Board acting reasonably consider are proper and reasonable as to any such performance issues or defects), in which case the Schedule of Condition shall make reference to such performance issues or defects. A reference in the Schedule of Condition to service media operating normally shall not infer that as at the date of the Schedule of Condition the service media was free of latent or other defects, only that as at that date Consort and/or the Board were not aware of any performance issues or defects;

- 2.1.2 the Board shall and shall use reasonable endeavours to procure Consort shall mutually appoint a chartered surveyor who is a member of a leading firm of surveyors as may be nominated by agreement between the Board and Consort or in default of agreement appointed by or on behalf of the chairman (or senior office holder at the time available) of the Scottish Branch of The Royal Institution of Chartered Surveyors (as constituted, reconstituted, formed or reformed from time to time) to undertake an inspection of the relevant area and prepare a Schedule of Condition of that area not later than ten (10) Business Days from the appointment. Before nominating a surveyor or agreeing to the appointment of a surveyor nominated by Consort the Board shall consult with Project Co and shall take account of any reasonable representations made by Project Co with regard to the identity of the proposed surveyor;
- 2.1.3 on determination of the Schedule of Condition the Schedule of Condition will be prepared in triplicate and a hard copy will be provided to each of Project Co, the Board and Consort;
- 2.1.4 Project Co shall be responsible for the fees of the chartered surveyor appointed pursuant to paragraph 2.1.2.
- 2.1.5 where the Schedule of Condition is required prior to commencing works and/or an activity, and/or taking access and/or taking occupation and/or exercising any rights and/or obligations then the relevant works, activity, access, occupation, rights cannot be carried out and/or exercised in the relevant area until receipt by the Board of the Schedule of Condition in accordance with paragraph 2.1.3.

### 3. Reinstatement of Damage

- 3.1 Where in this Agreement Project Co are entitled to occupy or use an area outwith the Site in connection with the Works and/or the Facilities (such as Car Park E, the Yellow Area and/or Petrol Station Site or the Orange Area) then the following provisions shall apply (with any reference to the area being deemed to include a reference to any service media, buildings, structures, plant, machinery and/or equipment and landscaping located on, under or within the area);
- 3.1.1 Project Co shall give the Board at least fifteen (15) Business Days in the form of relevant notices as set out in Part A and/or Part B of Appendix 10 of this Schedule Part 31 as applicable prior notice of the date upon which Project Co shall vacate and cease using the relevant area (the "**Vacation Date**");
- 3.1.2 subject to paragraph 3.2, on or before the Vacation Date Project Co shall (a) deliver to the Board all information showing or describing the Works that have been carried out within the relevant area including without limitation, as built drawings, O&M manuals and if applicable testing and community records and certification; and (2) reinstate the area to no worse condition than that which existed prior to Project Co taking occupation of or using the relevant area, such condition to be as evidenced by the Schedule of Condition prepared prior to Project Co's occupation and/or use; and
- 3.1.3 on completion of the reinstatement works pursuant to paragraph 3.1.2 to the Board's satisfaction, the condition of the relevant area shall be recorded in a further Schedule of Condition to be prepared pursuant to paragraph 2.
- 3.1A Following Project Co's completion of the reinstatement works:



- 3.1A.1 in the event that the Board considers that Project Co have failed to properly reinstate the relevant area pursuant to paragraph 3.1.2 to the Board's satisfaction, the Board or others in its behalf shall notify Project Co of the alleged failure within the period of fifteen (15) Business Days following the Vacation Date;
- 3.1A.2 following service of a notice by or on behalf of the Board pursuant to paragraph 3.1A.1 the Board and Project Co (or their respective representatives) shall as soon as reasonably practicable arrange a joint inspection of the relevant area and the alleged failure and the Independent Tester and any other Campus Parties and/or their representatives will be entitled to attend such inspection;
- 3.1A.3 the Board and Project Co shall act reasonably and in good faith in considering and agreeing whether the failures notified by or on behalf of the Board pursuant to paragraph 3.1A.1 are failures caused by Project Co and/or any Project Co Party failing to comply with their obligations pursuant to paragraph 3.1.2;
- 3.1A.4 where it is agreed or determined that Project Co and/or any Project Co Party has failed to properly reinstate the relevant area pursuant to paragraph 3.1.2 to the Board's satisfaction, Project Co shall and shall ensure any Project Co Party carry out the works to remedy such failure within a reasonable period (given the nature and extent of the failure) (but in any event no later than ten (10) Business Days following such agreement or determination) failing which the Board and/or any party on its behalf and/or any other Campus Party or parties on their behalf shall be permitted to make good the damage and/or reinstatement at Project Co's cost;
- 3.1A.5 Project Co shall give the Board notice of the completion of the works required in order to remedy the failure which it has been agreed or determined is the Project Co's responsibility pursuant to this paragraph 3 and its vacation of the relevant area, and the Board shall have fifteen (15) Business Days to intimate any alleged failures following the date notified by Project Co to the Board pursuant to this paragraph 3.1A.5. The procedure set out in paragraphs 3.1A.2 to 3.1A.5 shall be repeated in relation to further alleged failures notified by the Board pursuant to this paragraph 3.1A.5 until such time as it is agreed or determined that Project Co has complied with their obligations in terms of paragraph 3.1.2 to the Board's satisfaction.
- 3.2 For the avoidance of doubt Project Co's obligation to reinstate in terms of paragraph 3.1 shall not apply to areas to the extent that those areas have purposefully changed pursuant to the carrying out of the Works on those areas (for example, by the construction on those areas of new roads, footpaths etc).
- 3.3 In the event Project Co fails to reinstate or any area has not been reinstated in accordance with this paragraph 3, then Project Co shall be liable and shall indemnify and keep the Board indemnified at all times from and against all Direct Losses (including without limitation costs of rectification) which may be suffered or incurred and/or sustained by the Board and/or any Campus Party and/or liability including all actions, proceedings, costs, claims and demands which may be suffered and/or incurred by and/or made by any party against the Board and/or any Campus Party, where any Campus Party has carried out works to reinstate an area pursuant to paragraph 3 (*Reinstatement of Damage*) of this Part 3 (*General Matters*) of this Schedule Part 31.
- 4. Repair of Defects**
- 4.1 Notwithstanding any other provisions of this Agreement as regards Defects and without prejudice to the continuing liability of Project Co for any Defects in or arising out of or as a consequence of the Works, Project Co shall make good any defects in any of the Works as notified to Project Co by or on behalf of the Board and where any such defects are in areas outwith the Site then Project Co shall only be permitted to enter upon areas outwith the Site which have previously been occupied by Project Co in connection with the carrying out of the Works to make good defects which appear in:
- 4.1.1 the reinstatement works carried out by or on behalf of Project Co pursuant to paragraph 3 (*Reinstatement of Damage*); or

- 4.1.2 the works carried out by Project Co to those parts of the Access Areas where Project Co carry out works pursuant to Section 5 (*Access Areas and Drainage*) and/or Section 6 (*Service Strip and/or Foul Service Strip*) of Part 1 (*Interface Construction Issues and Interface Proposals*) and/or any Amended Service Proposal and/or Access Strategy agreed or determined pursuant to Section 2 (*Access Areas and Amended Supplemental Drainage Proposal*) and Section 3 (*Amended Service Proposal*) of this Schedule Part 31; or
- 4.1.3 the Retained Estate Handback Infrastructure,
- 4.1.4 Project Co shall notify the Board when the defects referred to in paragraph 4.1 have been made good.

during the period of three (3) Months following the Vacation Date or, if later, the period of three (3) months from the date that the reinstatement works in an area have been completed by or on behalf of Project Co in accordance with paragraph 3.1A above or otherwise by agreement with the Board.

#### 4.1A.

- 4.1A.1 Following service of a notice by or on behalf of the Board pursuant to paragraph 4.1 the Board and Project Co (or their respective representatives) shall as soon as reasonably practicable arrange a joint inspection of the relevant area and the alleged Defects and the Independent Tester and any other Campus Parties or their representatives will be entitled to attend such inspection;
- 4.1A.2 The Board and Project Co shall act reasonably and in good faith in considering and agreeing whether the defects notified by or on behalf of the Board pursuant to paragraph 4.1 are Defects.
- 4.1A.3 where it is agreed or determined that the defects are Defects, Project Co shall and shall ensure that any Project Co Parties carry out the works to repair the Defects within a reasonable period (given the nature and extent of the defects) (but in any event no later than 10 Business Days following the date of such agreement or determination), failing which the Board and/or any party on its behalf and/or any other Campus Party or parties on their behalf shall be permitted to make good the Defects at Project Co's cost.

- 4.2 Without limiting any other rights of the Board or the obligations of Project Co as regards any (1) alleged failure of Project Co and/or any Project Co Party to comply with paragraph 3 and/or (2) Defect where, in either case, in the reasonable opinion of the Board, the alleged failure and/or any Defect poses an immediate risk to the health and safety of the users of the relevant area and this risk cannot reasonably be mitigated (for example, by cordoning off the area in question) without causing material disruption to the operation of the Campus Site and/or Campus Facilities or the relevant area then the Board shall be entitled to and/or others on its behalf may take immediate action to remedy the alleged failure and/or Defect at Project Co's cost and shall not require to afford Project Co an opportunity to remedy the alleged failure and/or Defect.
- 4.3 In the event Project Co fails to remedy any Defects and/or such Defects have not been rectified in accordance with this paragraph 4, Project Co shall be liable and shall indemnify and keep the Board indemnified at all times from and against all Direct Losses (including without limitation costs of rectification) which may be suffered or incurred and/or sustained by the Board and/or any Campus Party and/or liability including all actions, proceedings, costs, claims and demands which may be suffered and/or incurred by and/or made by any party against the Board and/or any Campus Party, where any Campus Party has carried out works to remedy a defect pursuant to paragraph 4.2 of this Part 3 (*General Matters*) of this Schedule Part 31.

## 5. No Disruption

Project Co shall co-ordinate with the Campus Parties' operations on the Site, the Retained Site and Off-Site and/or in the Facilities and/or the Retained Estate and shall take all reasonable care to ensure that it does not interfere with the operations of any Campus Party.

**6. Notices**

- 6.1 The notices issued by Project Co to the Board pursuant to this Schedule Part 31 (*Consort interface with the Campus Site and/or Campus Facilities*) Appendix 13 (*Final Form Notices*) prior to the Commencement Date shall be deemed by the Board to be valid and compliant pursuant to the terms of this Schedule Part 31 (*Consort interface with the Campus Site and/or Campus Facilities*).
- 6.2 The Board further confirms that its permission to Project Co to take construction access to and egress from the Site for the carrying out and completion of the Works over the Orange Area as contemplated by paragraph 2.1 of Section 1 of Part 1 of this Schedule Part 31 (*Consort interface with the Campus Site and/or Campus Facilities*) shall hereby be deemed to be granted, subject to Project Co complying with the Construction Access Proposal and TMS.

**SCHEDULE PART 31**

**APPENDICES**

**INTERFACE PROPOSALS AND RELEVANT FORMS OF NOTICES**

**APPENDIX 1**

**Part A - Construction Access Proposal**

The Construction Access Proposal is the Construction Access Proposal as set out on the disc in the Agreed Form identified and executed as "Appendices for Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*)" which sets Part A (*Construction Access Proposal*) of Appendix 1 of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement, referred to in and forming part of this Agreement.

## APPENDIX 1

## PART B: Form of Notices for Construction Phase

## ANNEX 1: Construction Access over the Yellow Area and/or Petrol Station Site)

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Minimum twenty (20) Business Days prior to commencing works to hoard of affected part of Yellow Area to form the Construction Access.		Paragraph 1.2 of Section 1 of Part 1 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>		<b>Reference:</b>	
[ ]		<b>Board:</b> [ ]	<b>Project Co:</b> [ ]
<b>Description of Works:</b>			
Works to form Construction Access in the Yellow Area shown [ ] on the plan [ ] attached and as more particularly described in the specification attached.			
<b>Area or areas of the Retained Site where access will be required</b>			
Those areas in the Yellow Area shown [ ] on the plan [ ] attached.			
<b>Date or dates on which access will be required:</b>			
[Insert a date not less than twenty (20) Business Days after the date of this notice]			
<b>Schedule of Condition:</b>			
A Schedule of Condition of the Yellow Area has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this form of notice].			
<b>Construction Access Strategy:</b>			
Project Co shall comply or shall procure compliance with the Construction Access Proposal when carrying out the works to form the Construction Access.			
<b>Hoarding off Yellow Area:</b>			
Upon commencement of the works to form the Construction Access, Project Co shall or shall procure that the Yellow Area shall be securely hoarded off [in the following manner.....and with the ....hoarding – insert list of any information Board/Consort require about sequence of operations – including starting location, direction of working, and finishing location (if relevant); details of signage; illustrated routes for contractors and staff/patients/visitors.]			
<b>Identity of contractor:</b>			
Project Co shall or shall procure that the works shall be carried out by [identity of contractor].			
<b>Supervision of works:</b>			
Project Co shall or shall procure that the works are being supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc).]			
<b>Description of materials:</b>			
Project Co shall procure that the hoarding materials are [ ] and will be delivered as follows [delivery			

schedules, vehicle size/type, access requirements, off-loading, storage].
<b>Board requirements:</b>
Project Co shall comply or shall procure compliance with [the Board's and/or any other applicable Permit to Work System and/or any applicable Off-Site site rules and notification of any permits which are needed for its work to be issued by or on behalf of the Board and/or other parties with an interest in the affected part of the Retained Site and/or Retained Estate].
<b>Other requirements of Schedule Part 31(<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>
Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out in paragraph 1 of Section 1 of Part 1 of Schedule Part 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.
<b>Issued by: [     ] for Project Co:</b>
Signed.....
Print name.....
Title.....

**APPENDIX 1**

**PART C: Form of Notices for Operational Term**

**N/A**

**APPENDIX 2**

**PART A - TRAFFIC MANAGEMENT STRATEGY**

The Traffic Management Strategy is the Traffic Management Strategy as on the disc in the Agreed Form identified and executed as "Appendices for Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*)" which sets out Part A (*Traffic Management Strategy*) of Appendix 2 of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement, referred to in and forming part of this Agreement.



## APPENDIX 2

## Part B – Form of Notices for Construction Phase

## Annex 1: Construction Access over the Orange Area

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
[Not less than ten (10) Business Days when Project Co considers the requirements in paragraph 2.1 of Section 1 of Part 1 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement are not possible or reasonably practicable] OR [Not less than twenty (20) Business Days of the date upon which Project Co intends to first take access over the Orange Area, following a notice from the Board pursuant to paragraph 2.4 of Section 1 of Part 1 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.]		[Paragraph 2.1] OR [Paragraph 2.4] of Section 1 of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>		<b>Reference:</b>	
[        ]		<b>Board:</b> [        ]	<b>Project Co:</b> [        ]
<b>Description of requirements:</b>			
Construction access to the Site is required for the Works over the Orange Area shown on plan [        ] attached.			
<b>Reason for access over Orange Area</b>			
[Project Co hereby give notice pursuant to paragraph 2.1 of Section 1 of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement that Project Co considers:			
1	it is not possible for Project Co to construct and use a Construction Access to the Site over the Yellow Area which complies with Law; or		
2	it is not reasonably practicable for Project Co to construct and use a suitable Construction Access to the Site over the Yellow Area from a technical and/or safety perspective; or		
3	it is technically feasible to construct and use a Construction Access to the Site over the Yellow Area but the Construction Access would not represent value for money to the Board when compared to an alternative traffic strategy involving access to and egress from the Site over the Orange Area; or		
4	a Construction Access to the Site is (or is to be) constructed over the Yellow Area by Project Co but it is not possible or it is not reasonably practicable from a technical and/or safety perspective for Project Co to carry out the Works without a secondary construction access/egress route over the Orange Area during all or part(s) of the Construction Phase.]*		
OR			
[Receipt of notice from the Board pursuant to paragraph 2.4. of Section 1 of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.]*			
[*delete as applicable]			
<b>Area or areas of the Retained Site where access will be required:</b>			

The Orange Area shown on plan [ ] attached.
<b>Date or dates on which access will be required:</b>
[Insert date not less than [ten (10)] OR [twenty (20)] Business Days after the date of this notice]
<b>Schedule of Condition:</b>
A Schedule of Condition of the Orange Area has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice].
<b>Traffic Management Strategy:</b>
Project Co shall comply with the TMS, which in turn shall comply with the requirements of paragraph 2.2 of Section 1 of Part 1 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the Orange Area.
<b>Responsibility for traffic management:</b>
Project Co shall be responsible for management of traffic across the Orange Area and primary responsibility for health and safety of all users of the Orange Area and road traffic signage and pedestrian crossings within the Orange Area.
<b>Traffic management arrangements:</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc.)]
<b>Journeys:</b>
Project Co anticipates the following number of journeys shall be [ ].
<b>Timing of access:</b>
Project requests that the time of day when access is required shall be [ ].
<b>Construction traffic:</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic:</b>
Project Co's construction traffic will be doing the following activities [off-loading, etc ].
<b>Compliance with paragraph 2.3 of Section 1 of Part 1 of Schedule 31 (<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>
Project Co shall comply or shall procure compliance of the following additional requirements of the Board:
<ol style="list-style-type: none"> <li>1 appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the TMS envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area);</li> <li>2 the imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works;</li> </ol>

- 3 restrictions on the periods during which construction access may be taken;
- 4 the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;
- 5 the re-sequencing (and/or temporary cessation) of the performance of elements of the Works; and
- 6 other reasonable measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities
7. [others?]

**Other requirements of Schedule Part 31(*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement:**

Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out in paragraph 1 of Section 1 of Part 1 of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement.

Issued by: [                      ] for Project Co

Signed.....

Print name.....

Title.....

**APPENDIX 2**

**Part C – Form of Notices for Operational Term**

**N/A**

**APPENDIX 3**

**Part A - Oversail Strategy**

The Oversail Strategy is the Oversail Strategy as set out on the disc in the Agreed Form identified and executed as "Appendices for Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*)" which sets out Part A (*Oversail Strategy*) of Appendix 3 of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement, referred to in and forming part of this Agreement



## APPENDIX 3

## Part B – Form of Notices for Construction Phase

## Annex 1: Additional Oversail Strategy

<b>Notice Period:</b>	<b>Notice Order Provisions:</b>	
Not later than ten (10) Business Days prior to any proposed period or crane oversailing, which is not covered by the Oversail Strategy.	Paragraph 1 of Section 1 (Oversail) of Part 2 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>	<b>Reference:</b>	
[       ]	Board: [       ]	Project Co: [       ]
<b>Description of requirements:</b>		
Proposed oversailing for [       ] by [       ] crane, over the area shown on plan [       ] attached.		
<b>Area or areas of the Campus Site and/or Campus Facilities Site where oversailing will be required:</b>		
The area(s) shown on plan [       ] attached.		
<b>Date or dates on which access will be required:</b>		
[Insert date not less than ten (10) Business Days after the date of this notice].		
<b>Additional Oversailing Strategy:</b>		
Attached is the Additional Oversailing Strategy for the proposed period of oversailing which includes:		
<ul style="list-style-type: none"> <li>• A programme of proposed oversailing activities;</li> <li>• Risk assessments; and</li> <li>• Method Statements for the erection, operation and dismantling of the crane</li> </ul>		
Project Co confirms the Additional Oversailing Strategy has been prepared having regard to the requirements of paragraph 2 of Section 1 (Oversail) of Part 2 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, including without limitation paragraph 2 of Section 4 (Oversail) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.		
Project Co shall comply with any other measures and operations reasonably requested by the Board for the proper implementation of the Additional Oversail Strategy including measures to reduce any health and safety risks to all persons at the Campus Site and/or Campus Facilities [ <i>list any if known here</i> ]		
Project Co confirms that if requested by the Board, Project Co shall attend any meeting and/or provide information the Board may reasonably request in support of the Additional Oversail Strategy.		
<b>Other requirements of Schedule Part 31 (<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>		
Project Co acknowledges and shall comply and/or shall procure compliance with the requirements set out in Section 1 (Oversail) of Part 2 ( <i>Interface Proposals Procedure</i> ) of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.		
<b>Issued by:</b> [       ] for Project Co		

**Signed**.....

**Print name**.....

**Title**.....

**APPENDIX 3**

**Part C – Form of Notices for Operational Term**

**Annex 1: Additional Oversail Strategy (as above)**



**APPENDIX 4**

**PART A - ACCESS STRATEGY**

The Access Strategy is the Access Strategy as set out on the disc in the Agreed Form identified and executed as "Appendices for Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*)" which sets out Part A (*Access Strategy*) of Appendix 4 of Schedule Part 31 (*Consort Interface with the Campus Site and/or Campus Facilities*) of this Agreement referred to in and forming part of this Agreement.

## APPENDIX 4

## Part B – Form of Notices for Construction Phase

## Annex 1 - Constructing in Access Areas – Forming pedestrian and vehicular accesses from the Site into the Orange Area

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not less than [twenty (20) Business Days] or [ten (10) Business Days] of the date upon which Project Co intends to carry out works to form pedestrian and vehicular accesses to and from the Site into the Orange Area.		[Paragraph 1.1 (relative to paragraph 1.1.2) of Section 5 ( <i>Access Areas and Drainage</i> ) of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
OR		OR	
[Not less than twenty (20) Business Days of the date upon which Project Co intends to occupy the relevant parts of the Access Area, following a notice from the Board pursuant to paragraph 1.3.1 of Section 5 of Part 1 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.]		[Paragraph 1.3.1 ( <i>Access Areas and Drainage</i> ) of Section 5 of Part 1] of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.]	
<b>Date of Notice:</b>		<b>Reference:</b>	
[     ]		<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of requirements:</b>			
Works to form [pedestrian/ vehicular] access(es) to and from the Site into the Orange Area shown on plan [     ] attached.			
<b>Area or areas of the Retained Site where access will be required:</b>			
The Orange Area shown on plan [     ] attached.			
<b>Date or dates on which access will be required:</b>			
[Insert date not less than [twenty (20) Business Days] OR [ ten (10) Business Days] after the date of this notice].			
<b>Schedule of Condition:</b>			
A Schedule of Condition of the Access Area being occupied has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice].			
<b>Access Strategy:</b>			
Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the Orange Area.			
<b>Responsibility for traffic management:</b>			

Project Co shall be responsible for management of traffic across the Orange Area and primary responsibility for health and safety of all users of the Orange Area and road traffic signage and pedestrian crossings within the Orange Area.
<b>Arrangements for traffic management:</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc.)]
<b>Journeys:</b>
Project Co anticipates the following number of journeys shall be [     ].
<b>Timing of access:</b>
Project requests that the time of day when access is required shall be [     ].
<b>Construction traffic:</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic:</b>
Project Co's construction traffic will be doing the following activities [off-loading, etc].
<b>Compliance with [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule 31(<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>
As per [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:
<ol style="list-style-type: none"> <li>[1] have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area) and shall be responsible for be responsible for (i) the management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area);<sup>3</sup></li> <li>2 ensure the imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works;</li> <li>3 ensure restrictions on the periods during which construction access may be taken;</li> <li>4 ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;</li> <li>5 re-sequencing (and/or temporary cessation) the performance of elements of the Works/activities; and</li> <li>6 implement other reasonable measures which should be taken to (1) ensure sufficient and appropriate continued pedestrian and vehicular access to the Campus Site and/or Campus Facilities and part of the Retained Site and/or Retained Estate during the period of occupation, and (2) to reduce any health and safety risks to all visitors, staff and patients at the Campus</li> </ol>

<sup>3</sup> Only applicable if Orange Area (not Yellow Area)

<p>7. Site and/or Campus Facilities; [others?]]</p>
<p><b>Hoarding off Access Area:</b></p>
<p>The affected part of the Access Areas shall be securely hoarded off by Project Co.</p>
<p><b>Other requirements of Schedule Part 31(<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b></p>
<p>Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out in paragraph 1 (<i>Access Areas</i>), and on completion of the works, paragraph 5 (<i>Other General Matters</i>) of Section 5 (<i>Access Areas and Drainage</i>) of Part 1, and the applicable completion and vacation requirements of Part 3 (<i>General Matters</i>) of Schedule Part 31 (<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement.</p>
<p><b>Issued by: [                    ] for Project Co</b></p>
<p>Signed.....</p> <p>Print name.....</p> <p>Title.....</p>



## APPENDIX 4

## Part B – Form of Notices for Construction Phase

## Annex 2 - Constructing in Access Areas – Roads, footpaths, landscaped areas in the hatched Orange Area

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not less than [twenty (20) Business Days] or [ten (10) Business Days] of the date upon which Project Co intends to carry out works to reconfigure the roads, footpaths and landscaped areas within the Hatched Orange Area.		[Paragraph 1.1 (relative to paragraph 1.1.3) of Section 5 ( <i>Access Areas and Drainage</i> ) of Part 1/1 OR [paragraph 1.1 of Section 2 of Part 2] of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
OR		OR	
[Not less than twenty (20) Business Days of the date upon which Project Co intends to occupy the relevant parts of the Access Area, following a notice from the Board pursuant to paragraph 1.3.1 of Section 5 of Part 1 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.]		[Paragraph 1.3.1 ( <i>Access Areas and Drainage</i> ) of Section 5 of Part 1] of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.]	
<b>Date of Notice:</b>		<b>Reference:</b>	
[       ]		Board: [       ]	Project Co: [       ]
<b>Description of requirements:</b>			
Works to reconfigure [roads/footpaths/landscaped areas] within the Hatched Orange Area shown on plan [       ] attached.			
<b>Area or areas of the Retained Site where access will be required:</b>			
The Orange Area shown on plan [       ] attached.			
<b>Date or dates on which access will be required:</b>			
[Insert date not less than [twenty (20) Business Days] OR [ten (10) Business Days] after the date of this notice].			
<b>Schedule of Condition:</b>			
A Schedule of Condition of the Access Area being occupied has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice].			
<b>Access Strategy:</b>			
Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the Orange Area.			
<b>Responsibility for traffic management:</b>			

Project Co shall will be responsible for management of traffic across the Orange Area and primary responsibility for health and safety of all users of the Orange Area and road traffic signage and pedestrian crossings within the Orange Area
<b>Arrangements for traffic management:</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc.)]
<b>Journeys:</b>
Project Co anticipates the following number of journeys shall be [     ].
<b>Timing of access:</b>
Project requests that the time of day when access is required shall be [     ].
<b>Construction traffic:</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic:</b>
Project Co's construction traffic will be doing the following activities [off-loading, etc].
<b>Compliance with [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Part 1 of Schedule 31(<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>
As per [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2]of Schedule 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:
<ol style="list-style-type: none"> <li>[1] have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area) and shall be responsible for be responsible for (i) the management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area);<sup>4</sup></li> <li>2 ensure the imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works;</li> <li>3 ensure restrictions on the periods during which construction access may be taken;</li> <li>4 ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;</li> <li>5 re-sequencing (and/or temporary cessation) the performance of elements of the Works/activities; and</li> <li>6 implement other reasonable measures which should be taken (1) to ensure sufficient and appropriate continued pedestrian and vehicular access to the Campus Site and/or Campus Facilities and part of the Retained Site and/or Retained Estate during the period of occupation and (2) to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities;</li> </ol>

<sup>4</sup> Only applicable if Orange Area (not Yellow Area)

7. [others?]]

**Hoarding off Access Area:**

The affected part of the Access Areas shall be securely hoarded off by Project Co.

**Other requirements of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement:**

Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out in paragraph 1 (*Access Areas*), and on completion of the works, paragraph 5 (*Other General Matters*) of Section 5 (*Access Areas and Drainage*) of Part 1, and the applicable completion and vacation requirements of Part 3 (*General Matters*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement.

**Issued by: [                    ] for Project Co**

**Signed**.....

**Print name**.....

**Title**.....



## APPENDIX 4

## Part B – Form of Notices for Construction Phase

## ANNEX 3 – Cycle Path Works in the Yellow Area

Notice Period:		Notice Order Provisions:	
Not less than [twenty (20) Business Days] or [ten (10) Business Days] of the date upon which Project Co intends to carry out works to form Cycle Path Works in the Yellow Area.		[Paragraph 1.1 (relative to paragraph 1.1.6) of Section 5 (Access Areas and Drainage) of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
OR		OR	
[Not less than twenty (20) Business Days of the date upon which Project Co intends to occupy the relevant parts of the Access Area, following a notice from the Board pursuant to paragraph 1.3.1 of Section 5 of Part 1 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.]		[Paragraph 1.3.1 ( <i>Access Areas and Drainage</i> ) of Section 5 of Part 1] of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.]	
Date of Notice:		Reference:	
[       ]		Board: [       ]	Project Co: [       ]
Description of requirements:			
Works to [form the Cycle Path Works (a cycle path/ reconfigure landscaped areas)] within the Yellow Area shown on plan [       ] attached.			
Area or areas of the Retained Site where access will be required:			
The Yellow Area shown on plan [       ] attached.			
Date or dates on which access will be required:			
[Insert date not less than [twenty (20) Business Days] OR [ ten (10) Business Days] after the date of this notice].			
Schedule of Condition:			
A Schedule of Condition of the Access Area being occupied has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice].			
Access Strategy <sup>5</sup> :			
Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the Orange Area.			

<sup>5</sup> Some of the Yellow Area is adjacent to the Orange Area so it is possible the works in the Yellow Area could require some occupation of the Orange Area. These provisions can be deleted if there is no impact on the Orange Area



<b>Responsibility for traffic management<sup>6</sup>:</b>
Project Co shall will be responsible for management of traffic across the Orange Area and primary responsibility for health and safety of all users of the Orange Area and road traffic signage and pedestrian crossings within the Orange Area
<b>Arrangements for traffic management:</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc.)]
<b>Journeys:</b>
Project Co anticipates the following number of journeys shall be [     ].
<b>Timing of access:</b>
Project requests that the time of day when access is required shall be [     ].
<b>Construction traffic:</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic:</b>
Project Co's construction traffic will be doing the following activities [off-loading, etc].
<b>Compliance with [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule 31(<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>
As per [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:
<ol style="list-style-type: none"> <li>1 have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area) and shall be responsible for be responsible for (i) the management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area;<sup>7</sup></li> <li>2 ensure the he imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works;</li> <li>3 ensure restrictions on the periods during which construction access may be taken;</li> <li>4 ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;<sup>8</sup></li> <li>5 re-sequencing (and/or temporary cessation) the performance of elements of the Works/activities; and</li> </ol>

<sup>6</sup> Same as last footnote

<sup>7</sup> Only applicable if Orange Area (not Yellow Area)

<sup>8</sup> Per last footnote

6 implement other reasonable measures which should be taken (1) to ensure sufficient and appropriate continued pedestrian and vehicular access to the Campus Site and/or Campus Facilities and part of the Retained Site and/or Retained Estate during the period of occupation, and (2) to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities;

7. [others?]]

**Hoarding off Access Area:**

The affected part of the Access Areas shall be securely hoarded off by Project Co.

**Other requirements of Schedule Part 31(*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement:**

Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out in paragraph 1 (*Access Areas*), and on completion of the works, paragraph 5 (*Other General Matters*) of Section 5 (*Access Areas and Drainage*) of Part 1, and the applicable completion and vacation requirements of Part 3 (*General Matters*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement.

Issued by: [ ] for Project Co

Signed.....

Print name.....

Title.....





Access arrangements may also be subject to restrictions or diversions during any periods of occupation as are approved by the Board, Consort and the University [ list any restrictions here is known].
<b>Responsibility for traffic management if the Access Area affected is the Orange Area (if applicable):</b>
Project Co shall will be responsible for management of traffic across the Orange Area and primary responsibility for health and safety of all users of the Orange Area and road traffic signage and pedestrian crossings within the Orange Area
<b>Arrangements for traffic management:</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc).]
<b>Journeys:</b>
Project Co anticipates the following number of journeys shall be [ ].
<b>Timing of access:</b>
Project requests that the time of day when access is required shall be [ ].
<b>Construction traffic:</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic:</b>
Project Co's construction traffic will be doing the following activities [off-loading, etc].
<b>Hoarding off Access Area:</b>
The affected part of the Access Areas shall be securely hoarded off by Project Co.
<b>Other requirements of Schedule Part 31 (<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>
Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out in: <ul style="list-style-type: none"> <li>• paragraph 1 (<i>Access Strategy</i>) of Section 2 (<i>Access Areas and Amended Supplemental Drainage Proposal</i>) of Part 2;</li> <li>• on completion and vacation of the affected area, the applicable requirements of Part 3 (<i>General Matters</i>),</li> </ul> of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.
<b>Issued by: [ ] for Project Co</b>
<b>Signed</b> .....
<b>Print name</b> .....
<b>Title</b> .....

## APPENDIX 4

## Part C – Form of Notices for Operational Term

**ANNEX 5 - Access To RIE Site And RIE Facilities to maintain, repair, renew the Facilities (which are not Service Strip, Foul Service Strip, PTS, ICT, Fire Alarm System or the Joint) during the Operational Term**

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not less than ten (10) Business Days of the date upon which Project Co intends to access the relevant part of the RIE Site and/or RIE Facilities to maintain, repair, renew the Facilities (which are not Service Strip, Foul Service Strip, PTS, ICT, Fire Alarm System or the Joint) during the Operational Term.		Paragraph 1.1.2 of Section 2 ( <i>Operational Construction Issues</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>[NB THE NOTICE PERIOD DOES NOT APPLY IN AN EMERGENCY WHERE AS MUCH NOTICE AS PRACTICABLE IN THE CIRCUMSTANCES IS TO BE GIVEN]</b>			
<b>Date of Notice:</b>		<b>Reference:</b>	
[       ]		Board: [       ]	Project Co: [       ]
<b>Description of requirements:</b>			
[       ] works of [maintenance, repair and renewal] to [ <i>insert description of service media etc</i> ] serving the Facilities which requires access over the parts of the RIE Site and/or RIE Facilities as shown on plan [       ] attached.			
<b>Area or areas of the RIE Site and/or RIE Facilities Site where access will be required:</b>			
The area(s) shown on plan [       ] attached.			
<b>Date or dates on which access will be required:</b>			
[Insert date not less than ten (10) Business Days after the date of this notice]. <b>[NB: EXCEPT IN AN EMERGENCY WHEN AS MUCH NOTICE AS IS PRACTICABLE IN THE CIRCUMSTANCES IS TO BE GIVEN]</b>			
<b>Schedule of Condition:</b>			
A Schedule of Condition of the of the relevant part of the RIE Site and/or RIE Facilities has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice] <sup>10</sup> OR A record of the condition of the relevant part of the RIE Site and/or RIE Facilities properly recording the condition of the area, comprising photographs, [a written commentary, specification and drawings] of service media, buildings, structures, plant, machinery and equipment through, under over or on the relevant area, has been carried out [and three copies are attached to this Form of Notice]			

<sup>10</sup> This is required where the area affected is covered by another express provision of Schedule 31 which requires a Schedule of Condition to be prepared



<b>Joint Inspection:</b>
A joint inspection of the relevant part of the RIE Site and/or RIE Facilities has been carried out by Project Co and the Board or representatives on behalf of the Board at the Board's request on [ ] <sup>11</sup>
<b>[Access Strategy (where applicable to the affected part of RIE Site):<sup>12</sup></b>
Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of paragraph 1.2 of Section 2 of Part 2 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the part of the RIE Site affected by this notice
<b>Responsibility for traffic management (where the Access Strategy also applies and the relevant area is in the Orange Area):</b>
Project Co shall will be responsible for management of traffic across the part of the RIE Site which is in the Orange Area affected by this notice and primary responsibility for health and safety of all users of this part and road traffic signage and pedestrian crossings within this part.
<b>Arrangements for traffic management (where the Access Strategy also applies):</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc).]
<b>Journeys (where the Access Strategy also applies):</b>
Project Co anticipates the following number of journeys shall be [ ].
<b>Timing of access (where the Access Strategy also applies):</b>
Project requests that the time of day when access is required shall be [ ].
<b>Construction traffic (where the Access Strategy also applies):</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic (where the Access Strategy also applies):</b>
Project Co's construction traffic will be doing the following activities [off-loading, etc].
<b>Compliance with paragraph [paragraphs 1.2 to 1.4 of Section 2 of Part 2 of Schedule 31(<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement (where the Access Strategy also applies):</b>
As per paragraph paragraphs 1.2 to 1.4 of Section 2 of Part 2 of Schedule 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:

<sup>11</sup> This is only required if the Board acting reasonably considers a joint inspection is necessary

<sup>12</sup> If the relevant area is also an "Access Area " to which the Access Strategy applies then the following provisions that apply to Access Strategy will also apply to this area. The Access Strategy will apply where the works are to surface water drainage connections as these are in the Orange Area.

- 1 be responsible for (i) the management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area;<sup>13</sup>
- 2 ensure the imposition, where appropriate, of a suitable Permit to Work System which for the avoidance of doubt includes the Board's and/or any Board Party's and/or any Consort and/or Consort Party's Permit to Work System, appropriate to the nature of the activities;
- 3 ensure restrictions on the periods during which construction access may be taken;
- 4 ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;<sup>14</sup>
- 5 re-sequencing (and/or temporary cessation) the performance of elements of the activities; and
- 6 implement other reasonable measures which should be taken to (1) ensure sufficient and appropriate continued pedestrian and vehicular access to the Campus Site and/or Campus Facilities and part of the Retained Site and/or Retained Estate during the period of occupation, and (2) reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities;
7. [others?]]

**Hoarding off Access Area (where the Access Strategy also applies):**

The affected part of the Access Areas shall be securely hoarded off by Project Co.]

**Other requirements of Schedule Part 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement:**

Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out in paragraph 1 (*Access to the RIE and RIE Facilities*) of Section 2 of Part 1 and on completion and vacation of the affected area, the applicable requirements of Part 3 (*General Matters*), of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement.

**Issued by: [                    ] for Project Co**

Signed.....

Print name.....

Title.....

<sup>13</sup> Only applicable if Orange Area (not Yellow Area)

<sup>14</sup> Only applicable if Orange Area (not Yellow Area)

**APPENDIX 5**

**Part A - Supplemental Drainage Proposal**

The Supplemental Drainage Proposal is the Supplemental Drainage Proposal as set out on the disc in the Agreed Form identified and executed as "Appendices for Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*)" which sets out Part A (*Supplemental Drainage Proposal*) of Appendix 5 of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement, referred to in and forming part of this Agreement.



## APPENDIX 5

## Part B – Form of Notices for Construction Phase

## Annex 1 - Constructing in Access Areas - Surface Water Drainage Works within the Orange Area

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not less than [twenty (20) Business Days] or [ten (10) Business Days] twenty of the date upon which Project Co intends to carry out the Surface Water Drainage Works connections from the Site to the existing surface water drain within the Orange Area.		[Paragraph 1.1 (relative to paragraph 1.1.4) of Section 5 ( <i>Access Areas and Drainage</i> ) of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>		<b>Reference:</b>	
[     ]		<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of requirements:</b>			
Surface Water Drainage Works connections from the Site to the existing surface water drain within the Orange Area shown on plan [     ] attached.			
<b>Area or areas of the Retained Site where access will be required:</b>			
The Orange Area shown on plan [     ] attached.			
<b>Date or dates on which access will be required:</b>			
[Insert date not less than [twenty (20) Business Days] OR [ ten (10) Business Days] after the date of this notice].			
<b>Schedule of Condition:</b>			
A Schedule of Condition of the Access Area being occupied has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice].			
<b>Camera Survey:</b>			
A camera survey to document the condition of the existing surface water drainage system within the RIE Site has been carried out in accordance with paragraph 2.1.3 of Section 5 of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement and four (4) hard copies are attached to the Form of Notice (and an electronic version has been delivered to the Board on [insert date]).			
<b>Access Strategy:</b>			
Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the Orange Area.			
<b>Responsibility for traffic management:</b>			
Project Co shall will be responsible for management of traffic across the Orange Area and primary responsibility for health and safety of all users of the Orange Area and road traffic signage and pedestrian crossings within the Orange Area			

<b>Arrangements for traffic management:</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc.)]
<b>Journeys:</b>
Project Co anticipates the following number of journeys shall be [     ].
<b>Timing of access:</b>
Project requests that the time of day when access is required shall be [     ].
<b>Construction traffic:</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic:</b>
Project Co's construction traffic will be doing the following activities [off-loading, etc].
<b>Compliance with [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement:</b>
As per [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:
<ol style="list-style-type: none"> <li>1. have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area) and shall be responsible for be responsible for (i) the management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area);<sup>15</sup>;</li> <li>2. ensure the ensure the he imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works;</li> <li>3. ensure restrictions on the periods during which construction access may be taken;</li> <li>4. ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;</li> <li>5. re-sequencing (and/or temporary cessation) the performance of elements of the Works; and</li> <li>6. implement other reasonable measures which should be taken to (1) ensure sufficient and appropriate continued pedestrian and vehicular access to the Campus Site and/or Campus Facilities and part of the Retained Site and/or Retained Estate during the period of occupation, and (2) to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities; ;</li> <li>7. [others?]</li> </ol>

<sup>15</sup> Only applicable if Orange Area (not Yellow Area)

<b>Hoarding off Access Area:</b>
The affected part of the Access Areas shall be securely hoarded off by Project Co.
<b>Surface Water Drainage Works:</b>
The Surface Water Drainage Works shall conform to the Initial Drainage Proposal and the Supplemental Drainage Proposal which will comply with paragraph 2 of Section 5 of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.
The full details of design of the Surface Water Drainage Works are set out [    ].
The Construction Programme for the Surface Water Drainage Works is set out [            ].
The Project Co's Proposals in relation to the Surface Water Drainage Works are set out [    ].
Project Co acknowledges that the Board and/or any Board Party and/or Consort and/or any Consort Party or any party on behalf of any of them shall be entitled to observe the Surface Water Drainage Works.
<b>Other requirements of Schedule Part 31(<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>
Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out in paragraph 1 ( <i>Access Areas</i> ) and 2 ( <i>Access Strategy</i> ), and on completion of the works, paragraph 5 ( <i>Other General Matters</i> ) of Section 5 ( <i>Access Areas and Drainage</i> ) of Part 1, and the applicable completion and vacation requirements of Part 3 ( <i>General Matters</i> ) of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.
<b>Issued by: [            ] for Project Co</b>
<b>Signed</b> .....
<b>Print name</b> .....
<b>Title</b> .....



## APPENDIX 5

## Part B – Form of Notices for Construction Phase

## Annex 2 - Amended Supplemental Drainage Proposal

<b>Notice Period:</b>	<b>Notice Order Provisions:</b>	
Not applicable.	Paragraph 2.1 of Section 2 ( <i>Access Areas and Amended Supplemental Drainage Proposal</i> ) of Part 2 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>	<b>Reference:</b>	
[     ]	<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of requirements:</b>		
The [route, depth, size or condition – insert exact details of the problem] of the existing service media in the Orange Area differs from what has been provided for in the Supplemental Drainage Proposal with the result the Supplemental Drainage Proposal cannot be implemented and requires to be amended		
<b>Amended Supplemental Drainage Proposal:</b>		
The Amended Supplemental Drainage Proposal is attached and includes: <ul style="list-style-type: none"> <li>• Additional details of works</li> <li>• Information and drawings</li> </ul>		
<b>Meeting and inspection:</b>		
Project Co agrees to meet the Board (and if required Consort) at site not later than seven (7) Business Days after this notice has been given to the Board to review the Amended Supplemental Drainage Proposal and inspect the existing service media and to attend any further meetings within five (5) Business Days of the meeting at site (as required) to endeavour to agree the Amended Supplemental Drainage Proposal.		
<b>Schedule of Condition:</b>		
A Schedule of Condition of the Access Area being occupied has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice]		
<b>Camera Survey:</b>		
A camera survey to document the condition of the existing surface water drainage system within the RIE Site has been carried out in accordance with paragraph 2.1.3 of Section 5 of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement and four hard copies are attached to the Form of Notice (and an electronic version has been delivered to the Board on [insert date]).		
<b>Access Strategy:</b>		
Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule Part 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the Orange Area.		

<b>Responsibility for traffic management:</b>
Project Co shall will be responsible for management of traffic across the Orange Area and primary responsibility for health and safety of all users of the Orange Area and road traffic signage and pedestrian crossings within the Orange Area
<b>Traffic management arrangements:</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [ identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc.)]
<b>Journeys:</b>
Project Co anticipates the following number of journeys shall be [     ].
<b>Timing of access:</b>
Project requests that the time of day when access is required shall be [     ].
<b>Construction traffic:</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic:</b>
Project Co's construction traffic will be doing the following activities [ off-loading, etc ].
<b>Compliance with [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule 31(<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>
As per [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:
<ol style="list-style-type: none"> <li>1 have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area) and shall be responsible for be responsible for (i) the management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area);<sup>16</sup>.</li> <li>2 ensure the he imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the;</li> <li>3 ensure restrictions on the periods during which construction access may be taken;</li> <li>4 ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;</li> <li>5 re-sequencing (and/or temporary cessation) the performance of elements of the Works; and</li> <li>6 implement other reasonable measures which should be taken to (1) ensure sufficient and appropriate continued pedestrian and vehicular access to the Campus Site and/or Campus Facilities and part of the Retained Site and/or Retained Estate during the period of occupation,</li> </ol>

<sup>16</sup> Only applicable if Orange Area (not Yellow Area)



**APPENDIX 5**

**Part C – Form of Notices for Operational Term**

**N/A**

**APPENDIX 6**

**NOT USED**



**APPENDIX 7**

**Part A - Service Proposal**

The Service Proposal is the Service Proposal as set out on the disc in the Agreed Form identified and executed as "Appendices for Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*)" which sets out the Part A (*Service Proposal*) of Appendix 7 of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement, referred to in and forming part of this Agreement

## APPENDIX 7

## Part B – Form of Notices for Construction Phase

## Annex 1 - Access for Works in the Foul Service Strip

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not less than twenty five (25) Business Days of the date upon which Project Co intends to access the relevant part of the RIE Site to construct and lay Foul Water Drainage within the Foul Service Strip.		Paragraph 1 (relative to paragraph 1.1.1 of Section 5 ( <i>Access Areas and Drainage</i> )) and Section 6 ( <i>Service Strip and Foul Service Strip</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>		<b>Reference:</b>	
[       ]		<b>Board:</b> [       ]	<b>Project Co:</b> [       ]
<b>Description of requirements:</b>			
[       ] works to construct and lay Foul Water Drainage serving the Facilities which requires access over the parts of the RIE Site within the Foul Service Strip (which is with the Orange Area and comprises an Access Area) as shown on plan [       ] attached.			
<b>Area or areas of the RIE Site and/or RIE Facilities Site where access will be required:</b>			
The area(s) shown on plan [       ] attached.			
<b>Date or dates on which access will be required:</b>			
[Insert date not less than twenty five (25) Business Days after the date of this notice].			
<b>Approvals:</b>			
Approval from [Scottish Water and/or [insert name of any other statutory authority/utility provider with jurisdiction in relation to the works]] to connect to the main sewer on the RIE Site has been obtained and [and a copy is attached to this Form of Notice].			
<b>Schedule of Condition:</b>			
A Schedule of Condition of the of the relevant part of the RIE Site has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice] <b>[NB THIS IS NOT REQUIRED WHERE THERE ARE EMERGENCY WORKS]</b>			
<b>Joint Inspection:</b>			
A joint inspection of the relevant part of the RIE Site and/or RIE Facilities has been carried out by Project Co and the Board or representatives on behalf of the Board at the Board's request on [       ] <sup>17</sup>			
<b>Service Proposal:</b>			
Project Co acknowledges and shall comply with the Service Proposal.			
<b>Amended Service Proposal (Section 3 of Part 2 of Schedule 31):</b>			

<sup>17</sup> This is only required if the Board acting reasonably considers a joint inspection is necessary  
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Project Co acknowledges and shall comply with any applicable Amended Service Proposal.
<b>Access Strategy:</b>
Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.2 of Section 2 of Part 2] of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the part of the Foul Service Strip affected by this notice
<b>Responsibility for traffic management:</b>
Project Co shall will be responsible for management of traffic across the part of the RIE Site which is in the Orange Area of which the Foul Service Strip forms part and is affected by this notice and primary responsibility for health and safety of all users of this part and road traffic signage and pedestrian crossings within this part.
<b>Arrangements for traffic management:</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc).]
<b>Journeys:</b>
Project Co anticipates the following number of journeys shall be [     ].
<b>Timing of access:</b>
Project requests that the time of day when access is required shall be [     ].
<b>Construction traffic:</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic:</b>
Project Co's construction traffic will be doing the following activities [off-loading, etc].
<b>Compliance with paragraph [1.2 of Section 5 of Part 1 OR paragraphs 1.2 to 1.4 of Section 2 of Part 2] of Schedule 31(<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>
As per [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:
<ol style="list-style-type: none"> <li>[1] have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area) [and shall be responsible for be responsible for (i) the management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area)];<sup>18</sup>;</li> <li>2 ensure the he imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works;</li> </ol>

<sup>18</sup> Only applicable if Orange Area (not Yellow Area)



- 3 ensure restrictions on the periods during which construction access may be taken;
- 4 ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;
- 5 re-sequencing (and/or temporary cessation) the performance of elements of the Works; and
- 6 implement other reasonable measures which should be taken to (1) ensure sufficient and appropriate continued pedestrian and vehicular access to the Campus Site and/or Campus Facilities and part of the Retained Site and/or Retained Estate during the period of occupation, and (2) to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities;
7. [others?]

**Hoarding off Access Area:**

The affected part of the Access Areas shall be securely hoarded off by Project Co.

**Method Statements (Paragraph 1.3 of Section 6 of Part 1 of Schedule Part 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement):**

The Service Proposal (and if applicable the Amended Service Proposal) does not contain method statements for constructing and laying such service media and Project Co has provided these not less than twenty five (25) Business Days in advance of the date of any proposed works. [and copies of these are attached to this notice.] **[NB THESE METHOD STATEMENTS DO NOT NEED TO BE PROVIDED IN ADVANCE IN AN EMERGENCY]**

**Other requirements of Schedule Part 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement:**

Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out in:

- paragraph 1 of Section 2 (*Operational Construction Issues*) of Part 1;
- paragraphs 1, and on completion of the works, paragraph 5 of Section 5 (*Access Areas and Drainage*) of Part 1;
- Section 6 (*Service Strip and Foul Service Strip*) of Part 1;
- if applicable, paragraph 1 of Section 2 (*Access Areas and Amended Supplemental Drainage Proposal*);
- Section 3 (*Amended Service Proposal Service Strip and Foul Service Strip*) of Part 2 (*Interface Proposals Procedure*) – and
- the applicable completion and vacation requirements of Part 3 (*General Matters*),

of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement.

Issued by: [                      ] for Project Co

Signed.....

Print name.....

Title.....

## APPENDIX 7

## Part B – Form of Notices for Construction Phase

## Annex 2 - Amended Service Proposal – Foul Service Strip

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not applicable.		Paragraph 1.1 of Section 3 ( <i>Amended Service Proposal (Service Strip and Foul Service Strip)</i> ) of Part 2 of Schedule 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>		<b>Reference:</b>	
[     ]     ]		<b>Board:</b> [     ]     ]	<b>Project Co:</b> [     ]     ]
<b>Description of requirements:</b>			
The [route, depth, size or condition – insert exact details of the problem of the existing service media in the Foul Service Strip differs from what has been provided for in the Service Proposal with the result the Service Proposal cannot be implemented [insert how the Service Proposal cannot be implemented] and requires to be amended.			
<b>Amended Service Proposal:</b>			
The Amended Service Proposal is attached and includes: <ul style="list-style-type: none"> <li>• Existing service media;</li> <li>• Amended Service Proposal which includes details of: <ul style="list-style-type: none"> <li>○ additional details of works</li> <li>○ Information and drawings</li> </ul> </li> </ul>			
<b>Meeting and inspection:</b>			
Project Co agrees to meet the Board (and if required Consort) at site not later than seven (7) Business Days after this notice has been given to the Board to review the Amended Service Proposal and inspect the existing service media and to attend any further meetings within five (5) Business Days of the meeting at site (as required) to endeavour to agree the Amended Service Proposal.			
<b>Approvals (if applicable):</b>			
Approval of Scottish Water or other relevant statutory authority and/or utility provider for works to connect the service media serving the Site to the mains sewer located on the RIE Site has been obtained and is attached to this notice.			
<b>Schedule of Condition:</b>			
A Schedule of Condition of the Access Area being occupied has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice]			
<b>Access Strategy:</b>			
Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule Part 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the Orange Area.			



<b>Responsibility for traffic management:</b>
Project Co shall will be responsible for management of traffic across the Orange Area and primary responsibility for health and safety of all users of the Orange Area and road traffic signage and pedestrian crossings within the Orange Area
<b>Traffic management arrangements:</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [ identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc.)]
<b>Journeys:</b>
Project Co anticipates the following number of journeys shall be [     ].
<b>Timing of access:</b>
Project requests that the time of day when access is required shall be [     ].
<b>Construction traffic:</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic:</b>
Project Co's construction traffic will be doing the following activities [ off-loading, etc ].
<b>Compliance with [paragraph 1.2 of Section 5] OR [paragraph 1.1 of Section 2 of Part 2] of Part 1 of Schedule 31 (<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>
As per [paragraph 1.2 of Section 5 of Part 1] OR [paragraph 1.1 of Section 2 of Part 2] of Schedule 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:
<ol style="list-style-type: none"> <li>1 have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area) [and shall be responsible for be responsible for (i) the management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area)];<sup>19</sup>,</li> <li>2 ensure the he imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works s;</li> <li>3 ensure restrictions on the periods during which construction access may be taken;</li> <li>4 ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;</li> <li>5 re-sequencing (and/or temporary cessation) the performance of elements of the Works/activities; and</li> <li>6 implement other reasonable measures which should be taken to (1) ensure sufficient and appropriate continued pedestrian and vehicular access to the Campus Site and/or Campus</li> </ol>

<sup>19</sup> Only applicable if Orange Area (not Yellow Area)

<p>Facilities and part of the Retained Site and/or Retained Estate during the period of occupation, and (2) to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities;</p> <p>7. [others?]]</p>
<b>Hoarding off Access Area:</b>
The affected part of the Access Areas shall be securely hoarded off by Project Co
<b>Other requirements Schedule Part 31 (<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>
<p>Project Co acknowledges and shall comply with the other requirements set out in:</p> <ul style="list-style-type: none"> <li>• paragraphs 1 and on completion in the relevant area, paragraph 5 of Section 5 (<i>Access Areas and Drainage</i>) of Part 1;</li> <li>• paragraph 1 of Section 2 (<i>Operational Construction Issues</i>) of Part 1; and</li> <li>• Section 6 (<i>Service Strip and Foul Service Strip</i>) of Part 1; and</li> <li>• the applicable requirements in Part 3 (<i>General Matters</i>),</li> </ul> <p>of Schedule Part 31 (<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement, shall apply in respect of any matters carried out pursuant to the agreed or determined Amended Service Proposal.</p>
<b>Issued by: [                      ] for Project Co</b>
<p>Signed.....</p> <p>Print name.....</p> <p>Title.....</p>

## APPENDIX 7

## Part B – Form of Notices for Construction Phase

## Annex 3 - Access for Works in the Service Strip

<b>Notice Period:</b>	<b>Notice Order Provisions:</b>	
Not less than twenty (20) Business Days of the date upon which Project Co intends to access the relevant part of the RIE Site to construct and lay service media for the passage of water, sewage, drainage, or oil, gas, electricity, telephone or other telecommunications in the Service Strip.	Paragraph 1 (relative to paragraph 1.1.1) of Section 5 ( <i>Access Areas and Drainage</i> ) and Section 6 ( <i>Service Strip and Foul Service Strip</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>	<b>Reference:</b>	
[     ]	<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of requirements:</b>		
[     ] works to construct and lay service media for the passage of [water, sewage, drainage, or oil, gas, electricity, telephone or other telecommunications] serving the Facilities which requires access over the parts of the RIE Site within the Service Strip (which is with the Yellow Area and comprises an Access Area) as shown on plan [     ] attached.		
<b>Area or areas of the RIE Site where access will be required:</b>		
The area(s) shown on plan [     ] attached.		
<b>Date or dates on which access will be required:</b>		
[Insert date not less than twenty (20) Business Days after the date of this notice].		
<b>Approvals:</b>		
Approval from [Scottish Water and/or [insert name of any other statutory authority/utility provider with jurisdiction in relation to the works]] to connect to the main sewer on the RIE Site has been obtained and [and a copy is attached to this Form of Notice].		
<b>Schedule of Condition:</b>		
A Schedule of Condition of the of the relevant part of the RIE Site has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice]		
<b>Joint Inspection:</b>		
A joint inspection of the relevant part of the RIE Site and/or RIE Facilities has been carried out by Project Co and the Board or representatives on behalf of the Board at the Board's request on [     ] <sup>20</sup>		
<b>Service Proposal:</b>		
Project Co acknowledges and shall comply with the Service Proposal.		
<b>Amended Service Proposal (Section 3 of Part 2 of Schedule 31):</b>		
Project Co acknowledges and shall comply with any applicable Amended Service Proposal.		

<sup>20</sup> This is only required if the Board acting reasonably considers a joint inspection is necessary  
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<b>Access Strategy:</b>
Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2 of Section 5 of Part 1 OR paragraph 1.2 of Section 2 of Part 2] of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the part of the Service Strip affected by this notice
<b>Responsibility for traffic management (where Access Strategy applies):</b>
Project Co shall be responsible for management of traffic across the part of the RIE Site which is in the Orange Area and is affected by this notice and primary responsibility for health and safety of all users of this part and road traffic signage and pedestrian crossings in respect of that area.
<b>Arrangements for traffic management(where Access Strategy applies):</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc.)]
<b>Journeys(where Access Strategy applies):</b>
Project Co anticipates the following number of journeys shall be [     ].
<b>Timing of access(where Access Strategy applies):</b>
Project requests that the time of day when access is required shall be [     ].
<b>Construction traffic(where Access Strategy applies):</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic(where Access Strategy applies):</b>
Project Co's construction traffic will be doing the following activities [off-loading, etc].
<b>Compliance with paragraph [1.2 of Section 5 of Part 1 OR paragraphs 1.2 to1.4 of Section 2 of Part 2] of Schedule 31(<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>
As per paragraph [1.2 of Section 5 of Part 1 OR paragraphs 1.2 to1.4 of Section 2 of Part 2] of Schedule 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:
<p>[1    have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area) and shall be responsible for be responsible for (i) the management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area);<sup>21</sup></p> <p>2    ensure the he imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works;</p>

<sup>21</sup> See last footnote  
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- 3 ensure restrictions on the periods during which construction access may be taken;
- 4 ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;<sup>22</sup>
- 5 re-sequencing (and/or temporary cessation) the performance of elements of the Works; and
- 6 implement other reasonable measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities, and (2) to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities;
7. [others?]

**Hoarding off Access Area:**

The affected part of the Access Areas shall be securely hoarded off by Project Co.

**Method Statements (Paragraph 1.3 of Section 6 of Part 1 of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement):**

The Service Proposal (and if applicable the Amended Service Proposal does not contain method statements for constructing and laying such service media and Project Co has provided these not less than twenty five (25) Business Days in advance of any proposed works. [and copies of these are attached to this notice.] **[NB THIS METHOD STATEMENTS DO NOT NEED TO BE PROVIDED IN ADVANCE IN AN EMERGENCY]**

**Other requirements of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement:**

Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out in:

- paragraphs 1, and on completion of works paragraph 5, of Section 5 (*Access Areas and Drainage*); and
- Section 6 (*Service Strip and Foul Service Strip*) of Part 1; , and
- if applicable paragraph 1 of Section 2 (*Access Areas and Amended Supplemental Drainage Proposal*) and Section 3 (*Amended Service Proposal (Service Strip and Foul Service Strip)*) of Part 2; and
- the applicable requirements of Part 3 (*General Matters*),

of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement.

Issued by: [                      ] for Project Co

Signed.....

Print name.....

Title.....

<sup>22</sup> See last footnote  
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## APPENDIX 7

## Part B – Form of Notices for Construction Phase

## Annex 4 - Amended Service Proposal in the Service Strip

<b>Notice Period:</b>	<b>Notice Order Provisions:</b>	
Not applicable.	Paragraph 1.1 of Section 3 ( <i>Amended Service Proposal (Service Strip and Foul Service Strip)</i> ) of Part 2 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>	<b>Reference:</b>	
[     ]	<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of requirements:</b>		
The [route, depth, size or condition – insert exact details of the problem of the existing service media in the Service Strip differs from what has been provided for in the Service Proposal with the result the Service Proposal cannot be implemented [insert how the Service Proposal cannot be implemented] and requires to be amended.		
<b>Amended Service Proposal:</b>		
The Amended Service Proposal is attached and includes:- <ul style="list-style-type: none"> <li>• Existing service media</li> <li>• Amended Service Proposal which includes details of <ul style="list-style-type: none"> <li>○ additional details of works</li> <li>○ Information and drawings</li> </ul> </li> </ul>		
<b>Meeting and inspection:</b>		
Project Co agrees to meet the Board (and if required Consort) at site not later than seven (7) Business Days after this notice has been given to the Board to review the Amended Service Proposal and inspect the existing service media and to attend any further meetings within five (5) Business Days of the meeting at site (as required) to endeavour to agree the Amended Service Proposal.		
<b>Approvals (if applicable):</b>		
Approval of Scottish Water or other relevant statutory authority and/or utility provider for works to connect the service media serving the Site to the mains sewer located on the RIE Site has been obtained and is attached to this notice.		
<b>Schedule of Condition:</b>		
A Schedule of Condition of the Access Area being occupied has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice]		
<b>Traffic Management Strategy:</b>		
Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the TMS which in turn shall comply with the requirements of paragraph 1 of Section 1 of Part 1 of Schedule Part 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement		
<b>Traffic management arrangements:</b>		



Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [ identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc).]
<b>Journeys:</b>
Project Co anticipates the following number of journeys shall be [     ].
<b>Timing of access:</b>
Project requests that the time of day when access is required shall be [     ].
<b>Construction traffic:</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic:</b>
Project Co's construction traffic will be doing the following activities [ off-loading, etc ].
<b>Compliance with paragraph [1.2 of Section 5 of Part 1 OR paragraphs 1.2 to1.4 of Section 2 of Part 2] of Schedule 31(<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>
As per paragraph [1.2 of Section 5 of Part 1 OR paragraphs 1.2 to1.4 of Section 2 of Part 2] of Schedule 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:
<ol style="list-style-type: none"> <li>1 have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area);<sup>23</sup></li> <li>2 ensure the he imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works;</li> <li>3 ensure restrictions on the periods during which construction access may be taken;</li> <li>4 ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;<sup>24</sup></li> <li>5 re-sequencing (and/or temporary cessation) the performance of elements of the Works; and</li> <li>6 implement other reasonable measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities; and (2) to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities;</li> </ol> <ul style="list-style-type: none"> <li>• 7.[others?]</li> <li>•</li> </ul>
<b>Hoarding off Access Area:</b>
The affected part of the Access Areas shall be securely hoarded off by Project Co

<sup>23</sup> See last footnote

<sup>24</sup> See last footnote

**Other requirements of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement:**

Project Co acknowledges and shall comply with the other requirements set out in:

- paragraphs 1, and on completion of the works, paragraph 5 of Section 5 (*Access Areas and Drainage*);
- Section 6 (*Service Strip and Foul Service Strip*) of Part 1;
- Section 3 (*Amended Service Proposal*) of Part 2; and
- the applicable provisions of Part 3 (*General Matters*).

of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement shall apply in respect of any matters carried out pursuant to the agreed or determined Amended Service Proposal.

Issued by: [                    ] for Project Co

Signed.....

Print name.....

Title.....

## APPENDIX 7

## Part B – Form of Notices for Operational Term

Annex 5 - Access To RIE Site and RIE Facilities  
during the Operational Term – Foul Service Strip

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not less than ten (10) Business Days of the date upon which Project Co intends to access the relevant part of the RIE Site within the Foul Service Strip during the Operational Term.  <b>[NB THE NOTICE PERIOD DOES NOT APPLY IN AN EMERGENCY WHERE AS MUCH NOTICE AS PRACTICABLE IN THE CIRCUMSTANCES IS TO BE GIVEN]</b>		Paragraph 1.1.2, relative to paragraph 2 ( <i>Service Strip and Foul Service Strip</i> ), of Section 2 ( <i>Operational Construction Issues</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>		<b>Reference:</b>	
[       ]		<b>Board:</b> [       ]	<b>Project Co:</b> [       ]
<b>Description of requirements:</b>			
[       ] works of [maintenance, repair, replacement and renewal] of the Foul Water Drainage serving the Facilities which requires access over the parts of the RIE Site within the Foul Service Strip (which is with the Orange Area and comprises an Access Area) as shown on plan [       ] attached.			
<b>Area or areas of the RIE Site and/or RIE Facilities Site where access will be required:</b>			
The area(s) shown on plan [       ] attached.			
<b>Date or dates on which access will be required:</b>			
[Insert date not less than ten (10) Business Days after the date of this notice]. <b>[NB: EXCEPT IN AN EMERGENCY WHEN AS MUCH NOTICE AS IS PRACTICABLE IN THE CIRCUMSTANCES IS TO BE GIVEN]</b>			
<b>Schedule of Condition:</b>			
A Schedule of Condition of the of the relevant part of the RIE Site has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice] <b>[NB THIS IS NOT REQUIRED WHERE THERE ARE EMERGENCY WORKS]</b>			
<b>Joint Inspection:</b>			
A joint inspection of the relevant part of the RIE Site and/or RIE Facilities has been carried out by Project Co and the Board or representatives on behalf of the Board at the Board's request on [       ] <sup>29</sup>			
<b>Service Proposal:</b>			
Project Co acknowledges and shall comply with the Service Proposal.			
<b>Amended Service Proposal (Section 3 of Part 2 of Schedule 31):</b>			
Project Co acknowledges and shall comply with any applicable Amended Service Proposal.			

<sup>29</sup> This is only required if the Board acting reasonably considers a joint inspection is necessary  
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<b>Access Strategy:</b>
Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of paragraph 1.2 of Section 2 of Part 2 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the part of the Foul Service Strip affected by this notice
<b>Responsibility for traffic management:</b>
Project Co shall will be responsible for management of traffic across the part of the RIE Site which is in the Orange Area of which the Foul Service Strip forms part and is affected by this notice and primary responsibility for health and safety of all users of this part and road traffic signage and pedestrian crossings within this part.
<b>Arrangements for traffic management:</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc).]
<b>Journeys:</b>
Project Co anticipates the following number of journeys shall be [     ].
<b>Timing of access:</b>
Project requests that the time of day when access is required shall be [     ].
<b>Construction traffic:</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic:</b>
Project Co's construction traffic will be doing the following activities [off-loading, etc].
<b>Compliance with paragraph paragraphs 1.2 to 1.4 of Section 2 of Part 2 of Schedule 31(<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>
As per paragraphs 1.2 to 1.4 of Section 2 of Part 2 of Schedule 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:
<ol style="list-style-type: none"> <li>1 [have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area[/[be responsible for (i) the management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area]]);</li> <li>2 ensure the he imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works;</li> <li>3 ensure restrictions on the periods during which construction access may be taken;</li> <li>4 ensure the physical separation of construction traffic from other traffic and pedestrians using the</li> </ol>

Orange Area;
5. re-sequencing (and/or temporary cessation) the performance of elements of the Works/activities; and
6. implement other reasonable measures which should be taken to (1) ensure sufficient and appropriate continued pedestrian and vehicular access to the Campus Site and/or Campus Facilities and part of the Retained Site and/or Retained Estate during the period of occupation, and (2) reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities;
7. [others?]
<b>Hoarding off Access Area:</b>
The affected part of the Access Areas shall be securely hoarded off by Project Co.
<b>Method Statements (Paragraph 1.3 of Section 6 of Part 1 of Schedule Part 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement):</b>
The Service Proposal (and if applicable the Amended Service Proposal does not contain method statements for maintaining, repairing and renewing such service media and Project Co has provided these not less than twenty five (25) Business Days in advance of the date of any proposed works [and copies of these are attached to this notice.] <b>[NB THIS METHOD STATEMENTS DO NOT NEED TO BE PROVIDED IN ADVANCE IN AN EMERGENCY]</b>
<b>Other requirements of Schedule Part 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement:</b>
Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out in: <ul style="list-style-type: none"> <li>• paragraphs 1 and 2 of Section 2 (Operational Construction Issues) of Part 1;</li> <li>• Section 5 (Access Areas and Drainage) of Part 1;</li> <li>• where applicable, Section 2 (Access Areas and Amended Supplemental Drainage Proposal Service Strip) of Part 2 (Interface Proposals Procedure);</li> <li>• where applicable, Section 3 (Amended Service Proposal (Service Strip and Foul Service Strip) of Part 2 (Interface Proposals Procedure); and</li> <li>• the applicable provisions of Part 3 (General Matters).</li> </ul> of Schedule Part 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement.
<b>Issued by: [                      ] for Project Co</b>
Signed.....
Print name.....
Title.....



## APPENDIX 7

## Part B – Form of Notices for Operational Term

Annex 6 - Access to RIE Site And RIE Facilities  
during the Operational Term – Service Strip

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not less than ten (10) Business Days of the date upon which Project Co intends to access the relevant part of the RIE Site within the Service Strip during the Operational Term.  <b>[NB THE NOTICE PERIOD DOES NOT APPLY IN AN EMERGENCY WHERE AS MUCH NOTICE AS PRACTICABLE IN THE CIRCUMSTANCES IS TO BE GIVEN]</b>		Paragraph 1.1.2, relative to paragraph 2 ( <i>Service Strip and Foul Service Strip</i> ), of Section 2 ( <i>Operational Construction Issues</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>		<b>Reference:</b>	
[     ]		<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of requirements:</b>			
[     ] works of [maintenance, repair, replacement and renewal] of the service media serving the Facilities which requires access over the parts of the RIE Site within the Service Strip (which is within the Yellow Area and comprises an Access Area) as shown on plan [     ] attached.			
<b>Area or areas of the RIE Site and/or RIE Facilities Site where access will be required:</b>			
The area(s) shown on plan [     ] attached.			
<b>Date or dates on which access will be required:</b>			
[Insert date not less than ten (10) Business Days after the date of this notice]. <b>[NB: EXCEPT IN AN EMERGENCY WHEN AS MUCH NOTICE AS IS PRACTICABLE IN THE CIRCUMSTANCES IS TO BE GIVEN]</b>			
<b>Schedule of Condition:</b>			
A Schedule of Condition of the of the relevant part of the RIE Site has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice] <b>[NB: THIS IS NOT REQUIRED WHERE THERE ARE EMERGENCY WORKS]</b>			
<b>Joint Inspection:</b>			
A joint inspection of the relevant part of the RIE Site and/or RIE Facilities has been carried out by Project Co and the Board or representatives on behalf of the Board at the Board's request on [     ] <sup>26</sup>			
<b>Service Proposal:</b>			
Project Co acknowledges and shall comply with the Service Proposal.			
<b>Amended Service Proposal (Section 3 of Part 2 of Schedule 31):</b>			

<sup>26</sup> This is only required if the Board acting reasonably considers a joint inspection is necessary  
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Project Co acknowledges and shall comply with any applicable Amended Service Proposal.
<b>Access Strategy:</b>
N/A <sup>27</sup>
<b>Hoarding off Access Area:</b>
The affected part of the Access Areas shall be securely hoarded off by Project Co.
<b>Method Statements (Paragraph 1.3 of Section 6 of Part 1 of Schedule Part 31 (<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement):</b>
The Service Proposal (and if applicable the Amended Service Proposal does not contain method statements for maintaining, repairing and renewing such service media and Project Co has provided these not less than twenty five (25) Business Days in advance of any proposed works [and copies of these are attached to this notice.] <b>[NB THIS METHOD STATEMENTS DO NOT NEED TO BE PROVIDED IN ADVANCE IN AN EMERGENCY]</b>
<b>Other requirements of Schedule Part 31 (<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>
Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out in: <ul style="list-style-type: none"> <li>• paragraphs 1 and 2 of Section 2 (<i>Operational Construction Issues</i>) of Part 1;</li> <li>• Section 5 (<i>Access Areas and Drainage</i>) of Part 1;</li> <li>• where applicable, Section 3 of Part 2 (<i>Interface Proposals Procedure</i>); and</li> <li>• the applicable provisions of Part 3 (<i>General Matters</i>),</li> </ul> of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.
<b>Issued by: [                      ] for Project Co</b>
Signed.....
Print name.....
Title.....

<sup>27</sup> In Yellow Area not Orange Area.  
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**APPENDIX 8**

**Part A - Connection Proposal**

The Connection Proposal is the Connection Proposal as set out on the disc in the Agreed Form identified and executed as "Appendices for Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*)" which sets out Part A (*Connection Proposal*) of Appendix 8 of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement, referred to in and forming part of this Agreement.

## APPENDIX 8

## Part B – Form of Notices for Construction Phase

## Annex 1 - Access to RIE Site and RIE Facilities for Works relating to the ICT

<b>Notice Period:</b>	<b>Notice Order Provisions:</b>	
Not less than ten (10) Business Days of the date upon which Project Co intends to access the relevant part of the RIE Site and/or RIE Facilities in respect of Works relating to the ICT.	Paragraph 1 of Section 7 ( <i>Link Building</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>	<b>Reference:</b>	
[     ]	<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of requirements:</b>		
[     ] works of design and construction of the ICT shown on plan [     ] attached.		
<b>Area or areas of the RIE Site and/or RIE Facilities Site where access will be required:</b>		
The area(s) shown on plan [     ] attached.		
<b>Date or dates on which access will be required:</b>		
[Insert date not less than ten (10) Business Days after the date of this notice].		
<b>Schedule of Condition:<sup>26</sup></b>		
A Schedule of Condition of the of the relevant part of the RIE Site has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice] OR A record of the condition of the relevant part of the RIE Site and/or RIE Facilities properly recording the condition of the area, comprising photographs, [a written commentary, specification and drawings] of service media, buildings, structures, plant, machinery and equipment through, under over or on the relevant area, has been carried out [and three copies are attached to this Form of Notice]		
<b>Joint Inspection:</b>		
A joint inspection of the relevant part of the RIE Site and/or RIE Facilities has been carried out by Project Co and the Board or representatives on behalf of the Board at the Board's request on [     ] <sup>27</sup>		
<b>Interface Output Specification:</b>		
Project Co acknowledges and shall comply with the Interface Output Specification.		
<b>Connection Proposal:</b>		
Project Co acknowledges and shall comply with the Connection Proposal which shall set out the following specific information:		

<sup>26</sup> SoC only required if need to go into the Orange Area but otherwise the record of condition should apply

<sup>27</sup> This is only required if the Board acting reasonably considers a joint inspection is necessary



- The ICT specifications for the Facilities and the RIE Facilities;
- Design package information for the proposed method of installation of the ICT within the Facilities and the RIE Facilities;
- Proposal for the installation of the ICT within the Facilities and the RIE Facilities;
- [Method Statement for the maintenance and repair of the ICT within the Facilities and the RIE Facilities].

and the Board requires to be satisfied as to the design and methodology for the works proposed.

**[Access Strategy:<sup>30</sup>**

Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2.1 of Section 5 of Part 1 OR paragraph 1.2 of Section 2 of Part 2] of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement, when taking any access over the part of the Service Strip affected by this notice

**Arrangements for traffic management (where the Access Strategy applies):**

Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc.)]

**Journeys (where the Access Strategy applies):**

Project Co anticipates the following number of journeys shall be [     ].

**Timing of access (where the Access Strategy applies):**

Project requests that the time of day when access is required shall be [     ].

**Construction traffic (where the Access Strategy applies):**

Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].

**Activities of construction traffic (where the Access Strategy applies):**

Project Co's construction traffic will be doing the following activities [off-loading, etc].

**Compliance with paragraph [1.2.1 of Section 5 of Part 1 OR paragraphs 1.2-1.4 of Section 2 of Part 2] of Schedule 31(*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement (where the Access Strategy applies):**

As per paragraph [1.2.1 of Section 5 of Part 1 OR paragraphs 1.2-1.4 of Section 2 of Part 2] of Schedule 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:

- [1] have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area) [and be responsible for (i) the

<sup>30</sup> The Access Strategy may apply if works to the PTS involved accessing the Orange Area and so pedestrian or vehicular access could be affected although we expect this is unlikely.

	management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area); ] <sup>31</sup>
2	ensure the he imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works;
3	ensure restrictions on the periods during which construction access may be taken;
4	ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area, <sup>32</sup>
5	re-sequencing (and/or temporary cessation) the performance of elements of the Works/activities; and
6	implement other reasonable measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities and implement other reasonable measures which should be taken to (1) ensure sufficient and appropriate continued pedestrian and vehicular access to the Campus Site and/or Campus Facilities and part of the Retained Site and/or Retained Estate during the period of occupation, and (2) reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities;
7.	[others?]]
<b>Hoarding off Access Area (where the Access Strategy applies):</b>	
The affected part of the Access Areas shall be securely hoarded off by Project Co.]	
<b>Paragraphs Section 7 of Part 1 and Part 3 of Schedule Part 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement:</b>	
Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out Section 7 (Link Building) of Part 1 and the applicable requirements of Part 3 (General Matters), of Schedule Part 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement.	
<b>Issued by: [                      ] for Project Co</b>	
Signed.....	
Print name.....	
Title.....	

<sup>31</sup> Only applicable if Orange Area (not Yellow Area)

<sup>32</sup> See last footnote



## APPENDIX 8

## Part B – Form of Notices for Construction Phase

## ANNEX 2 - Access to RIE Site and RIE Facilities during the Works relating to the PTS

<b>Notice Period:</b>	<b>Notice Order Provisions:</b>	
Not less than ten (10) Business Days of the date upon which Project Co intends to access the relevant part of the RIE Site and/or RIE Facilities for Works relating to the PTS.	Paragraph 1 of Section 7 ( <i>Link Building</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>	<b>Reference:</b>	
[     ]	<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of requirements:</b>		
[     ] works of design and construction of the PTS shown on plan [     ] attached.		
<b>Area or areas of the RIE Site and/or RIE Facilities Site where access will be required:</b>		
The area(s) shown on plan [     ] attached.		
<b>Date or dates on which access will be required:</b>		
[Insert date not less than ten (10) Business Days after the date of this notice].		
<b>Schedule of Condition:</b> <sup>33</sup>		
A Schedule of Condition of the of the relevant part of the RIE Site has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice] OR A record of the condition of the relevant part of the RIE Site and/or RIE Facilities properly recording the condition of the area, comprising photographs, [a written commentary, specification and drawings] of service media, buildings, structures, plant, machinery and equipment through, under over or on the relevant area, has been carried out [and three copies are attached to this Form of Notice]		
<b>Joint Inspection:</b>		
A joint inspection of the relevant part of the RIE Site and/or RIE Facilities has been carried out by Project Co and the Board or representatives on behalf of the Board at the Board's request on [     ] <sup>34</sup>		
<b>Interface Output Specification:</b>		
Project Co acknowledges and shall comply with the Interface Output Specification.		
<b>Connection Proposal:</b>		
Project Co acknowledges and shall comply with the Connection Proposal which shall set out the following specific information:		

<sup>33</sup> SoC only required if need to go into the Orange Area but otherwise the record of condition should apply

<sup>34</sup> This is only required if the Board acting reasonably considers a joint inspection is necessary

- The PTS specifications for the Facilities and the RIE Facilities;
- Design package information for the proposed method of installation of the PTS within the Facilities and the RIE Facilities;
- A proposal for the installation of the PTS within the Facilities and the RIE Facilities;
- [Method Statement for the maintenance, repair, renewal and replacement of the PTS within the Facilities and the RIE Facilities],

and the Board requires to be satisfied as to the design and methodology for the works proposed.

**[Access Strategy:<sup>35</sup>**

Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2.1 of Section 5 of Part 1 OR paragraph 1.2 of Section 2 of Part 2] of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement, when taking any access over the part of the Service Strip affected by this notice

**Arrangements for traffic management (where the Access Strategy applies):**

Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc.)]

**Journeys (where the Access Strategy applies):**

Project Co anticipates the following number of journeys shall be [     ].

**Timing of access (where the Access Strategy applies):**

Project requests that the time of day when access is required shall be [     ].

**Construction traffic (where the Access Strategy applies):**

Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].

**Activities of construction traffic (where the Access Strategy applies):**

Project Co's construction traffic will be doing the following activities [off-loading, etc].

**Compliance with paragraph [1.2.1 of Section 5 of Part 1 OR paragraphs 1.2-1.4 of Section 2 of Part 2] of Schedule 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement (where the Access Strategy applies):**

As per paragraph [1.2.1 of Section 5 of Part 1 OR paragraphs 1.2-1.4 of Section 2 of Part 2] of Schedule 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:

- [1    have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area) [and be responsible for (i) the management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area];<sup>36</sup>;

<sup>35</sup> The Access Strategy may apply if works to the PTS involved accessing the Orange Area and so pedestrian or vehicular access could be affected although we expect this is unlikely.

<sup>36</sup> Only applicable if Orange Area (not Yellow Area)



- 2 ensure the he imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works;
- 3 ensure restrictions on the periods during which construction access may be taken;
- 4 ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;
- 5 re-sequencing (and/or temporary cessation) the performance of elements of the Works/activities; and
- 6 implement other reasonable measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities and  
(2)reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities;
7. [others?]]

**Hoarding off Access Area (where the Access Strategy applies):**

The affected part of the Access Areas shall be securely hoarded off by Project Co.]

**Other requirements of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement:**

Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out Section 7 (*Link Building*) of Part 1 and the applicable requirements of Part 3 (*General Matters*), of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement.

**Issued by: [                    ] for Project Co**

**Signed**.....

**Print name**.....

**Title**.....

## APPENDIX 8

## Part B – Form of Notices for Construction Phase

## Annex 3 - Access to RIE Site and RIE Facilities for Works relating to the Joint

<b>Notice Period:</b>	<b>Notice Order Provisions:</b>	
Not less than ten (10) Business Days of the date upon which Project Co intends to access the relevant part of the RIE Site and/or RIE Facilities for Works relating to the Joint.	Paragraph 1 of Section 7 (Link Building) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>	<b>Reference:</b>	
[     ]	<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of requirements:</b>		
[     ] works of forming a connection from the Facilities to the Link Building (i.e. the Joint) shown on plan [     ] attached.		
<b>Area or areas of the RIE Site and/or RIE Facilities Site where access will be required:</b>		
The area(s) shown on plan [     ] attached.		
<b>Date or dates on which access will be required:</b>		
[Insert date not less than ten (10) Business Days after the date of this notice].		
<b>Schedule of Condition:<sup>37</sup></b>		
A Schedule of Condition of the of the relevant part of the RIE Site has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice]		
OR		
A record of the condition of the relevant part of the RIE Site and/or RIE Facilities properly recording the condition of the area, comprising photographs, [a written commentary, specification and drawings] of service media, buildings, structures, plant, machinery and equipment through, under over or on the relevant area, has been carried out [and three copies are attached to this Form of Notice]		
<b>Joint Inspection:</b>		
A joint inspection of the relevant part of the RIE Site and/or RIE Facilities has been carried out by Project Co and the Board or representatives on behalf of the Board at the Board's request on [     ] <sup>38</sup>		
<b>Interface Output Specification:</b>		
Project Co acknowledges and shall comply with the Interface Output Specification.		
<b>Connection Proposal:</b>		
Project Co acknowledges and shall comply with the Connection Proposal which shall set out the following specific information:		

<sup>37</sup> SoC only required if need to go into the Orange Area but otherwise the record of condition should apply

<sup>38</sup> This is only required if the Board acting reasonably considers a joint inspection is necessary



- A Design package for method of connection of the Facilities to the Link Building; and
- A proposal in respect of the connection to the Link Building.

and the Board requires to be satisfied as to the design and methodology for the works proposed.

**[Access Strategy:<sup>39</sup>**

Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2.1 of Section 5 of Part 1 OR paragraph 1.2 of Section 2 of Part 2] of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement, when taking any access over the part of the Service Strip affected by this notice

**Arrangements for traffic management (where the Access Strategy applies):**

Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc).]

**Journeys (where the Access Strategy applies):**

Project Co anticipates the following number of journeys shall be [     ].

**Timing of access (where the Access Strategy applies):**

Project requests that the time of day when access is required shall be [     ].

**Construction traffic (where the Access Strategy applies):**

Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].

**Activities of construction traffic (where the Access Strategy applies):**

Project Co's construction traffic will be doing the following activities [off-loading, etc].

**Compliance with paragraph [1.2.1 of Section 5 of Part 1 OR paragraphs 1.2 to 1.4 of Section 2 of Part 2] of Schedule 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement (where the Access Strategy applies):**

As per paragraph [1.2.1 of Section 5 of Part 1 OR paragraphs 1.2 to 1.4 of Section 2 of Part 2] of Schedule 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:

- [1] have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area) [and be responsible for (i) the management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area);]<sup>40</sup>;
- 2 ensure the he imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works;

<sup>39</sup> The Access Strategy may apply if works to the Joint involved accessing the Orange Area and so pedestrian or vehicular access could be affected. Might need a "cherry picker" or other vehicle for above ground level access to maintain

<sup>40</sup> Only applicable if Orange Area (not Yellow Area)

3	ensure restrictions on the periods during which construction access may be taken;
4	ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;
5	re-sequencing (and/or temporary cessation) the performance of elements of the Works; and
6	implement other reasonable measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities and (2) reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities;
7.	[others?]
<b>Hoarding off Access Area (where the Access Strategy applies):</b>	
The affected part of the Access Areas shall be securely hoarded off by Project Co.]	
<b>Other requirements of Schedule Part 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement:</b>	
Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out Section 7 (Link Building) of Part 1 and the applicable requirements of Part 3 (General Matters), of Schedule Part 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement.	
<b>Issued by: [                      ] for Project Co</b>	
Signed.....	
Print name.....	
Title.....	

## APPENDIX 8

## Part B – Form of Notices for Construction Phase

## Annex 4 - Access to RIE Site and RIE Facilities for Works relating to the Fire Alarm System

<b>Notice Period:</b>	<b>Notice Order Provisions:</b>	
Not less than ten (10) Business Days of the date upon which Project Co intends to access the relevant part of the RIE Site and/or RIE Facilities for Works relating to the Fire Alarm System.	Paragraph 3 of Section 7 (Link Building) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>	<b>Reference:</b>	
[       ]	<b>Board:</b> [       ]	<b>Project Co:</b> [       ]
<b>Description of requirements:</b>		
[       ] works of design and construction of the interface links between the Fire Alarm System within the Facilities and those within the RIE Facilities shown on plan [       ] attached.		
<b>Area or areas of the RIE Site and/or RIE Facilities Site where access will be required:</b>		
The area(s) shown on plan [       ] attached.		
<b>Date or dates on which access will be required:</b>		
[Insert date not less than ten (10) Business Days after the date of this notice].		
<b>Schedule of Condition:<sup>41</sup></b>		
A Schedule of Condition of the of the relevant part of the RIE Site has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice] OR A record of the condition of the relevant part of the RIE Site and/or RIE Facilities properly recording the condition of the area, comprising photographs, [a written commentary, specification and drawings] of service media, buildings, structures, plant, machinery and equipment through, under over or on the relevant area, has been carried out [and three copies are attached to this Form of Notice]		
<b>Joint Inspection:</b>		
A joint inspection of the relevant part of the RIE Site and/or RIE Facilities has been carried out by Project Co and the Board or representatives on behalf of the Board at the Board's request on [       ] <sup>42</sup>		
<b>Interface Output Specification:</b>		
Project Co acknowledges and shall comply with the Interface Output Specification.		
<b>Connection Proposal:</b>		
Project Co acknowledges and shall comply with the Connection Proposal which shall set out the following specific information:		

<sup>41</sup> SoC only required if need to go into the Orange Area but otherwise the record of condition should apply

<sup>42</sup> This is only required if the Board acting reasonably considers a joint inspection is necessary



- The fire alarm specification for the interface link between the Fire Alarm System within the Facilities and the RIE Facilities;
- Design package information for method of installation for the interface link between the Fire Alarm System within the Facilities and the RIE Facilities;
- A proposal for the interface link between the Fire Alarm System within the Facilities and the RIE Facilities;
- [Method Statement for the maintenance, repair, renewal and replacement of the interface link between the Fire Alarm System within the Facilities and the RIE Facilities],

and the Board requires to be satisfied as to the design and methodology for the works proposed.

**[Access Strategy:<sup>43</sup>**

Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2.1 of Section 5 of Part 1 OR paragraph 1.2 of Section 2 of Part 2] of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement, when taking any access over the part of the Service Strip affected by this notice

**Arrangements for traffic management (where the Access Strategy applies):**

Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc.)]

**Journeys (where the Access Strategy applies):**

Project Co anticipates the following number of journeys shall be [     ].

**Timing of access (where the Access Strategy applies):**

Project requests that the time of day when access is required shall be [     ].

**Construction traffic (where the Access Strategy applies):**

Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].

**Activities of construction traffic (where the Access Strategy applies):**

Project Co's construction traffic will be doing the following activities [off-loading, etc].

**Compliance with paragraph [1.2.1 of Section 5 of Part 1 OR paragraphs 1.2 to 1.4 of Section 2 of Part 2] of Schedule 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement (where the Access Strategy applies):**

As per paragraph [1.2.1 of Section 5 of Part 1 OR paragraphs 1.2 to 1.4 of Section 2 of Part 2] of Schedule 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:

- [1] have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area) [and be responsible for (i) the

<sup>43</sup> The Access Strategy may apply if works to the fire alarm interface links involved accessing the Orange Area and so pedestrian or vehicular access could be affected although we expect this is unlikely.

	management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area); ] <sup>44</sup> ;
2	ensure the he imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works;
3	ensure restrictions on the periods during which construction access may be taken;
4	ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;
5	re-sequencing (and/or temporary cessation) the performance of elements of the Works/activities; and
6	implement other reasonable measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities and (2)reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities;;
7.	[others?]]
<b>Hoarding off Access Area (where the Access Strategy applies):</b>	
The affected part of the Access Areas shall be securely hoarded off by Project Co.]	
<b>Other requirements of Schedule Part 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement:</b>	
Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out Section 7 (Link Building) of Part 1 and the applicable requirements of Part 3 (General Matters), of Schedule Part 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement.	
<b>Issued by: [                      ] for Project Co</b>	
Signed.....	
Print name.....	
Title.....	

<sup>44</sup> Only applicable if Orange Area (not Yellow Area)

## APPENDIX 8

## Part C – Form of Notices for Operational Term

## Annex 5 - Access to RIE Site and RIE Facilities during Operational Term relating to the ICT

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not less than ten (10) Business Days of the date upon which Project Co intends to access the relevant part of the RIE Site and/or RIE Facilities during the Operational Term in relation to the ICT.  <b>[NB: THE NOTICE PERIOD DOES NOT APPLY IN AN EMERGENCY WHERE AS MUCH NOTICE AS PRACTICABLE IN THE CIRCUMSTANCES IS TO BE GIVEN]</b>		Paragraph 3 of Section 2 (Operational Construction Issues) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>		<b>Reference:</b>	
[     ]		<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of requirements:</b>			
[     ] works of [maintenance, repair, replacement and renewal] of the ICT shown on plan [     ] attached.			
<b>Area or areas of the RIE Site and/or RIE Facilities Site where access will be required:</b>			
The area(s) shown on plan [     ] attached.			
<b>Date or dates on which access will be required:</b>			
[Insert date not less than ten (10) Business Days after the date of this notice]. <b>[NB: EXCEPT IN AN EMERGENCY WHEN AS MUCH NOTICE AS IS PRACTICABLE IN THE CIRCUMSTANCES IS TO BE GIVEN]</b>			
<b>Schedule of Condition:<sup>45</sup></b>			
A Schedule of Condition of the of the relevant part of the RIE Site has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice] <b>[NB: THIS IS NOT REQUIRED WHERE THERE ARE EMERGENCY WORKS]</b>			
OR			
A record of the condition of the relevant part of the RIE Site and/or RIE Facilities properly recording the condition of the area, comprising photographs, [a written commentary, specification and drawings] of service media, buildings, structures, plant, machinery and equipment through, under over or on the relevant area, has been carried out [and three copies are attached to this Form of Notice]			
<b>Joint Inspection:</b>			

<sup>45</sup> SoC only required if need to go into the Orange Area but otherwise the record of condition should apply



A joint inspection of the relevant part of the RIE Site and/or RIE Facilities has been carried out by Project Co and the Board or representatives on behalf of the Board at the Board's request on [ ] <sup>46</sup>
<b>Interface Output Specification:</b>
Project Co acknowledges and shall comply with the Interface Output Specification.
<b>Connection Proposal:</b>
Project Co acknowledges and shall comply with the Connection Proposal which shall set out the following specific information:
<ul style="list-style-type: none"> <li>Method Statement for the maintenance and repair of the ICT within the Facilities and the RIE Facilities<sup>47</sup>,</li> </ul>
And the Board requires to be satisfied as to the design and methodology for the maintenance, repair and renewal works proposed.
<b>[Access Strategy: <sup>48</sup></b>
Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2.1 of Section 5 of Part 1 OR paragraph 1.2 of Section 2 of Part 2] of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the part of the Service Strip affected by this notice
<b>Arrangements for traffic management (where the Access Strategy applies):</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc).]
<b>Journeys (where the Access Strategy applies):</b>
Project Co anticipates the following number of journeys shall be [ ].
<b>Timing of access (where the Access Strategy applies):</b>
Project requests that the time of day when access is required shall be [ ].
<b>Construction traffic (where the Access Strategy applies):</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic (where the Access Strategy applies):</b>
Project Co's construction traffic will be doing the following activities [off-loading, etc].
<b>Compliance with paragraph [1.2 of Section 5 of Part 1 OR paragraphs 1.2-1.4 of Section 2 of Part 2] of Schedule 31(<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement (where the Access Strategy applies):</b>
As per paragraph [1.2 of Section 5 of Part 1 OR paragraphs 1.2-1.4 of Section 2 of Part 2 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should

<sup>46</sup> This is only required if the Board acting reasonably considers a joint inspection is necessary

<sup>47</sup> It is assumed the Board will already be satisfied as to design package and proposed method for the original installation of the ICT

<sup>48</sup> The Access Strategy may apply if works to the PTS involved accessing the Orange Area and so pedestrian or vehicular access could be affected although we expect this is unlikely.





## APPENDIX 8

## Part C – Form of Notices for Operational Term

## Annex 6 - Access to RIE Site and RIE Facilities during Operational Term relating to the PTS

<b>Notice Period:</b>	<b>Notice Order Provisions:</b>	
Not less than ten (10) Business Days of the date upon which Project Co intends to access the relevant part of the RIE Site and/or RIE Facilities during the Operational Term in relation to the PTS.  <b>[NB: THE NOTICE PERIOD DOES NOT APPLY IN AN EMERGENCY WHERE AS MUCH NOTICE AS PRACTICABLE IN THE CIRCUMSTANCES IS TO BE GIVEN]</b>	Paragraph 3 of Section 2 (Operational Construction Issues) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>	<b>Reference:</b>	
[     ]	Board: [     ]	Project Co: [     ]
<b>Description of requirements:</b>		
[     ] works of [maintenance, repair, replacement and renewal] of the PTS shown on plan [     ] attached.		
<b>Area or areas of the RIE Site and/or RIE Facilities Site where access will be required:</b>		
The area(s) shown on plan [     ] attached.		
<b>Date or dates on which access will be required:</b>		
[Insert date not less than ten (10) Business Days after the date of this notice]. <b>[NB: EXCEPT IN AN EMERGENCY WHEN AS MUCH NOTICE AS IS PRACTICABLE IN THE CIRCUMSTANCES IS TO BE GIVEN]</b>		
<b>Schedule of Condition:</b> <sup>90</sup>		
A Schedule of Condition of the of the relevant part of the RIE Site has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice] NB THIS IS NOT REQUIRED WHERE THERE ARE EMERGENCY WORKS OR A record of the condition of the relevant part of the RIE Site and/or RIE Facilities properly recording the condition of the area, comprising photographs, [a written commentary, specification and drawings] of service media, buildings, structures, plant, machinery and equipment through, under over or on the relevant area, has been carried out [and three copies are attached to this Form of Notice]		
<b>Joint Inspection:</b>		

<sup>90</sup> SoC only required if need to go into the Orange Area but otherwise the record of condition should apply

A joint inspection of the relevant part of the RIE Site and/or RIE Facilities has been carried out by Project Co and the Board or representatives on behalf of the Board at the Board's request on [ ] <sup>51</sup>
<b>Interface Output Specification:</b>
Project Co acknowledges and shall comply with the Interface Output Specification.
<b>Connection Proposal:</b>
Project Co acknowledges and shall comply with the Connection Proposal which shall set out the following specific information:
<ul style="list-style-type: none"> <li>Method Statement for the maintenance, repair, renewal and replacement of the PTS within the Facilities and the RIE Facilities<sup>52</sup>,</li> </ul>
and the Board requires to be satisfied as to the design and methodology for the maintenance , repair and renewal works proposed.
<b>[Access Strategy:</b> <sup>53</sup>
Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2.1 of Section 5 of Part 1 OR paragraph 1.2 of Section 2 of Part 2] of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the part of the Service Strip affected by this notice
<b>Arrangements for traffic management (where the Access Strategy applies):</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc.)]
<b>Journeys (where the Access Strategy applies):</b>
Project Co anticipates the following number of journeys shall be [ ].
<b>Timing of access (where the Access Strategy applies):</b>
Project requests that the time of day when access is required shall be [ ].
<b>Construction traffic (where the Access Strategy applies):</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic (where the Access Strategy applies):</b>
Project Co's construction traffic will be doing the following activities [off-loading, etc].
<b>Compliance with paragraph [1.2 of Section 5 of Part 1 OR paragraphs 1.2 to1.4 of Section 2 of Part 2] of Schedule 31(<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement (where the Access Strategy applies):</b>
As per paragraph [1.2 of Section 5 of Part 1 OR paragraphs 1.2 to1.4 of Section 2 of Part 2] of Schedule 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures

<sup>51</sup> This is only required if the Board acting reasonably considers a joint inspection is necessary

<sup>52</sup> It is assumed the Board will already be satisfied as to design package and proposed method for the original installation of the PTS

<sup>53</sup> The Access Strategy may apply if works to the PTS involved accessing the Orange Area and so pedestrian or vehicular access could be affected although we expect this is unlikely.



which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:

- [1 have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area) [and be responsible for (i) the management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area); ]<sup>54</sup>;
- 2 ensure the he imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the Works;
- 3 ensure restrictions on the periods during which construction access may be taken;
- 4 ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;
- 5 re-sequencing (and/or temporary cessation) the performance of elements of the Works/activities; and
- 6 implement other reasonable measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities and (2)reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities;
7. [others?]]

**Hoarding off Access Area (where the Access Strategy applies):**

The affected part of the Access Areas shall be securely hoarded off by Project Co.]

**Other requirements of Schedule Part 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement:**

Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out in:

- paragraphs 1 (*Access to RIE and RIE Facilities*) and 3 (*PTS, ICT, Joint and Fire Alarm System*) of Section 2 (*Operational Construction Issues*) of Part 1 (*Interface Construction Issues and Interface Proposals*);
- Section 7 (*Link Building*) of Part 1 (*Interface Construction Issues and Interface Proposals*); and
- the applicable provisions of Part 3 (*General Matters*).

each of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement.

Issued by: [ ] for Project Co

<sup>54</sup> Only applicable if Orange Area (not Yellow Area)

## APPENDIX 8

## Part C – Form of Notices for Operational Term

## Annex 7 - Access to RIE Site and RIE Facilities during Operational Term relating to the Joint

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not less than ten (10) Business Days of the date upon which Project Co intends to access the relevant part of the RIE Site and/or RIE Facilities during the for the Operational Term in relating to the maintenance, repair, replacement and renewal of the Joint.  <b>[NB: THE NOTICE PERIOD DOES NOT APPLY IN AN EMERGENCY WHERE AS MUCH NOTICE AS PRACTICABLE IN THE CIRCUMSTANCES IS TO BE GIVEN]</b>		Paragraph 3 of Section 2 (Operational Construction Issues) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>		<b>Reference:</b>	
[     ]     ]		<b>Board:</b> [     ]     ]	<b>Project Co:</b> [     ]     ]
<b>Description of requirements:</b>			
[     ] works of [maintenance, repair, replacement and renewal] of the Joint shown on plan [     ] attached.			
<b>Area or areas of the RIE Site and/or RIE Facilities Site where access will be required:</b>			
The area(s) shown on plan [     ] attached.			
<b>Date or dates on which access will be required:</b>			
[Insert date not less than ten (10) Business Days after the date of this notice]. <b>[NB: EXCEPT IN AN EMERGENCY WHEN AS MUCH NOTICE AS IS PRACTICABLE IN THE CIRCUMSTANCES IS TO BE GIVEN]</b>			
<b>Schedule of Condition:</b> <sup>55</sup>			
A Schedule of Condition of the of the relevant part of the RIE Site has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice] NB THIS IS NOT REQUIRED WHERE THERE ARE EMERGENCY WORKS OR A record of the condition of the relevant part of the RIE Site and/or RIE Facilities properly recording the condition of the area, comprising photographs, [a written commentary, specification and drawings] of service media, buildings, structures, plant, machinery and equipment through, under over or on the relevant area, has been carried out [and three copies are attached to this Form of Notice]			
<b>Joint Inspection:</b>			
A joint inspection of the relevant part of the RIE Site and/or RIE Facilities has been carried out by Project Co and the Board or representatives on behalf of the Board at the Board's request on [     ] <sup>56</sup> .			

<sup>55</sup> SoC only required if need to go into the Orange Area but otherwise the record of condition should apply

<sup>56</sup> This is only required if the Board acting reasonably considers a joint inspection is necessary



<b>Interface Output Specification:</b>
Project Co acknowledges and shall comply with the Interface Output Specification.
<b>Connection Proposal:</b>
Project Co acknowledges and shall comply with the Connection Proposal which shall set out the following specific information: <ul style="list-style-type: none"> <li>• Design package for method of connection of the Facilities to the link building and a proposal in respect of the connection,</li> </ul> and the Board requires to be satisfied as to the design and methodology for the maintenance , repair and renewal works proposed.
<b>[Access Strategy:<sup>57</sup></b>
Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2 of Section 5 of Part 1 OR paragraph 1.2 of Section 2 of Part 2] of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the part of the Service Strip affected by this notice
<b>Arrangements for traffic management (where the Access Strategy applies):</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc).]
<b>Journeys (where the Access Strategy applies):</b>
Project Co anticipates the following number of journeys shall be [     ].
<b>Timing of access (where the Access Strategy applies):</b>
Project requests that the time of day when access is required shall be [     ].
<b>Construction traffic (where the Access Strategy applies):</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic (where the Access Strategy applies):</b>
Project Co's construction traffic will be doing the following activities [off-loading, etc].
<b>Compliance with paragraph [1.2 of Section 5 of Part 1 OR paragraphs 1.2-1.4 of Section 2 of Part 2] of Schedule 31(<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement (where the Access Strategy applies):</b>
As per paragraph [1.2 of Section 5 of Part 1 OR paragraphs 1.2-1.4 of Section 2 of Part 2] of Schedule 31( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:
[1     have appropriate allocation of primary responsibility for areas and at times when construction access is required over the Orange Area (for example, where the Access Strategy envisages

<sup>57</sup> The Access Strategy may apply if works to the Joint involved accessing the Orange Area and so pedestrian or vehicular access could be affected. Might need a "cherry picker" or other vehicle for above ground level access to maintain





## APPENDIX 8

## Part C – Form of Notices for Operational Term

## Annex 8 - Access To RIE Site and RIE Facilities during Operational Term relating to the Fire Alarm System

<b>Notice Period:</b>	<b>Notice Order Provisions:</b>	
Not less than ten (10) Business Days of the date upon which Project Co intends to access the relevant part of the RIE Site and/or RIE Facilities during the Operational Term in relation to the Fire Alarm System.  <b>[NB: THE NOTICE PERIOD DOES NOT APPLY IN AN EMERGENCY WHERE AS MUCH NOTICE AS PRACTICABLE IN THE CIRCUMSTANCES IS TO BE GIVEN]</b>	Paragraph 3 of Section 2 (Operational Construction Issues) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>	<b>Reference:</b>	
[     ]	<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of requirements:</b>		
[     ] works of [maintenance, repair, replacement and renewal] of the interface links between the Fire Alarm System within the Facilities and those within the RIE Facilities shown on plan [     ] attached.		
<b>Area or areas of the RIE Site and/or RIE Facilities Site where access will be required:</b>		
The area(s) shown on plan [     ] attached.		
<b>Date or dates on which access will be required:</b>		
[Insert date not less than ten (10) Business Days after the date of this notice]. <b>[NB: EXCEPT IN AN EMERGENCY WHEN AS MUCH NOTICE AS IS PRACTICABLE IN THE CIRCUMSTANCES IS TO BE GIVEN]</b>		
<b>Schedule of Condition:</b> <sup>59</sup>		
A Schedule of Condition of the of the relevant part of the RIE Site has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice] NB THIS IS NOT REQUIRED WHERE THERE ARE EMERGENCY WORKS OR A record of the condition of the relevant part of the RIE Site and/or RIE Facilities properly recording the condition of the area, comprising photographs, [a written commentary, specification and drawings] of service media, buildings, structures, plant, machinery and equipment through, under over or on the relevant area, has been carried out [and three copies are attached to this Form of Notice]		
<b>Joint Inspection:</b>		
A joint inspection of the relevant part of the RIE Site and/or RIE Facilities has been carried out by Project Co and the Board or representatives on behalf of the Board at the Board's request on [     ] <sup>60</sup>		

<sup>59</sup> SoC only required if need to go into the Orange Area but otherwise the record of condition should apply

<sup>60</sup> This is only required if the Board acting reasonably considers a joint inspection is necessary

<b>Interface Output Specification:</b>
Project Co acknowledges and shall comply with the Interface Output Specification.
<b>Connection Proposal:</b>
Project Co acknowledges and shall comply with the Connection Proposal which shall set out the following specific information:- <ul style="list-style-type: none"> <li>Method Statement for the maintenance, repair, renewal and replacement of the interface link between the Fire Alarm System within the Facilities and the RIE Facilities<sup>61</sup></li> </ul> And the Board requires to be satisfied as to the design and methodology for the maintenance, repair and renewal works proposed.
<b>[Access Strategy:<sup>62</sup></b>
Project Co shall ensure pedestrian and vehicular access to the Campus Site and Campus Facilities must be maintained at all times and shall comply with the Access Strategy, which in turn shall comply with the requirements of [paragraph 1.2 of Section 5 of Part 1 OR paragraph 1.2 of Section 2 of Part 2] of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the part of the Service Strip affected by this notice
<b>Arrangements for traffic management (where the Access Strategy applies):</b>
Project Co's traffic arrangements (e.g. one way and contra flow) shall be managed by [identity of contractor] and supervised by [identity of supervisors, their duties and responsibilities, contact details (telephone numbers, bleep numbers, etc).]
<b>Journeys (where the Access Strategy applies):</b>
Project Co anticipates the following number of journeys shall be [     ].
<b>Timing of access (where the Access Strategy applies):</b>
Project requests that the time of day when access is required shall be [     ].
<b>Construction traffic (where the Access Strategy applies):</b>
Project Co's construction traffic will comprise the following [vehicle size/type, access requirements].
<b>Activities of construction traffic (where the Access Strategy applies):</b>
Project Co's construction traffic will be doing the following activities [off-loading, etc].
<b>Compliance with paragraph [1.2 of Section 5 of Part 1 OR paragraphs 1.2-1.4 of Section 2 of Part 2] of Schedule 31 (<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement (where the Access Strategy applies):</b>
As per paragraph [1.2 of Section 5 of Part 1 OR paragraphs 1.2-1.4 of Section 2 of Part 2] of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, Project Co shall also implement and comply with any with any other measures and operations reasonably requested by the Board for the proper implementation of the Access Strategy, including measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities. For the avoidance of doubt, Project Co shall:
[1     have appropriate allocation of primary responsibility for areas and at times when construction

<sup>61</sup> It is assumed the Board will already be satisfied as to design package and proposed method for the original installation interface links for the Fire Alarm System

<sup>62</sup> The Access Strategy may apply if works to the fire alarm interface links involved accessing the Orange Area and so pedestrian or vehicular access could be affected although we expect this is unlikely.



access is required over the Orange Area (for example, where the Access Strategy envisages that Project Co shall have a segregated access within the Orange Area it is acknowledged by Project Co that Project Co will be primarily responsible for traffic management, health and safety, signage and pedestrian crossings in respect of that area) [and be responsible for (i) the management of traffic across the Orange Area and (ii) road traffic signage and pedestrian crossings within the Orange Area];<sup>63</sup>

- 2 ensure the imposition, where appropriate, of a suitable Permit to Work System and any other reasonable requirement of the Board, appropriate to the nature of the;
- 3 ensure restrictions on the periods during which construction access may be taken;
- 4 ensure the physical separation of construction traffic from other traffic and pedestrians using the Orange Area;
- 5 re-sequencing (and/or temporary cessation) the performance of elements of the Works/activities; and
- 6 implement other reasonable measures which should be taken to reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities, and (2) reduce any health and safety risks to all visitors, staff and patients at the Campus Site and/or Campus Facilities;
7. [others?]

**Hoarding off Access Area (where the Access Strategy applies):**

The affected part of the Access Areas shall be securely hoarded off by Project Co.]

**Paragraphs 1 and 3 of Section 2 and Section 7 of Part 1 and Part 3 of Schedule Part 31 (Consort Interface with Campus Site and/or Campus Facilities) of this Agreement:**

Project Co acknowledges and shall comply and/or shall procure compliance with the other requirements set out in:

- paragraphs 1 (*Access to RIE and RIE Facilities*) and 3 (*PTS, ICT, Joint and Fire Alarm System*) of Section 2 (*Operational Construction Issues*) of Part 1 (*Interface Construction Issues and Interface Proposals*);
- Section 7 (*Link Building*) of Part 1 (*Interface Construction Issues and Interface Proposals*); and
- the applicable provisions of Part 3 (*General Matters*),

each of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement.

Issued by: [ ] for Project Co

Signed.....

Print name.....

Title.....

<sup>63</sup> Only applicable if Orange Area (not Yellow Area)

## APPENDIX 9

## Other Form of Notices for Construction Phase

## Annex 1 - Occupation of Car Park E

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not less than twenty five (25) Business Days of the date when Project Co intends to occupy of Car Park E.		Paragraph 1.1 of Section 3 ( <i>Site Compound/Car Park E</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>		<b>Reference:</b>	
[            ]		<b>Board:</b> [            ]	<b>Project Co:</b> [            ]
<b>Description of requirements:</b>			
Occupation of Car Park E shown on plan [            ] attached for use as office accommodation, welfare accommodation, parking for staff and contractors necessarily required for the Works.			
<b>Date or dates on which occupation will be required:</b>			
[Insert date not less than twenty five (25) Business Days after the date of this notice]			
<b>Anticipated Date or dates until which occupation will be required:</b>			
[            ]			
<b>Schedule of Condition:</b>			
A Schedule of Condition of Car Park E has been prepared in accordance with paragraph 2 of Part 3 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement [and a copy is attached to this Form of Notice].			
<b>Traffic Management Strategy:</b>			
Project Co shall comply with the TMS, which in turn shall comply with the requirements of paragraph 2.2 of Section 1 of Part 1 of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement, when taking any access over the Orange Area to occupy Car Park E.			
<b>Restrictions applying to access to and occupation of Car Park E:</b>			
<ul style="list-style-type: none"> <li>• No Commercial Vehicles may be parked in Car Park E – a Commercial Vehicle means a vehicle which requires a HGV or a PSV licence and/or any vehicle used for retail purposes;</li> <li>• No construction materials may be stored on Car Park E [except [            ] which have the prior written agreement of the Board which was given by the Board on [            ]; any construction materials which are stored shall be stored properly, safely and securely and shall be adequately protected and is compatible with the use of Car Park E as office and welfare accommodation and parking for staff and contractors;</li> <li>• Car Park E shall be kept in a neat and tidy condition at all times;</li> <li>• [any other requirements attached to the TMS that it would be helpful to reiterate here (e.g. timing of access to the Car Park E, routes in and out of Car Park E etc?)</li> </ul>			
<b>Other requirements of Schedule Part 31 (<i>Consort Interface with Campus Site and/or Campus Facilities</i>) of this Agreement:</b>			





## APPENDIX 10

## Form of Notices for Completion and Vacation

## Part A – Form of Notices for Construction Phase

## Annex 1 - Proposed Vacation of an area outwith the Site

<b>Notice Period:</b>	<b>Notice Order Provisions:</b>	
Not less than fifteen (15) Business Days of the date upon which Project Co intends to vacate and cease using the relevant area outwith the Site <sup>64</sup> .	Paragraph 3.1.1 ( <i>Reinstatement of Damage</i> ) of Part 3 (General Matters) of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>	<b>Reference:</b>	
[     ]	<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of Area being vacated:</b>		
Project Co hereby gives notice that it proposes to vacate and cease to use the area which forms part of [insert Car Park E, Access Areas, RIE Site/RIE Facilities (eg for PTS, Joint, ICT, fire alarm) etc to which access was given ] shown on plan [     ] attached in respect of which area access was given pursuant to Project Co's notice to the Board dated [     ].		
<b>Proposed Vacation Date:</b>		
[insert a date not earlier than 15 Business Days after the date of this notice]		
<b>Reinstatement of area:</b>		
Project Co confirms it has reinstated the relevant area to no worse condition than that which existed prior to taking occupation of the relevant area as evidenced by the original Schedule of Condition dated [     ] attached to Project Co's notice to the Board dated [     ]		
<b>Further Schedule of Condition:</b>		
A further Schedule of Condition of the Access Area which is no longer being used has now be prepared in accordance with paragraph 2 ( <i>Schedules of Condition</i> ) of Part 3 ( <i>General Matters</i> ) of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement and three hard copies are attached to this notice. <sup>65</sup>		
<b>Issued by:</b> [     ] for Project Co		
Signed.....		
Print name.....		
Title.....		

<sup>64</sup> This notice will require to be given in addition to any notices notifying completion of construction, for vacating areas such as Car Park E, and any part of the Access Areas (ie Orange and Yellow Areas. (Note the Orange Area captures the Foul Service Strip and the Yellow Area captures the Service Strip).

<sup>65</sup> This is supposed to happen once reinstatement to the Board's satisfaction

## APPENDIX 10

## Form of Notices for Completion and Vacation

## Part A – Form of Notices for Construction Phase

## Annex 2 - Completion of construction in Access Areas – pedestrian and vehicular accesses onto the Orange Area

<b>Notice Period:</b>	<b>Notice Order Provisions:</b>	
Not applicable.	Paragraph 5 (relative to paragraph 1.1.2) of Section 5 ( <i>Access Areas and Drainage</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>	<b>Reference:</b>	
[     ]	<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of completion of construction and date of completion:</b>		
Project Co hereby gives notice that it has completed the works to form [pedestrian/vehicular] accesses to and from the Site onto the Orange Area shown on plan [     ] attached which were notified in Project Co's notice to the Board dated [     ]. Completion of these works occurred on [     ].		
<b>Further Schedule of Condition:</b>		
A further Schedule of Condition of the Access Area which is no longer being used should now be prepared in accordance with paragraph 2 ( <i>Schedules of Condition</i> ) of Part 3 ( <i>General Matters</i> ) of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.		
<b>Issued by:</b> [     ] for Project Co		
Signed.....		
Print name.....		
Title.....		

## APPENDIX 10

## Form of Notices for Completion and Vacation

## Part A – Form of Notices for Construction Phase

## Annex 3 - Completion of construction in Access Areas – roads, footpaths, landscaped areas in the Hatched Orange Area

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not applicable.		Paragraph 5 (relative to paragraph 1.1.3) of Section 5 ( <i>Access Areas and Drainage</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>		<b>Reference:</b>	
[       ]		<b>Board:</b> [       ]	<b>Project Co:</b> [       ]
<b>Description of completion of construction and date of completion:</b>			
Project Co hereby gives notice that it has completed the works to reconfigure [roads/footpaths/landscaped areas] within the Hatched Orange Area shown on plan [       ] attached which were notified in Project Co's notice to the Board dated [       ]. Completion of these works occurred on [       ].			
<b>Further Schedule of Condition:</b>			
A further Schedule of Condition of the Access Area which is no longer being used should now be prepared in accordance with paragraph 2 ( <i>Schedules of Condition</i> ) of Part 3 ( <i>General Matters</i> ) of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.			
<b>Issued by:</b> [       ] for Project Co			
Signed.....			
Print name.....			
Title.....			



## APPENDIX 10

## Form of Notices for Completion and Vacation

## Part A – Form of Notices for Construction Phase

## Annex 4 - Completion of construction in Access Areas – Cycle Path Works in the Yellow Area

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not applicable.		Paragraph 5 (relative to paragraph 1.1.6) of Section 5 ( <i>Access Areas and Drainage</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>		<b>Reference:</b>	
[     ]     ]		<b>Board:</b> [     ]     ]	<b>Project Co:</b> [     ]     ]
<b>Description of completion of construction and date of completion:</b>			
Project Co hereby gives notice that it has completed the works to [form the Cycle Path Works ] within the Yellow Area shown on plan [     ] attached which were notified in Project Co's notice to the Board dated [     ]. Completion of these works occurred on [     ].			
<b>Further Schedule of Condition:</b>			
A further Schedule of Condition of the Access Area which is no longer being used should now be prepared in accordance with paragraph 2 ( <i>Schedules of Condition</i> ) of Part 3 ( <i>General Matters</i> ) of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.			
<b>Issued by:</b> [     ]     ] for Project Co			
Signed.....			
Print name.....			
Title.....			

## APPENDIX 10

## Form of Notices for Completion and Vacation

## Part A – Form of Notices for Construction Phase

Annex 5 - Completion of construction in Access Areas – Surface Water Drainage connections in the Orange Area<sup>66</sup>

<b>Notice Period:</b>	<b>Notice Order Provisions:</b>	
Not applicable.	Paragraph 5 (relative to paragraph 1.1.4) of Section 5 ( <i>Access Areas and Drainage</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>	<b>Reference:</b>	
[     ]	<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of completion of construction and date of completion:</b>		
Project Co hereby gives notice that it has completed the Surface Water Drainage Works connections within the Orange Area shown on plan [     ] attached which were notified in Project Co's notice to the Board dated [     ]. Completion of these works occurred on [     ].		
<b>Further Schedule of Condition:</b>		
A further Schedule of Condition of the Access Area which is no longer being used should now be prepared in accordance with paragraph 2 ( <i>Schedules of Condition</i> ) of Part 3 ( <i>General Matters</i> ) of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.		
<b>Repeat Camera Survey:</b>		
Project Co will repeat the camera survey to document the condition of the surface water drainage system following the installation of the new connections and four hard copies and an electronic version of this survey will be delivered to the Board.		
<b>Issued by:</b> [     ] for Project Co		
Signed.....		
Print name.....		
Title.....		

<sup>66</sup> Note this includes works done under the Initial Drainage Proposal, Drainage Proposal and/or a Supplemental Drainage Proposal and/or Amended Supplemental Drainage Proposal

## APPENDIX 10

## Form of Notices for Completion and Vacation

## Part A – Form of Notices for Construction Phase

Annex 6 - Completion of construction in Access Areas – Service Strip<sup>67</sup>

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not applicable.		Paragraph 5 (relative to paragraph 1.1.1) of Section 5 ( <i>Access Areas and Drainage</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>		<b>Reference:</b>	
[       ]		<b>Board:</b> [       ]	<b>Project Co:</b> [       ]
<b>Description of completion of construction and date of completion:</b>			
Project Co hereby gives notice that it has completed the construction and laying of service media for the passage of [water, Sewerage, drainage, oil, gas, electricity, telephone or other telecommunications] within the Service Strip (a part of the Yellow Area) shown on plan [       ] attached which were notified in Project Co's notice to the Board dated [       ]. Completion of these works occurred on [       ].			
<b>Further Schedule of Condition:</b>			
A further Schedule of Condition of the Access Area which is no longer being used should now be prepared in accordance with paragraph 2 ( <i>Schedules of Condition</i> ) of Part 3 ( <i>General Matters</i> ) of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.			
<b>Issued by:</b> [       ] for Project Co			
Signed.....			
Print name.....			
Title.....			

<sup>67</sup> Note this will include works done under a Service Proposal and/or an Amended Service Proposal  
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## APPENDIX 10

## Form of Notices for Completion and Vacation

## Part A – Form of Notices for Construction Phase

## Annex 7 - Completion of construction in Access Areas – Foul Service Strip\*\*

<b>Notice Period:</b>	<b>Notice Order Provisions:</b>	
Not applicable.	Paragraph 5 (relative to paragraph 1.1.1) of Section 5 ( <i>Access Areas and Drainage</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>	<b>Reference:</b>	
[     ]	<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of completion of construction and date of completion:</b>		
Project Co hereby gives notice that it has completed the construction and laying of Foul Water Drainage within the Foul Service Strip (a part of the Orange Area) shown on plan [     ] attached which were notified in Project Co's notice to the Board dated [     ]. Completion of these works occurred on [     ].		
<b>Further Schedule of Condition:</b>		
A further Schedule of Condition of the Access Area which is no longer being used should now be prepared in accordance with paragraph 2 ( <i>Schedules of Condition</i> ) of Part 3 ( <i>General Matters</i> ) of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.		
<b>Issued by:</b> [     ] for Project Co		
Signed.....		
Print name.....		
Title.....		

\*\* Note this notice is not intended for completion of Surface Water Drainage which is Appendix 7. This will include works done under a Service Proposal and/or an Amended Service Proposal

## APPENDIX 10

## Form of Notices for Completion and Vacation

## Part B – Form of Notices for Operational Term

## Annex 8 - Completion of repair, maintenance or renewal of service media in and Vacation of the Foul Service Strip

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not applicable.		Paragraph 2.4 of Section 6 ( <i>Service Strip and Foul Service Strip</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>		<b>Reference:</b>	
[     ]		<b>Board:</b> [     ]	<b>Project Co:</b> [     ]
<b>Description of completion of construction and date of completion:</b>			
Project Co hereby gives notice that it has completed the works to [repair maintain and renew] Foul Water Drainage in the Foul Service Strip shown on plan [     ] attached which were notified in Project Co's notice to the Board dated [     ] and Project Co has reinstated the area to its prior condition as evidenced by the Schedule of Condition and has vacated the area. Completion of these works occurred on [     ]. Reinstatement of the area occurred on [     ]. Vacation of the area occurred on [     ].			
<b>Further Schedule of Condition:</b>			
A further Schedule of Condition of the Access Area which is no longer being used should now be prepared in accordance with paragraph 2 ( <i>Schedules of Condition</i> ) of Part 3 ( <i>General Matters</i> ) of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.			
<b>Issued by:</b> [     ] for Project Co			
Signed.....			
Print name.....			
Title.....			



## APPENDIX 10

## Form of Notices for Completion and Vacation

## Part B – Form of Notices for Operational Term

## Annex 9 - Completion of repair, maintenance or renewal of service media in and Vacation of the Service Strip

<b>Notice Period:</b>		<b>Notice Order Provisions:</b>	
Not applicable.		Paragraph 2.4 of Section 6 ( <i>Service Strip and Foul Service Strip</i> ) of Part 1 of Schedule 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.	
<b>Date of Notice:</b>		<b>Reference:</b>	
[     ]     ]		<b>Board:</b> [     ]     ]	<b>Project Co:</b> [     ]     ]
<b>Description of completion of construction and date of completion:</b>			
Project Co hereby gives notice that it has completed the works to [repair maintain and renew] service media for the passage of [water, sewage, drainage, oil, gas, electricity, telephone, other telecommunications within the Service Strip shown on plan [     ] attached which were notified in Project Co's notice to the Board dated [     ] and Project Co has reinstated the area to its prior condition as evidenced by the Schedule of Condition and has vacated the area. Completion of these works occurred on [     ]. Reinstatement of the area occurred on [     ]. Vacation of the area occurred on [     ].			
<b>Further Schedule of Condition:</b>			
A further Schedule of Condition of the Access Area which is no longer being used should now be prepared in accordance with paragraph 2 ( <i>Schedules of Condition</i> ) of Part 3 ( <i>General Matters</i> ) of Schedule Part 31 ( <i>Consort Interface with Campus Site and/or Campus Facilities</i> ) of this Agreement.			
<b>Issued by:</b> [     ] for Project Co			
Signed.....			
Print name.....			
Title.....			

**APPENDIX 10**

**Form of Notices for Completion and Vacation**

**Part B – Form of Notices for Operational Term**

Vacation of an area outwith the Site – see Annex 1 above

## APPENDIX 11

## Permit to Work Documentation

## Section 1

## Risk Assessment Method Statement Checklist

Risk Assessment/Method Statement  
Acceptance Checklist

Project / Contract		Exact Location	
Contractor		Start date	
Method statement author		Finish date	
Description of Works			

Items to Check		Within statement?			Advice on suitability
		YES	NO	NA	
1	Scope of works clearly described				<i>Should identify major hazards</i>
2	Safe material storage identified				<i>Includes defined traffic route/ laydown</i>
3	Defined sequence of operations				<i>Step by step guide</i>
4	Safe access and egress identified				<i>Hierarchy of risk for WAH</i>
5	COFLEY key contact identified				<i>If not provide</i>
6	Roles & responsibilities defined				<i>For all key tasks and for safety onsite</i>
7	Supervision identified				<i>To level required for safety critical tasks</i>
8	Operative competencies defined				<i>Defined and proof for individuals</i>
9	Suitable plant & equipment identified				<i>Certified and load plans etc</i>
10	Supporting risk assessments				<i>Where major hazard identified in 1</i>
11	Control and Monitoring in place				<i>By COFLEY, Client, contractor</i>
12	Permits to work available /in use				<i>As required within COFLEY controls</i>
13	Isolation/ identification of services				<i>Method of de-energising or avoidance</i>
14	Traffic management in place				<i>As required to Chapter B</i>
15	Waste/ Environmental controls				<i>Controls for dust and noise should be included</i>
16	MS communicated to employees				<i>This is essential</i>
17	Personal Protective Equipment				<i>Dust and noise also if applicable</i>
18	Emergency procedures identified				<i>To include first aid and fire</i>
19	Welfare arrangements identified				<i>Toilets, washing, eating, rest</i>
20	Signed off by all task personnel				<i>Essential - no sign off no start</i>
<b>COFLEY Acceptance</b>					<b>Tick appropriate box</b>
Risk Assessment & Method Statement seen and accepted before day of work.					



Risk Assessment & Method Statement accepted on day of job – work to proceed according to statement and controls		
Risk Assessment & Method Statement not accepted on day of job – revision required and passed back to contractor to review.		
<b>COFLEY competent person (print name):</b>	<b>Position:</b>	<b>Signature:</b>

## Section 2

## RAMS Method Statement Template

<b>Method Statement</b>		Date		
Company		Description of Works in Brief		
PAW Tracker No		Revision no.		
Works Title				

<b>Location of Work</b>	(include sketch plans where possible)

First Date of Works				Duration	
---------------------	--	--	--	----------	--

<b>Work Sequence</b>	(attach a programme if reference is made to it)
----------------------	---

1.
2.
3.
4.
5.
6.

<b>Description of Work</b>	(keep sentences short and to the point and use sketches and drawings where possible)
----------------------------	--

--

<b>Safe working arrangements</b>	(keep sentences short and to the point and use sketches and drawings where possible)
----------------------------------	--

--

<b>Supervision</b>	<i>Competency</i>	<b>Yes</b>	<b>No</b>
Name of Supervisor in Charge	SSTS / SMSTS		
Name of deputy / relief supervisor	SSTS / SMSTS		

<b>Risk Assessment</b>					
<b>Hazard Identification</b>	Yes	No	<b>Hazard Identification</b>	Yes	No
Slips and Trips			COSHH		
Manual handling			Noise		

Hand tools			Work at Height		
Excavations			Dust/Fumes		
Machinery/Lifting equipment			Lighting		
Fire			3rd party (Contractor)		
Fall of material			Environmental		
Electrical			Other		

<b>Potential severity of injury or illness</b>	First Aid	LTI	Major	Fatal
Tick Box				
<b>Number of workers exposed to hazard</b>	1 - 5	6 - 10	11+	
Tick Box				
<b>Probability of injury or illness</b>	Rare	Annually	Occasional	Regular
Tick Box				

<b>Control Measures to Reduce the Risks</b>		<i>(use additional sheet if necessary)</i>
1.		
2.		
3.		
4.		
5.		

<b>Permits to be used</b>	Yes	No	<b>Assessments Required (Attach if "Yes")</b>	Yes	No
Hot works			COSHH		
Crane check list			Noise		
Excavation			Manual handling		
Confined space entry			Vibration		
Riser shafts			Other (state)		
Electrical			Other (state)		
Demolition			Other (state)		

<b>Other control measures / Security requirements</b>	
1.	
2.	
3.	
4.	
5.	

<b>Additional PPE requirements</b>	Yes	No		Yes	No
Fall restraint harness			Respirator		
Fall arrest harness			Specialist clothing (chemicals etc.)		
Hearing protection			Other (state)		

<b>OVERALL Assessment of Risk after the implementation of Control Measures (delete as inapplicable)</b>			

<b>Resources</b>					
<b>Competencies</b>	Yes	No		Yes	No
CSCS [general]			FASET / IRATA (nets & rope access)		
CPCS [plant]			PASMA [mobile scaffolding]		
CISRS [scaffolding]			Other (State E.G., IPAF)		
			Other (State)		

List any Subcontractors to be used				Method Statement approved?		Method Statement attached?			
				Yes	No	Yes	No		
1									
2									
<b>Materials to be used:</b>									
1		2		3		4			
5		6		7		8			
Equipment To Be Used			Yes	No	Equipment To Be Used			Yes	No
Lifting					Mechanical plant (State)				
Lifting - slings / chains / beams / etc.					Temporary works / shoring				
Mechanical hoist, winches, pulleys, etc.					CAT				
Scaffolding					Mechanical tools				
Mobile elevating working platform					Hand tools				
Mobile scaffolding					Task Lighting				
Mast Climber / Suspended Cradle					Ventilation/Extraction Equipment				
Podium steps / Ladder					Test Equipment				
<b>Emergency Arrangements</b>									
Special First Aid Provision Required					Rescue / Security Arrangements Required				
Spillage control requirements									
Report all spillages to the Management Team					By whom		Site Supervisor		
					How		In Person		
<b>Amendments to Current Systems</b> <span style="float: right;">[if yes indicate what?]</span>									
Traffic routes		Yes	No						
Emergency arrangements		Yes	No						
Exclusion zones		Yes	No						
Services		Yes	No						
<b>Communication</b>									
<b>Confirmation of briefing from Persons Carrying out the Work</b>									
Print Name		Signature			Print Name		Signature		
1					7				
2					8				
3					9				
4					10				
5					11				
6					12				
<b>Contractor monitoring &amp; compliance</b>									
Who is accountable for monitoring compliance with the method statement?									

## Section 3

## Request for Limitation of Access Permit

**REQUEST FOR ACCESS / TECHNICAL PERMIT**

## Royal Infirmary of Edinburgh &amp; University of Edinburgh Medical School

This request for site access should be faxed to Cofely on 0131 242 3998 no later than five (5) days prior to your arrival on site for all planned work activities. For emergency works, ie, business critical/health and safety the five (5) days notice period will not be enforced, however, submission of this form is still required prior to the contractor arriving on site. Additionally, should a **Technical Permit** be required (see below) this form should also be faxed to 0131 242 3998 for due process. Failure to do so will result in delay.

Please present your completed copy of this form when you collect your access pass from FM reception.

**COMPLETED BY PERSON RESPONSIBLE FOR INSTRUCTING WORKS**

**FROM:** \_\_\_\_\_ (as Responsible Person) for  
**ORGANISATION:** \_\_\_\_\_

**Contact Telephone No:** \_\_\_\_\_ **Contact Fax No:** \_\_\_\_\_

**Contractor/Company Name:** \_\_\_\_\_

**Date Sent:** \_\_\_\_\_ **Time Sent:** \_\_\_\_\_

**DATES OF WORK FROM:** \_\_\_\_\_ **To:** \_\_\_\_\_

DETAILS OF WORK	PLANNED ?	YES / NO	EMERGENCY ?	YES / NO
-----------------	-----------	----------	-------------	----------

<b>Description:</b>	_____
	_____
	_____
<b>Location:</b> <small>(ie Dept/Floor Number)</small>	_____

*Risk Assessment/Method Statements have been received by, viewed and verified by the named Responsible Person in charge of the works.*

**SIGNATURE OF RESPONSIBLE PERSON IN CHARGE OF WORKS:** \_\_\_\_\_

**H&S INSTRUCTIONS (TO BE COMPLETED BY CONTRACTOR)**

Does the work affect: <small>(delete as appropriate)</small>	Air	Water	Alarms	Electricity	Gas	Occupants
	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO

*Work specific method statement(s) and risk assessment(s) must be submitted with all Technical Permit Requests. Access request(s) may require specific method statement(s) and risk assessment(s) at the discretion of the Responsible Person and Cofely.*

**SIGNATURE OF COMPETENT PERSON IN CHARGE OF OPERATIVES:** \_\_\_\_\_ **CONTACT TELEPHONE NO:** \_\_\_\_\_

**Names of Operatives** (all relevant competencies have been checked and approved by above Competent Person):

1	5
2	6
3	7
4	8

**TECHNICAL PERMITS WILL ONLY APPLY FOR A SINGLE DAY UNLESS OTHERWISE AUTHORISED (TO BE COMPLETED BY COFELY)**

TECHNICAL PERMITS <small>(delete as appropriate)</small>	Electrical	Hot Work	Medical Gas	Roof Work	Lift Access	Working At Height
	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO

<b>AUTHORISED PERSON (TECHNICAL PERMITS) :</b>	
Risk Assessment / Method Statements have been received by, viewed and agreed by the Authorised Person (COFELY) prior to the issuing of the appropriate permit.	
<b>ACCESS PERMIT AUTHORISED:</b>	<b>TECHNICAL PERMIT AUTHORISED:</b>
<b>DATE:</b>	<b>TIME REPLY FAXED BACK:</b>



## Section 4

## RIE Contractor Access Control Procedure

Edinburgh Royal Infirmary  
Contractor Access Control Procedure

Uncontrolled document, if printed, 02 March 2015

Date: 29 <sup>th</sup> April, 2014	Document No: 02
Author: Gavin McNeill	Approver: Tony McLaughlin

**1.0 Purpose**

This procedure covers the delivery of the service or task as detailed in the procedure title. This document is to ensure compliance with statutory legalisation, contractual obligations and contractual KPI requirements.

**2.0 Scope**

The procedure is applicable to all (including all undertakings and activities carried out by all COFELY employees in connection with their scope of employment within the RIE concession) and outlines offices and operational work areas in definition 3.0 below. This document outlines the process to be followed when access is required to the main Hospital and University.

**3.0 Definition**

Cofely GDF Suez	COFELY
Royal Infirmary of Edinburgh	RIE
National Health Service Lothian	NHSL
University of Edinburgh	UOE
Consort Healthcare	CH

**4.0 Responsibilities**

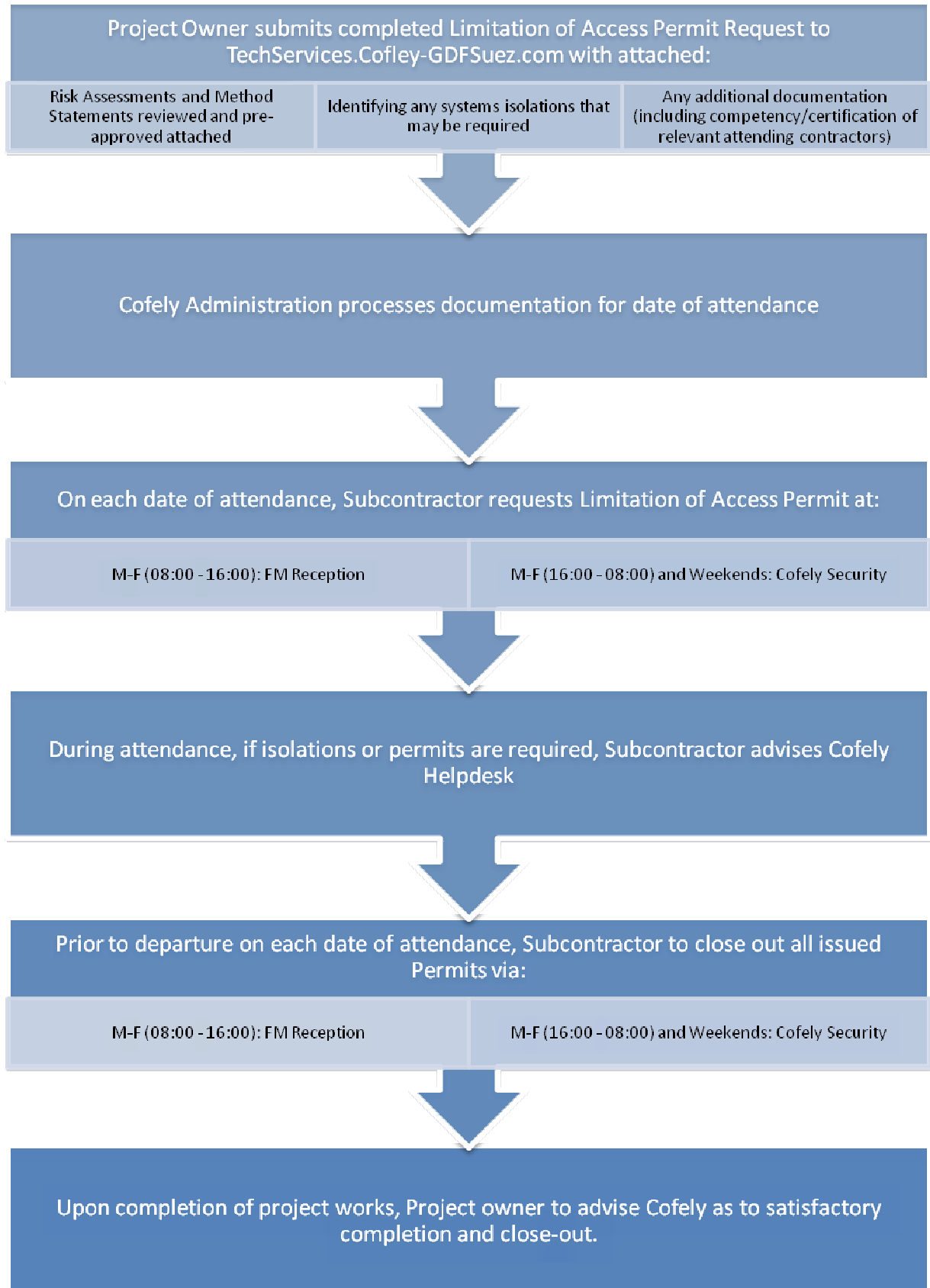
The RIE Concession General Manager shall have overall responsibilities to ensure this procedure is in place and adhered to. This shall be accomplished by delegation of the day to day management of the system through the Head of Estates Manager to the Engineering Services Manager who shall ensure sufficient knowledge and resource are made and in place at all times to ensure total compliance with the procedure.

Name	Role	Contact Details	Responsibilities
Gavin McNeill	COFELY Head of Estates	[REDACTED]	Acting Head of Estates Hard FM services
John Wilson	Engineering Services Manager	[REDACTED]	Site Manager Hard FM services M&E
Paul Dobosz	Engineering Systems Manager	[REDACTED]	Site Engineering Systems Manger
David Lopez	Electrical Manager	[REDACTED]	Hard FM services, Electrical and Mechanical

Name	Role	Contact Details	Responsibilities
Peter Bishop	Building Fabric Manager	[REDACTED]	Hard FM services, Building Fabric
Jason Catterson	Project Manager	[REDACTED]	Hard Services, Projects
COFELY Reception	COFELY receptionist	[REDACTED]	Receptionist in FM Building
COFELY Helpdesk	Customer Support Supervisor	[REDACTED]	Helpdesk/Carps Supervisor



5.0 Process Flowchart



## 6.0 Process Detail

### Access Protocol

During normal working hours all contractors are required to inform the COFELY Manager responsible for the works of their attendance on site. All works must have been agreed in advance of the contractor presenting on site, this includes issuance and receipt of a Purchase Order for the planned works. All Method Statements and Risk Assessments issued for the relevant works must be appraised by the manager responsible for the work and formal notice issued to the contractor five (5) days in advance, confirming the contractor can attend site on the date requested.

**Note: Failure to adhere with this protocol will result in access being denied to site.**

During normal working hours, all visiting Consort Healthcare personnel and subcontractors, COFELY personnel, COFELY subcontractors, NHS subcontractors, University of Edinburgh subcontractors, Cofely personnel and their subcontractors will report initially to the FM Building and sign-in to receive a Limitation of Access Permit.

Once signed in, the COFELY receptionist will issue Contractor Badges and inform the COFELY Manager responsible for the works/business as to their arrival on site. COFELY will then arrange for all contractors to attend the relevant site Estates Office, where, if required, they will be given a Health & Safety Induction and on prior receipt of their Method Statement & Risk Assessment, will be issued with a Permit-to-Work. All Method Statement & Risk Assessments will have been appraised and approved by the responsible manager prior to the contractor arriving on site.

As required, COFELY staff will direct/escort subcontractor staff to their intended location to undertake their works. All persons must sign in and out each time they enter or leave site.

On completion of works and at the end of each day on site, all contractors will sign out through the COFELY receptionist in the FM building, returning the Contractor Badges issued. All permits to work must be closed out by the manager responsible for the work or in his absence a deputy appointed by the manager responsible. No contractor can leave site unless all permits have been closed off by the appropriate competent person.

### Contact Details

Edinburgh Royal Infirmary Contact Details:

FM Building reception	0131 242 7000
Helpdesk	0131 242 7015
Engineering Services Manager	0131 242 7001 or [REDACTED]
Engineering Systems Manager	0131 242 7001 or [REDACTED]
Site Supervisor Electrical	0131 242 7001
Site Supervisor Mechanical	0131 242 7001
Site Supervisor Fabric	0131 242 7001

**Note: COFELY shall endeavour so far as reasonably practicable to provide advanced notice to Consort of any planned or reactive works which will impact on service provision.**

### Out of Hours

Out with normal hours and call out events, all contractors attending site will sign in at Security office on arrival and if required sign out keys for access to relevant area of incident. Security must check that all relevant Method Statement & Risk Assessments are in date and valid for the task, if security is not comfortable with issuing access to the contractor they must escalate to shift technician or the on call technical manager.

For lone working provision, a COFELY Technician will accompany the contractor and report regularly to Security Office advising as to progress. On completion/rectification of repair works contractors will return to Security Office, sign in any keys received and sign out of building prior to leaving.

All contractors must submit their Method Statements and Risk Assessments to COFELY at least five (5) days in advance to allow time to review, provide feedback and make necessary access

arrangements.

**Note:** Failure to adhere with this protocol will result in access being denied to site.

### Escalation Process

If there is an issue that is not being dealt with as swiftly as required, or where there is either actual or potential major impact on the business, this is the escalation path which should be followed.

Name	Role	Contact Details	Escalation Point
John Wilson	COFELY Engineering Services Manager	[REDACTED]	1 <sup>st</sup> Level Escalation
Paul Dobosz	COFELY Engineering Systems Manager	[REDACTED]	2 <sup>nd</sup> Level escalation
Gavin McNeill	COFELY Head of Estates	[REDACTED]	3 <sup>rd</sup> Level escalation
Tony McLaughlin	COFELY Concession General Manager	[REDACTED]	4 <sup>th</sup> Level escalation

### 7.0 Documentation / Records

N/A

### 8.0 Competencies

Head of Estates

Engineering Services Manager

Engineering System Manager

Electrical Manager

Fabric Manager

Project Manager

Receptionist

Customer Support Supervisor

Technical staff must have undergone relevant training for the task.

### 9.0 Confidentiality

COFELY employees only

Release of this document as a whole, partially or any information within, any other documents mentioned within to any individual/s or body's must firstly be approved by the RIE Concession General Manager prior to release.

### 10.0 Reference Documents

Limitation of Access Permit request template

Risk Assessment Method Statement minimum acceptable standard guidance document

Risk Assessment Method Statement review checklist

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Section 5

Risk Assessment Matrix Template

Risk Assessment Matrix								
		Likelihood						
		1=Highly Unlikely	2=Unlikely	3=Possible	4=Highly Likely	5=Inevitable		
		Likelihood					Overall Rating and Action	
Severity	1=Unlikely to cause harm or minor business impact	1	2	3	4	5	Over 20	Intolerable Risk - Immediate action required.
	2=First Aid may be required or some business disruption	2	4	6	8	10	15-19	Substantial Risk - Action within 1 week. Consider suspending work.
	3=Possible hospital treatment or damage likely to impact on ability to operate	3	6	9	12	15	10-14	Moderate Risk - All actions to be completed within 1 month.
	4=Serious injury resulting in days lost or severe damage	4	8	12	16	20	5-9	Tolerable Risk - All actions to be completed within 3 months.
	5=Fatality or major injury or serious structural damage	5	10	15	20	25	Below 5	Trivial Risk - Risk considered low. Implement action if indicated.

Activities Risk Assessments		
Generated by:	Company	Author
Project Title and Reference:		
Method Statement Reference:		

No.	Activity	Hazard	L	S	RR	Controls	L	S	RR	Date Control Implemented
1.					0				0	
2.					0				0	
3.					0				0	
4.					0				0	
5.					0				0	
6.					0				0	
7.					0				0	
8.					0				0	
9.					0				0	
10.					0				0	
					0				0	

11.							
12.				0			0
13.				0			0
14.				0			0
15.				0			0
16.				0			0
17.				0			0
18.				0			0
19.				0			0
20.				0			0
21.				0			0
22.				0			0
23.				0			0
24.				0			0
25.				0			0
26.				0			0
27.				0			0
28.				0			0
29.				0			0
30.				0			0
31.				0			0

**Revision History**

Type	Date	Key Changes	Prepared by	Reviewed by	Approved by


**Appendix 12**

Not used.

**Appendix 13**

**Final Form Notices**

The Final Form Notices are the Final Form Notices as set out on the disc in the Agreed Form identified and executed as "Appendices for Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*)" which sets out Appendix 13 (*Final Form Notices*) of Schedule Part 31 (*Consort Interface with Campus Site and/or Campus Facilities*) of this Agreement, referred to in and forming part of this Agreement.



**SCHEDULE PART 32**  
**COMMUNITY BENEFITS**

**Section 1**

**Board's Community Benefits Requirements**

**1. THE BOARD'S COMMUNITY BENEFITS REQUIREMENTS**

**1.1 Targeted Recruitment & Training/Employment and Skills Plan**

Project Co shall ensure to meet the following required outputs and volumes in respect of recruitment, training and employment skills during the Construction Phase:

Recruitment, Training and Employment Skills Outputs and Volumes	
Work Placement (16-19 years)	16
Work Placement (14-16 years)	4
Curriculum support activities	14
Graduates	3
Apprentice starts	11
Existing apprentices	10
Apprentice completions	3
Jobs advertised through local employment vehicles	7
N/SVQ starts for subcontractors	21
N/SVQ completions for subcontractors	18
Training Plans for subcontractors	5
Supervisor training for subcontractors	10
Leadership and management training for subcontractors	9
Advanced health and safety training for subcontractors	11

**1.2 Supply Chain Development: SMEs**

Project Co shall ensure to advertise, and ensure that the Contractor during the Construction Phase and the Service Provider during the Operational Term:

1.2.1 advertise all relevant subcontracts to be agreed with Project Co, with reference to Project Co's Community Benefits Method Statements; and

1.2.2 allow SMEs equal opportunities to tender provided they have the appropriate capacity, experience and financial standing (and without leading to discrimination against others in the market).

**1.3 Supply Chain Development: Social Enterprises**

Project Co shall ensure to advertise, and ensure that the Contractor during the Construction Phase and the Service Provider during the Operational Term:

1.3.1 advertise all relevant subcontracts to be agreed with Project Co with reference to Project Co's Community Benefits Method Statements; and

1.3.2 allow Social Enterprises equal opportunities to tender provided they have the appropriate capacity, experience and financial standing (and without leading to discrimination against others in the market).

**1.4 Other Community Benefits**

Project Co shall set out any additional community benefits that Project Co shall be willing to provide at no additional cost to the Board over the Project Term, such as Project Co:

- 1.4.1 undertaking educational initiatives with community, voluntary and charitable organisations relevant to the Project and not falling under paragraphs 1.1 and 1.2 above; or
- 1.4.2 supporting or contributing in some other way to the work of community, voluntary and charitable organisations associated with the Project.

## **1.5 General Board Community Benefits Requirements**

### **1.5.1 Monitoring**

Project Co shall provide monitoring information in respect of the Board's Community Benefits Requirements at least:

- (a) quarterly during the Construction Phase, as against the ESP and commitments made in the Community Benefits Method Statements; and
- (b) annually during the Operational Term, as against the plan referred to in paragraph 1.6.2 and commitments made in the Community Benefits Method Statements,

in a format to be agreed with the Board.

### **1.5.2 Insurances**

Project Co shall ensure that any insurance cover includes people aged 16 and over and staff from employment and training organisations when on work experience at the Site and/or Off Site in relation to the Works and/or Services.

## **1.6 Employment and Skills Plan: Construction Phase and Operational Term**

In respect of the Construction Phase, Project Co shall complete an Employment and Skills Plan ("**ESP**") covering the employment and skills areas, as set out in table one below.

The benchmarks for the Construction Phase are set out in paragraph 1.1 above and shall constitute the minimum outputs for Project Co's ESP.

Project Co shall provide an unequivocal statement alongside their ESP for the Construction Phase that Project Co shall be contractually bound to deliver against what they have set out in the ESP, in accordance with the terms and conditions set out in Clause 73 (*Community Benefits*) of this Agreement.

Project Co shall complete:

- 1.6.1 the ESP as set out in table 1 below, containing detail at monthly intervals during the Construction Phase;
- 1.6.2 its own plan relating to employment and skills as detailed within Project Co's Community Benefits Method Statements and at annual intervals for the Operational Term.

Table 1

TEMPLATE EMPLOYMENT AND SKILLS PLAN (ESP) FOR CONSTRUCTION PHASE														
Employment and Skills areas		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Summ No
1.	Work Placement (16-19 years) – persons													16
2.	Work Placement (14-16 years) – persons													4
3.	Curriculum Support Activities – individual engagement													14
4.	Graduates – persons													3
5.	Apprentice Starts - persons													11
6.	Existing apprentices - persons													10
7.	Apprentice Completions - persons													3
8.	Jobs Advertised Through proximate Employment Vehicles - number													7
9.	N/SVQ Starts for Subcontractors - persons													21
10.	N/SVQ Completions for Subcontractors - persons													18
11.	Training Plans for Subcontractors - number													5
12.	Supervisor Training for Subcontractors - persons													10
13.	Leadership and Management Training for Subcontractors - persons													9
14.	Advanced Health and Safety Training for Subcontractors - persons													11

**2. Project Co's Community Benefits Method Statements**

**2.1 Employment and Skills Method Statement**

Project Co shall comply with the Project Co Community Benefits Method Statement which sets out how Project Co intends to implement the employment and training requirements of the Board, deliver the ESP during the Construction Phase and deliver its own plan relating to employment and skills as detailed within Project Co's Community Benefits Method Statements during the Operational Term.

**2.2 Supply Chain Development: SMEs and Social Enterprise**

Project Co shall comply with the two separate Community Benefits Method Statements which detail what Project Co proposes to do to meet the Board's SME and Social Enterprise supplier development objectives in respect of both the Construction Phase and Operational Term.

**2.3 Other Community Benefit**

Project Co shall comply with the Project Co Community Benefits Method Statement which sets out any other Community Benefits that Project Co is willing to provide.

## Section 2

## Project Co's Community Benefits Method Statements

## 1. Employment and Skills Plan Method Statements

## Construction Phase

## Delivery of Community Benefit Proposal

Project Co shall be committed to community benefits and linking local people and businesses into the Project. Project Co shall have a robust set of systems and processes in place to ensure Project Co shall deliver on the Boards Community Benefit Requirements as set out in Section 1, (Boards Community Benefits Requirements) of Schedule Part 32 (Community Benefits) of this Agreement. Project Co shall focus on four core areas for the Employment and Skills Plan (ESP):

- Creating new entrant Jobs including apprenticeships and graduates;
- Training and up-skilling the workforce;
- Educational and curriculum support for young people; and
- Work experience placements

Project Co shall ensure the following outputs are met in respect of training, recruitment and educational support during the Construction Phase. Please refer to Appendix 1 for indicative monthly outputs as set out at bid stage:

Recruitment, Training and Employment Skills Outputs and Volumes	Outputs
Work Placement (16-19 years)	25
Work Placement (14-16 years)	9
Curriculum support activities	20
Graduates	3
Apprentice starts	17
Existing apprentices	13
Apprentice completions	14
Jobs advertised through local employment vehicles	60
N/SVQ starts for sub-contractors	34
N/SVQ completions for sub-contractors	36
Training Plans for sub-contractors	14
Supervisor training for sub-contractors	25
Leadership and management training for sub-contractors	21
Advanced health and safety training for sub-contractors	24

In addition to the above outputs Project Co shall create 53 new entrant jobs during the Construction Phase.

A partnership has been established by Project Co to implement, manage and deliver on Project Co's community benefit proposal ("The Community Benefit Partnership"). The Community Benefit Partnership will be managed by Project Co's Community Engagement Manager and shall include a representative from the Board, Capital City Partnership and City of Edinburgh Council's Learning and Skills Dept, and project leaders from the key supply chain. In addition to the core partnership team, the

services of Construction Skills shall be introduced as required as we move through the Project. Project Co's delivering of its community benefit proposal shall focus on collaboration, partnership working and involvement from a wide selection of stakeholders which shall be driven by Project Co's Community Engagement Manager.

### **Community Benefit Guarantee**

The Project Co community benefit guarantee ("Community Benefit Guarantee – see attached in Appendix 2) sets out a partnership approach that will be developed to support the delivery by Project Co of the outputs in the ESP.

One of the key elements of this partnership involves 'buy-in' to the community benefit outputs from Project Co's contractor supply chain. This process involves the Project Co's supply chain and supporting project consultants all taking an active role in the delivery of the community benefits targets.

As part of the procurement process, Project Co shall ensure that its Contractor has developed a set of rules and principals that the Contractor's supply chain shall commit to. This shall include the outputs included in the ESP - creating jobs, training opportunities, offering work experience placements and curriculum support for school pupils.

Prior to starting work on the Project, Project Co shall ensure that its Contractor supply chain completes a Community Benefit Guarantee form. Such terms shall outline how many operatives are forecast to be involved in the delivery of their work packages along with confirming the key performance indicators for number of new jobs and training outcomes to be delivered.

The Community Benefit Guarantee form shall be reviewed by Project Co's Community Engagement Manager. Project Co shall put in place plans to support the delivery of the key performance indicators with the Contractor during the Construction Phase.

Project Co shall ensure that its Contractor's supply chain shall be an integral part of the Community Benefit Partnership and Project Co shall hold monthly and quarterly review meetings with these partners. These meetings shall be designed to manage forward planning, review progress of the key performance indicators, facilitate strong lines of communication and ensure that the requirements of the Community Benefit Method Statement are achieved by Project Co.

Project Co shall ensure that all sub-contractors working on the Site are linked into the Community Benefit Partnership and will have direct access to the wide range of agencies and organisations that form such partnership.

Project Co shall ensure that its Contractor shall establish a recruitment and skills facility with Capital City Partnership in their office at Fort Kinnaird Shopping Centre. In addition to this, during the Construction Phase the supply chain will participate in the Community Benefit Guarantee discussion and Project Co shall ensure that the Contractor and their supply chain commits to the key performance indicators and the systems and processes that have been put in place, in relation to the Community Benefit Guarantee.

This shall include:

- Passing all vacancies to the Capital City Partnership;
- Attending community benefit review and planning meetings;
- Information sharing and links into Community Benefit Partnership;
- Vacancy, SME and training tracker control submissions;
- Sub-contractor workshops;
- Quarterly monitoring reviews and case study submission.

Project Co shall ensure that the Contractor shall specify contractual obligations that the supply chain shall adhere to and submit monthly trackers that shall confirm who has been recruited to the Project, who has received training and what training has been delivered by the Contractor and their supply chain. In particular, the focus for these monthly trackers shall be to review new entrants, apprenticeships and training outcomes in accordance with the key performance indicators included within the ESP.

## Monitoring

Project Co shall provide the Board with a quarterly report that shall demonstrate progress towards key performance indicators as set out in the ESP. The quarterly report shall highlight progress towards the ESP outputs along with works that have been undertaken as part of the Community Benefit Guarantee.

Each tracker to be issued by Project Co to the Board as part of the monitoring process shall comply with the Data Protection Act and shall include a statement authorising disclosure of personal data for trainees.

## Types of Opportunities to be offered

Project Co shall ensure that its Contractor and their supply chain shall offer apprenticeship opportunities within a number of trade and occupational areas:

- Mechanical and electrical services;
- General construction;
- Painting and decorating;
- Project administration;
- Joining and carpentry; and
- Dry lining.

It is also envisaged by Project Co that Mechanical and Electrical Engineering certificates, diplomas and degrees shall also be undertaken by some members of the construction staff. Project Co shall ensure that the Contractor shall plan to provide training opportunities for operatives who shall, once qualified, be in a strong position to move through the Construction Phase and onto the Operational Term.

There shall also be the opportunity for work experience placements with the contractor within the design element of the Project that may lead to further areas of work and learning.

The main beneficiaries for all Project Co training shall be Site based operatives, staff and managers. A comprehensive selection of construction, health and safety, environmental, quality and job specific training outcomes shall be delivered as part of the Project by Project Co.

These shall include the following:

- Health and safety awareness;
- Site management safety training scheme;
- Working at height;
- Manual handling;
- Prefabricated Access Suppliers' and Manufacturers' Association
- Construction Skills Certificate Scheme
- Fire marshalling;
- Environmental;
- Dumper truck driving;
- Mobile elevating work platforms – IPAF

In addition to the above, Project Co shall arrange for a range of weekly tool box talks for all operatives, life long learning sessions and training workshops for new entrants and the existing project team, operatives, and staff.

Project Co shall ensure that the Contractor and its supply chain offer advanced accredited qualification opportunities for apprentices, graduates and managers. These apprenticeships shall be a mix of traditional led and advanced level programmes and will be delivered in conjunction with trade associations and statutory bodies including SNIPEFF, SECTT and Construction Skills.

Project Co's apprenticeship opportunities shall come from a range disciplines including:



- Plumbing;
- Electrical;
- General construction;
- Finishing trades;
- Scaffolding; and
- Modern apprenticeships in administration.

### **Compliance**

Project Co shall have the correct insurances and health and safety standards and regulations in place to minimise any risk that results from young people coming to the Site.

All young people shall be required by Project Co to complete a full Site induction and have a specific method statement, risk assessment and work plan in place prior to attending Site. They shall be asked to provide parental or school consent as required. Project Co shall facilitate appropriate discussion prior to any engagement with young people. At no time will a young person (14-16 years) be left unattended within either the construction village or project Site - they will be supervised at all times by Project Co.

### **Operational Term**

Throughout the Operational Term, Project Co's Contract Manager shall be ultimately responsible for overseeing the community benefit proposal along with support from the Recruitment Manager, who shall be responsible for working with the established community engagement framework to recruit staff whilst the training and apprentice scheme will be managed by Project Co's Service Provider's, Head of Learning and Development.

As part of the Community Benefit Guarantee the partnership established for the Construction Phase shall continue to manage and deliver on the proposal and training schemes during the operational term. This shall be managed by Project Co's Contract Manager and shall include a representative from the Board, The Capital City Partnership, and a selection of relevant training providers.

Throughout the Operational Term the self delivery model requires that only a small number of specialist sub-contractors shall be employed for short periods of time. As part of the tendering process Project Co shall request a Community Benefit Method Statement from all sub-contractors detailing their approach to CSR responsibilities.

As required, Project Co shall ensure that Service Provider offers support to sub-contractors to build their capacity and to increase their overall understanding of the Project objectives with regards to economic impacts and community engagement.

Where appropriate Project Co shall ensure that the Service Provider shall provide the following support:

- Invitations to training and innovation seminars
- Assistance with certification mechanisms (e.g. sharing our experience in obtaining ISO 9001, OHSAS 18001)
- Explore opportunities for apprentices to work with sub-contractors to gain broader work experience
- Offer the opportunity of appropriate health and safety courses to their employees
- Project Co recognises that the Board has not set any expected output figures for the Operational Term of the Project. The Operational Term shall be based on a self delivery model of Services and Project Co shall ensure that the Service Provider shall recruit and train new members of staff to be involved in the operational delivery of the Project.

### **Employment and Skills Plan Outputs**

The employment and skills to be delivered by Project Co during the Operational Term are outlined below:



Trades/ Profession	New Starts	Graduates and/or apprentices	Jobs advertised through local employment vehicles	Training Plans for sub- contractor's	Supervisor training for sub- contractor's	Leadership and management training for sub- contractors	Advanced health and safety training for sub- contractors
Facilities Management	23	3	85%	4	1	2	2

- **Graduates and/or apprentices:** to provide 3 positions to graduates and/or apprentices from a range of disciplines (electrical, mechanical and administration);
- **Jobs advertised through local employment vehicles:** Jobs shall be advertised through local employment vehicles for at least 85% of the vacancies over the year;
- **Training Plans for sub-contractors:** Training plans for sub-contractors shall be formulated during the Services mobilisation period. Plans shall be updated as and when necessary throughout the Project Term by Project Co and made available for inspection by the Board at any time of year;
- **Supervisor training for sub-contractors:** Training shall be given to sub-contractors at least once a year on topics related to the supervision of the Services and works at the Site;
- **Leadership and management training for sub-contractors:** Training shall be given to sub-contractors at least twice a year on topics related to leadership and management of the Services and Works at the Site, and;
- **Advanced health and safety training for sub-contractors:** Training shall be given to sub-contractors at least twice a year on topics related to advanced health and safety of the Services and works at the Site.

#### Types of Opportunities to be offered

Training to be offered by Project Co shall include a wide range of accredited and non accredited courses. As an accredited training centre with the Chartered Institute of Environmental Health, Project Co shall offer a range of health and safety courses and shall identify and train triple auditors and ISO 50001 champions to drive continuous improvement in Quality, Safety, Energy Management and Environmental issues.

To ensure compliance with the Health Technical Memorandum, Project Co's staff shall be incorporated into the "Authorising Engineers" and "Approved Persons" programme to ensure that they receive relevant updated training in areas such as:

- Electrical regulations;
- Medical gases;
- Boilers and the pressure systems; and
- Water treatment.

Managerial, administrative and supervisory staff shall be given the opportunity by Project Co to access courses on developing management skills such as performance management, diversity and recruitment as well as certificated programmes which include: ILM Level 2 Award/Certificate in Team Leading; ILM Level 3 Certificate in FM; BIFM Certificates in FM at Level 4 and 5.

Project Co shall work with local schools, colleges and organisations and shall commit to making the following placements available:

Opportunity	Commitment to provide the following opportunities
One week work placements	3 a year, maximum 2 persons per placement
Work shadowing: enabling a young person to 'shadow' an individual employee going about their	One day a month, maximum 2 people

normal activities	
Work observation and visits	One 4 hour session once a month, maximum of 5 people
CV preparation & mock interviews	2 times a year, 4 hour session, maximum of 10 people per session
Mentoring with an employee to enhance their motivation, knowledge and skills	2 people per year
Third sector partner or organisation	To select a local third sector partner or organisation to be our chosen charity/ cause each year.

Project Co shall offer 3 apprenticeships for during the Operation Term of the Project:

- Maintenance Apprentices: 1 x electrical and 1 x mechanical
- Modern apprenticeship: 1 x Administration

The apprenticeships shall be a mix of traditional led programmes and advanced level, and shall be delivered in conjunction with trade associations and statutory bodies including SNIPEFF, SECTT and Edinburgh City College.

### Monitoring

Project Co shall report to the Board's Representative in writing with notification of any new starters and to confirm clearance from Disclosure Scotland and Occupational Health. Also included within this notification shall be a section within the form identifying where the job was advertised. This information shall be presented in the annual report in accordance with Part 12 (Service Requirements) of this agreement. In addition to this, the annual report shall identify all new starters, apprentice progress and the training that has been delivered as part of the Project. The reporting shall also be fully compliant with the Data Protection Act and shall include a personal statement that Project Co can disclose information to the Board.

### Compliance

Project Co shall be committed to health and safety throughout the Operational Term. The approach is based on the following:

- Promoting a culture of health and safety;
- Induction and training;
- Safety awareness and customer interface;
- Review and improvement;

Project Co shall ensure that the Service Provider shall have an integrated quality, environmental and health & safety approach and shall also obtain Site specific accreditation for Quality ISO 9001 Environment: ISO 14001 and Health and Safety: BS OHSAS 18001 for the facilities. This approach shall ensure that all the health and safety systems within the health and safety manual are Site specific.

During the Operational Term, Project Co shall ensure that health and safety on site shall be the responsibility of the Service Provider Contract Manager who shall be supported by the health and safety Lead assigned to the Project to offer advice, support and assistance.

All staff, apprentices and sub-contractors will be required to comply with Project Co's health and safety plan whilst on Site.

## 2 Supply Chain Development: SMEs & Social Enterprise Construction Phase

As part of Project Co's commitment to providing economic benefit to the local SMEs and Social Enterprises, Project Co shall work in conjunction with the range of agencies and business providers to support this sector. Project Co has established a partnership with Capital City Partnership and Business Gateway in the development of the Community Benefit Method Statement and will engage with Edinburgh Chamber of Commerce, Craigmillier and District Business Association and Edinburgh Social Enterprise Network as required.

Project Co shall work to build capacity, present opportunities via advertising and make dealing with the Contractor easy, transparent and straightforward.

Project Co's Community Engagement Manager shall work with the Contractor's procurement and commercial teams to ensure that available work packages are advertised well in advance to allow local businesses the opportunity to express an interest in working on the Project.

Project Co shall produce a tender event schedule which shall outline dates that shall specify when an advert shall be placed to allow plenty of time to work through the full commercial process.

Project Co shall undertake the following activities to identify relevant, business ready SME's and Social Enterprises:

Activity	Format	Participants	Audience
Meet The Buyer	Exhibition style event that businesses and Social Enterprises will be invited to attend and meet on a one to one basis with supply chain.  Will last for 2-3 hours	Project Co's delivery partners.	All relevant local SME's and Social Enterprises. Will be promoted via partnership networks.
Project Web Portal	Website that provides details of the work packages available at the project. Advertise opportunities and allows interested parties to download PQQ documentation and register their interest in working on the Project.	All supply chain that shall be letting work packages.	Open to the world wide web. Will be promoted via partnership networks.
Capacity Building Workshops	3 hour sessions aimed at providing local SMEs/ Social Enterprises with the tools to submit tenders for work on the project, environmental and quality. Smaller more intimate workshops with opportunities for direct Q&A.	Procurement Team of Project Co delivery partners.	SMEs/ Social Enterprises interested in applying for work packages on the Project.
Advertising Opportunities	Developing existing links with partners such as Business Gateway and Public Contracts Scotland to place adverts for relevant subcontracts on their procurement portal.	All key supply chain with work opportunities available to let.	Businesses registered with Business Gateway and Public Contracts Web Portal.
Networking	Developing partnership links with Supplier Development Programme, Community Enterprise in Scotland, Scottish Business in the Community, Edinburgh City Council and Edinburgh Chamber of Commerce. Delivery presentations and	Project Co delivery partners.	Local SMEs and Social Enterprises



workshops.		
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Project Co shall ensure that all of the activities outlined above will be run in conjunction with the Contractor supply chain on the Site. These Project Co initiatives are expected to provide SMEs and Social Enterprises with a significant advantage and the aim is to support their learning, knowledge and understanding of the potential works at the Project.

Project Co shall make a commitment to work with local Social Enterprises for a range of ancillary services. Working in conjunction with the client team Project Co shall approach Social Enterprises and Assisted Businesses to present opportunities.

These shall include training providers, environmental, cleaning, event management, catering and print and marketing suppliers.

The table outlined below provides a summary of the types of work packages that shall be available for the local SME and Social Enterprise sector:

Work Package Opportunity	SME	Social Enterprise
Ductwork	✓	
Flooring	✓	
Joinery Works	✓	
Electrical	✓	
Plumbing	✓	
Steelwork	✓	
Ceiling	✓	
Furniture	✓	
Ground works & Landscaping	✓	
Fire Stopping	✓	
Access	✓	
Tiling	✓	
Cleaning	✓	
Catering	✓	✓
Painting & Decorating	✓	✓
Hospital Gases	✓	
Signage	✓	✓
Blinds	✓	
Scaffolding	✓	
Waste Recycling	✓	✓
Marketing Supplies	✓	✓
Web Design	✓	
Transport	✓	
Training	✓	✓

#### Economic Benefit

Project Co shall undertake to maximise economic benefits for local SMEs and Social Enterprises. The table below outlines the number of hours and value Project Co shall commit to building capacity and engaging within the local supply chain:

Activity	Hours	Value
Management, Implementation, Networking	128	£19,200.00
Meet the Buyer Event	24	£3600.00
Doing Business with IHSL Workshop	8	£1200.00
Tender Submission Workshop	6	£900.00
Quality, Health and Safety Workshop	6	£900.00
Environmental Workshop	4	£600.00
Presentations and Seminars	16	£2400.00
RHSC Web Portal		£3000.00
Marketing and associate support material		£8000.00
<b>Total</b>	<b>192</b>	<b>£39,800.00</b>

The overall approach and methodology of Project Co to support SMEs and Social Enterprises and the wider stakeholders shall be based on an open and collaborative approach. This shall stem from the early consultation by the Contractor with the supply chain.

The Community Benefit Guarantee form shall outline what the Contractor's supply chain have committed to achieve for the Project and this shall be reviewed, planned and developed as Project Co move through the process. Regular monthly meetings shall keep the focus on the delivery of the commitments and Project Co's external partners shall attend quarterly planning reviews.

### **Business Engagement**

Project Co shall ensure that the Contractor's supply partners complete a Community Benefit Guarantee form that confirms their key performance indicators. In addition to this, Project Co shall ensure that the documentation outlines the procedures and processes in place for supporting the community benefit commitments and clearly states that all available work opportunities are to be advertised to the local supply chain.

Project Co shall make this process easy by establishing a local project portal and creating the right links with the Community Benefit Partnership. Advertising opportunities will be reviewed by Project Co at monthly meetings and a procurement tracker shall be developed to outline the following:

- What work packages have been purchased?;
- Have they been advertised?;
- How many responses to adverts?; and
- Who was the successful contractor?

Project Co anticipates that around 65% of SME's shall be successful in securing work packages on the Project. As well as the work packages available for the local construction related supply chain, Project Co encourages that a number of other suppliers shall have the opportunity to gain contracts from the Project. This shall include stationery suppliers, transport, catering services, printers, equipment hire, office and furniture supplies, hotels, restaurants and cafes.

Project Co anticipates that around four (4) Social Enterprises shall be successful in securing appropriate work packages and services relation to the Project.

### **Community Impact**

Overall, the economic impact of the Project shall be measured by the number of businesses that secure work packages along with the number of operatives that are employed at the Project. The ESP

outlines that Project Co shall recruit 53 new entrants for the Project and it is envisaged that these people will come from the local labour supply.

The social impact shall be measured by the additional community benefits Project Co undertake. These shall include educational programmes for school pupils and students, volunteering programmes and environmental projects.

Project Co shall monitor the impact of the Project on a quarterly basis via the Procurement and Recruitment Trackers (see attached in Appendix ) and at the monthly supply partner review meetings. A quarterly community benefit report shall be prepared by Project Co and issued to the Board which shall outline full details of all SME and Social Enterprise engagement in terms of activity, new sub-contractors to the Site, meetings, seminar and events. In addition to this a final economic and social impact report will be produced at the completion of the Project.

Project Co shall provide the Board with a quarterly report that will demonstrate progress towards delivery of its community benefits proposals. The quarterly report shall highlight progress towards requirements and targets along with all works that have been undertaken as part of the Community Benefit Guarantee.

### 3 Supply Chain Development: SMEs & Social Enterprise Operational Term

Project Co shall ensure that the Service Provider supports the development of the SMEs and Social Enterprise sectors and as part of this Project shall actively engage with these suppliers. From the very outset of the Project, Project Co shall ensure that the Service Provider forms a major part of the Community Benefit Partnership to establish strong links with such suppliers.

As referred to in paragraph 2, Project Co identified Project Co's Contractor's approach to running "Meet the Buyer" events. Project Co shall ensure that the Service Provider shall attend these events to raise Project Co's profile in the area and publicize the opportunities that shall be available at the Operational Term.

Approximately a year prior to the Actual Completion Date Project Co shall ensure that the Service Provider shall run an FM-specific "Meet the Buyer" event. This shall highlight details about available contracts to the networks and infrastructure already in place.

Project Co shall ensure that these events shall be attended by the Service Provider's contract team, the procurement team and the quality, safety and environmental advisors. Each member of Project Co's staff shall provide information and support to the SMEs and Social Enterprises to ensure that they are able to meet the compliance and safety standards required to participate in contract opportunities.

At least 50% of the Project Co's available contracts shall be advertised via the Community Benefit Partnership and project portal, providing SMEs and Social Enterprises with an opportunity to tender. Throughout the Operational Term, Project Co shall continue to develop relationships with local SMEs and Social Enterprises through Project Co's Community Benefit Partnership.

Project Co shall adopt a 'team' approach which shall encourage co-operation, flexibility and transparency, although formal methods of communications are also used.

The contract management team, supported by procurement, HR & training and quality, safety and environmental ("**QSE**") advisors, shall deliver a range of activities designed to encourage and support SMEs and Social Enterprises organisations participating in the Project Co's Service Provider's supply chain.

Alongside the 'Meet the Buyer' referenced above, these activities shall include:

#### **Workshops**

Project Co shall work with local partners to provide a range of workshops to support organisations in gaining the skills to tender for work, developing safety and environmental management systems to ensure that partners are able to meet set standards.

Project Co shall provide support to enable the achievement of ISO certifications including ISO 9001, ISO14001 and OHSAS 18001.

#### **Training**

SMEs and Social Enterprises staff shall be offered the opportunity to participate in relevant modules in Project Co's contract training programme, in areas including:

- Safety management activities including development of method statements and risk assessments;
- Health and safety programmes, including accident reporting, legionella awareness, COSHH;
- Management and manual handling;
- Joint training, for contract-specific equipment; and
- Communications skills and working in sensitive environments.

Project Co's approach to working with the entire supply chain shall look to offer long term contracts to supply chain partners and for SMEs and Social Enterprises partners, Project Co shall:



- Develop longer term commercial arrangements (e.g., 3 or 5 year contracts);
- Offer the opportunity to go for new work on other contracts.

Project Co shall commit to providing the level of resources required to deliver this programme effectively, and shall review delivery and success on an annual basis. An indicative summary identifying Project Co's annual commercial commitment is shown below:

Activity	Hours	Value
Management, Implementation, Networking	11.0	£1,536.00
Meet the Buyer Event	2.0	£288.00
Doing Business with IHSL Workshop	1.0	£96.00
Tender Submission Workshop	1.0	£72.00
Quality, Health and Safety Workshop	1.0	£72.00
Environmental Workshop	1.0	£48.00
Presentations and Seminars	1.5	£192.00
RHSC Web Portal		£240.00
Marketing and associate support material		£640.00
<b>Total</b>	<b>19</b>	<b>£3,184.00</b>

Project Co's approach to service provision shall be based on self-delivery of Services, and Project Co shall only subcontract specialist services to organisations that shall be delivering them directly, using their own staff. Project Co would not expect, when subcontracting these specialised areas of work, that its partners would in turn subcontract this work.

Where Project Co appoints other organisations directly to work with the Service Provider, Project Co shall adopt a rigorous approach both to their selection and to their annual performance review. As part of the appointment process new organisations to Project Co shall be required to commit and buy-in to the community benefit key performance indicators.

As part of Project Co's management approach, each contract reports to Project Co's Service Provider's Managing Director each month against a series of corporate management indicators. The indicators developed for this contract shall make reference to agreed targets for the development of relationships and spend with SMEs, and shall be reviewed by Project Co's board of directors on a regular basis.

This information shall be collated by Project Co's Contract Manager, enabling comparison to be made across the company, which in turn enables trend reporting and identifies areas for improvement. The annual community benefits report to the Board shall identify Project Co's targets and achievements and shall also make reference to improvement initiatives designed to increase participation.



#### **4 Other Community Benefits**

Project Co shall support wider community benefits.

Activities such as educational programmes, environmental works, citizenship, regeneration, sustainability and charitable works all come under this section.

##### **Community and Educational Programmes**

Project Co shall implement a number of schools and environmental programmes at the Project working in conjunction with our partners Construction Skills, the Capital City Partnership and Edinburgh and Lothian Greenspace Trust.

Project Co shall implement an Independent Learning Programme for senior school pupil in the Portobello, Craigmillier, Liberton and Gilmerton areas of the city during the construction phase of the project.

Project Co's educational programmes shall give students and pupils an insight into the world of construction as well as helping to develop softer skills such as confidence building, communication, presentation and team working. As part of the programme Project Co shall offer employability workshops that focus on interview techniques, CV preparation, job search and job applications to help prepare young people for the world of work.

As well as secondary school pupils, Project Co shall ensure that its Contractor shall offer programmes for university and college students and younger pupils. Project Co shall work with local schools and colleges in Edinburgh to offer graduate placements, work experience, site visits, presentations and volunteering opportunities along with workshops and seminars. Project Co shall offer mentoring programmes, career development sessions and shall devote management and project time to supporting local young people on their journey through the construction sector.

Project Co shall provide support for local groups, community based environmental projects and charitable events. This is an area that Project Co shall develop in line with the needs of the local community, the board and the City of Edinburgh Council. Project Co is already linked into Neighbourhood Networks via the community benefit partnership.

##### **Environmental Programme**

Project Co shall work in conjunction with the social enterprise, Edinburgh and Lothians Greenspace Trust (ELGT), in order to provide local communities with new community greenspaces.

Project Co and ELGT's main goal shall be to create and maintain accessible greenspaces in urban areas in order to provide much needed oases of calm for city dwellers, helping to promote health and wellbeing. The aim is to include the local community throughout so that what they want to achieve from the project is understood and implemented.

Project Co and ELGT shall work with local residents, school children, and Project Co employees, asking for volunteers to come forward to be part of the scheme.

Project Co has compiled a volunteer time bank booklet, detailing the internal team members who have agreed to volunteer their time to the local community, which, among many other cross-sector activities, shall include community greenspacing. Project Co shall seek out opportunities from the local community to utilize the time bank resource. See attached in Appendix 4 the time bank skills available for the local community.

Project Co shall devise a Future Greenspace Volunteer Schedule which shall be updated quarterly with new projects that have been commissioned by ELGT for the year ahead in the above areas. This shall assist in the organisation of team volunteers, and shall help ensure that there are adequate resources.

##### **Schools Art Initiative**

Project Co shall approach a total of five (5) local primary schools within the Liberton, Gracemount, 2526505\_21

Craigmillier and Portobello areas of Edinburgh, in order to engage and inspire the local children through the development of a creative programme that results in lasting pieces of art.

Project Co shall in close liaison with primary school teachers, develop a project for primary school children, in which they are invited to create a piece of art to be entered into a competition. Project Co shall choose a winner from each school and shall commit to printing, framing and hanging the pieces of art professionally. The winning art work can be sited on selected wards/corridors of the new hospital with the agreement of the Board.

**Appendix 1****Appendices to the Project Co's Community Benefits Method Statements**

The Appendix 1 (*Appendices to the Project Co's Community Benefits Method Statements*) is the Appendix 1 (*Appendices to the Project Co's Community Benefits Method Statements*) as set out on the disc in the Agreed Form identified and executed as the Appendix 1 (*Appendices to the Project Co's Community Benefits Method Statements*) of Section 2 (*Project Co's Community Benefits Method Statements*) of Schedule Part 32 (*Community Benefits*) of this Agreement, referred to in and forming part of this Agreement.

## Section 3

**Amounts due by Project Co to the Board per default in relation to the Works pursuant to Clause T3.2 (Community Benefits)**

<b>Employment and Skills Plan</b>			
<b>Issue</b>	<b>Activity</b>	<b>Target</b>	<b>Amounts due by Project Co to the Board</b>
	<b>Educational Support (10%)</b>	<b>Target</b>	<b>Amounts due by Project Co to the Board for each work placement and/or curriculum support activity not provided</b>
1.	Work Placement (16 – 19 years)	25	£463
2.	Work Placement (14 – 16 years)	9	£472
3.	Curriculum Support Activities	20	£463
	<b>Total</b>	<b>54</b>	
	<b>Jobs (60%)</b>	<b>Target</b>	<b>Amounts due by Project Co to the Board for each new entrants jobs, new graduate jobs and/or new apprenticeship jobs not provided</b>
4.	New Entrant	53	£342
5.	Graduate	3	£342
6.	Apprenticeship Starts	17	£342
	<b>Total</b>	<b>73</b>	
	<b>Training (30%)</b>	<b>Target</b>	<b>Amounts due by Project Co to the Board per NVQ start, NVQ completions, training plans, supervisor training sessions, leadership training sessions and advanced health and safety sessions not provided</b>
7.	NVQ Starts	34	£162
8.	NVQ Completions	36	£160
9.	Training Plans	14	£179
10.	Supervisor Training sessions	25	£150
11.	Leadership Training sessions	21	£167
12.	Advanced Health and Safety sessions	24	£167
	<b>Total</b>	<b>154</b>	

<b>SME and Social Enterprise</b>			
<b>Issue</b>	<b>Activity</b>	<b>Target</b>	<b>Amounts due by Project Co to the Board per work package not advertised and meet the buyer event and "capacity building workshop" not provided</b>
13.	Capability Building Workshops (40%)	4	£2,500
14.	Advertising Packages (40%)	50%	£5,000
15.	Meet the Buyer Events (20%)	3	£2,500

<b>Clause 73.2.4</b>			
<b>Issue</b>	<b>Activity</b>	<b>Target</b>	<b>Amounts due by Project Co to the Board per non-provision of the quarterly information</b>
16.	Quarterly report	27	£555

This is the Attachment referred to in the foregoing Agreement between Lothian Health Board and IHS Lothian Limited in relation to the Re-provision of the RHSC and DCN at Little France

#### **ATTACHMENT 1**

#### **FINANCIAL MODEL**

The Financial Model is the Financial Model as set out on the disc in the Agreed Form identified and executed as the Attachment 1 (*Financial Model*) of this Agreement, referred to in and forming part of this Agreement



**From:** Kolodziejczyk, Kamil K  
**Sent:** 05 August 2015 16:47  
**To:** 'Mackenzie, Janice'; 'Halcrow, Fiona'; [REDACTED] Currie, Brian  
**Cc:** Greer, Graeme; [REDACTED] Gordon, Kelly J; Macrae, Colin  
**Subject:** M&E drawings  
**Attachments:** M&E RDD.pdf

All

As you may be aware we received quite a lot of M&E drawings recently. The summary of all drawings received between 21 July – 31 July is as follows:

- 334 first submission drawings, some on and some not on programme however hard to tell as no detailed programme for M&E was ever received, dwgs are due back between 11 August – 21 August
- We also received 35 second submission dwgs all of which are not on programme
- Total number of dwgs is 369 however I suspect a few more packs still to come

I had a meeting with Ken last week to raise this concern and the consensus was that they will work with us in a pragmatic manner. I mentioned we would do what we can however some of the dates will have to be pushed back a little otherwise we will have to reject due to the programme.

I would like to propose to review the following packs with the proposed submission dates:

- Heating, cooling, ventilation and PTS for 11<sup>th</sup> August
- Drainage, small power water services and power plant for 18<sup>th</sup> August
- Nurse call for 25<sup>th</sup> August
- Fire detection for 1<sup>st</sup> September
- CCTV for 8<sup>th</sup> September
- Data outlets and lighting layouts for 15<sup>th</sup> September

Also would like to let Ken and PCo know that those packs will not be returned as per PA. Can you please check and confirm if the below email can be issued to PCo?

*"Ken,*

*Thanks for the meeting last week. Further to the M&E drawings received between 21 and 31 July for RDD review the Board will not respond to all RDD submissions within 15 business days due to an unreasonable sequence of release of drawings being submitted by Project Co.*

*As discussed, to help move this forward, the Board would like to propose the following RDD return dates:*

- *Heating, cooling, ventilation and PTS 14<sup>th</sup> August*
- *Drainage, small power water services and power plant 21<sup>st</sup> August*
- *Nurse call 28<sup>th</sup> August*
- *Fire detection 4<sup>th</sup> September*
- *CCTV 11<sup>th</sup> September*
- *Data outlets and lighting layouts 18<sup>th</sup> September.*

*For the avoidance of doubt, any drawings returned to Project Co outwith 15 BDs shall be returned in accordance with the dates in "Response to Project Co by" column shown in the attached spreadsheet and therefore should not be considered to have been endorsed as 'Status A – No Comment'."*

Regards

Kamil

**Kamil Kolodziejczyk**

MSc, BSc (Hons)



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**Mott MacDonald**

Caledonian Exchange  
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Edinburgh, EH3 8EG

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Updated

ORIGINAL SUBMITTED RDD PACK							
Date received	Date Hard Copy Issued	Transmittal Title	Transmittal No	Document No	Rev	Title	Response to Project Co by
21/07/2015	21/07/2015	RDD Cooling Distribution Zone Z3 & Zone Z4 Levels 00, 01 & B1	BMCE-TRANSMIT-002063	WW-SZ-B1-PL-525-001	2	Level B1 Cooling Distribution	14/08/2015
				WW-Z3-00-PL-525-001	1	Zone Z3 – Level 00 – Cooling Distribution Sheet 1 of 2	
				WW-Z3-00-PL-525-002	1	Zone Z3 – Level 00 – Cooling Distribution Sheet 2 of 2	
				WW-Z3-01-PL-525-001	1	Zone Z3 Level 01 Cooling Distribution Sheet 1 of 2	
				WW-Z3-01-PL-525-002	1	Zone Z3 Level 01 Cooling Distribution Sheet 2 of 2	
				WW-Z4-00-PL-525-001	1	Zone Z4 – Level 00 – Cooling Distribution Sheet 1 of 2	
				WW-Z4-00-PL-525-002	1	Zone Z4 – Level 00 – Cooling Distribution Sheet 2 of 2	
				WW-Z4-01-PL-525-001	1	Zone Z4 Level 01 Cooling Distribution Sheet 1 of 2	
				WW-Z4-01-PL-525-002	1	Zone Z4 Level 01 Cooling Distribution Sheet 2 of 2	
21/07/2015	21/07/2015	RDD Drainage Strategy Zone Z3 and Zone Z4, Levels 00,01,02,03,04,05 & B1	BMCE-TRANSMIT-002066	WW-SZ-B1-PL-581-001	6	Level B1 – Drainage Strategy	21/08/2015
				WW-Z3-00-PL-581-001	5	Zone Z3 – Level 00 – Drainage Strategy - Sheet 1 of 2	
				WW-Z3-00-PL-581-002	4	Zone Z3 – Level 00 – Drainage Strategy - Sheet 2 of 2	
				WW-Z3-01-PL-581-001	4	Zone Z3 - Level 01 - Drainage Strategy - Sheet 1 of 2	
				WW-Z3-02-PL-581-001	4	Zone Z3 - Level 02 - Drainage Strategy - Sheet 1 of 2	
				WW-Z3-03-PL-581-001	4	Zone Z3 - Level 03 - Drainage Strategy - Sheet 1 of 2	
				WW-Z3-04-PL-581-001	4	Zone Z3 - Level 04 - Drainage Strategy - Sheet 1 of 2	
				WW-Z3-05-PL-581-001	4	Zone Z3 - Level 05 (Roof) - Drainage Strategy - Sheet 1 of 2	
				WW-Z4-00-PL-581-001	4	Zone Z4 – Level 00 – Drainage Strategy - Sheet 1 of 2	
				WW-Z4-00-PL-581-002	4	Zone Z4 – Level 00 – Drainage Strategy - Sheet 2 of 2	
				WW-Z4-01-PL-581-001	4	Zone Z4 - Level 01 - Drainage Strategy - Sheet 1 of 2	
				WW-Z4-01-PL-581-002	4	Zone Z4 - Level 01 - Drainage Strategy - Sheet 2 of 2	
				WW-Z4-02-PL-581-001	4	Zone Z4 - Level 02 - Drainage Strategy - Sheet 1 of 2	
				WW-Z4-02-PL-581-002	4	Zone Z4 - Level 02 - Drainage Strategy - Sheet 2 of 2	
				WW-Z4-03-PL-581-001	4	Zone Z4 - Level 03 - Drainage Strategy - Sheet 1 of 2	
				WW-Z4-03-PL-581-002	4	Zone Z4 - Level 03 - Drainage Strategy - Sheet 2 of 2	
				WW-Z4-04-PL-581-001	4	Zone Z4 - Level 04 - Drainage Strategy - Sheet 1 of 2	
				WW-Z4-04-PL-581-002	4	Zone Z4 - Level 04 - Drainage Strategy - Sheet 2 of 2	
				WW-Z4-05-PL-581-001	4	Zone Z4 - Level 05 (Roof) - Drainage Strategy - Sheet 1 of 2	
				WW-Z4-05-PL-581-002	4	Zone Z4 - Level 05 (Roof) - Drainage Strategy - Sheet 2 of 2	
21/07/2015	21/07/2015	RDD Small Power Layouts Zone Z2 Level B1, Zone Z3 Levels B1,00,01,02,03 & 04 and Zone Z4,Levels 00,01,02,03 & 04	BMCE-TRANSMIT-002067	WW-SZ-B1-PL-531-001	1	Zone 3 Level B1 Small Power Layout	21/08/2015
				WW-Z3-00-PL-531-001	1	Zone 2 Level B1 Small Power Layout	
				WW-Z3-00-PL-531-002	1	Zone Z3 – Level 00 – Small Power Layout Sheet 1 of 2	
				WW-Z3-00-PL-531-002	1	Zone Z3 – Level 00 – Small Power Layout Sheet 2 of 2	
				WW-Z3-01-PL-531-001	1	Zone Z3 – Level 01 – Small Power Layout Sheet 1 of 2	
				WW-Z3-01-PL-531-002	1	Zone Z3 – Level 01 – Small Power Layout Sheet 2 of 2	
				WW-Z3-02-PL-531-001	1	Zone Z3 Level 02 Small Power Layout Sheet 1 of 2	
				WW-Z3-02-PL-531-002	1	Zone Z3 Level 02 Small Power Layout Sheet 2 of 2	
				WW-Z3-03-PL-531-001	1	Zone Z3 Level 03 Small Power Layout Sheet 1 of 2	
				WW-Z3-03-PL-531-002	1	Zone Z3 Level 03 Small Power Layout Sheet 2 of 2	
				WW-Z3-04-PL-531-001	1	Zone Z3 Level 04 Small Power Layout Sheet 1 of 2	
				WW-Z3-04-PL-531-002	1	Zone Z3 Level 04 Small Power Layout Sheet 2 of 2	
				WW-Z4-00-PL-531-001	1	Zone Z4 – Level 00 – Small Power Layout Sheet 1 of 2	
				WW-Z4-00-PL-531-002	1	Zone Z4 – Level 00 – Small Power Layout Sheet 2 of 2	
				WW-Z4-01-PL-531-001	1	Zone Z4 – Level 01 – Small Power Layout Sheet 1 of 2	
				WW-Z4-01-PL-531-002	1	Zone Z4 – Level 01 – Small Power Layout Sheet 2 of 2	
				WW-Z4-02-PL-531-001	1	Zone Z4 Level 02 Small Power Layout Sheet 1 of 2	
				WW-Z4-02-PL-531-002	1	Zone Z4 Level 02 Small Power Layout Sheet 2 of 2	
				WW-Z4-03-PL-531-001	1	Zone Z4 Level 03 Small Power Layout Sheet 1 of 2	
				WW-Z4-03-PL-531-002	1	Zone Z4 Level 03 Small Power Layout Sheet 2 of 2	
				WW-Z4-04-PL-531-001	1	Zone Z4 Level 04 Small Power Layout Sheet 1 of 2	
				WW-Z4-04-PL-531-002	1	Zone Z4 Level 04 Small Power Layout Sheet 2 of 2	
21/07/2015	21/07/2015	RDD Water Services Distribution Zone Z3 Levels 00 & 04 and Zone Z4 Level 00 (Sheet 2 of 2),02 & 04 & B1	BMCE-TRANSMIT-002069	WW-SZ-B1-PL-500-001	2	Level B1 - Water Services Distribution	21/08/2015
				WW-Z3-00-PL-500-001	1	Zone 3 Level 00 Water Services Distribution Sheet 1 of 2	
				WW-Z3-00-PL-500-002	1	Zone 3 Level 00 Water Services Distribution Sheet 2 of 2	
				WW-Z3-04-PL-500-001	1	Zone Z3 – Level 04 – Water Services Distribution Sheet 1 of 2	
				WW-Z3-04-PL-500-002	1	Zone Z3 – Level 04 – Water Services Distribution Sheet 2 of 2	
				WW-Z4-00-PL-500-001	1	Zone Z4 - Level 00 Water Services Distribution Sheet 2 of 2	
				WW-Z4-02-PL-500-001	1	Zone Z4 - Level 02 Water Services Distribution Sheet 1 of 2	
				WW-Z4-02-PL-500-002	1	Zone Z4 – Level 02 – Water Services Distribution Sheet 2 of 2	
				WW-Z4-04-PL-500-001	1	Zone Z4 – Level 04 – Water Services Distribution Sheet 1 of 2	
				WW-Z4-04-PL-500-002	1	Zone Z4 – Level 04 – Water Services Distribution Sheet 2 of 2	
22/07/2015	22/07/2015	RDD Power Plant & Containment Routes Zone Z3 and Zone Z4, Levels B1 00,01,02,03 & 04	BMCE-TRANSMIT-002070	WW-SZ-B1-PL-533-001	2	Level B1 - Power Plant & Containment Routes	21/08/2015
				WW-Z3-00-PL-533-001	1	Zone Z3 – Level 00 – Power Plant & Containment Routes Sheet 1 of 2	
				WW-Z3-00-PL-533-002	1	Zone Z3 – Level 00 – Power Plant & Containment Routes Sheet 2 of 2	
				WW-Z3-01-PL-533-001	1	Zone Z3 – Level 01 – Power Plant & Containment Routes Sheet 1 of 2	
				WW-Z3-01-PL-533-002	1	Zone Z3 – Level 01 – Power Plant & Containment Routes Sheet 2 of 2	
				WW-Z3-02-PL-533-001	1	Zone Z3 – Level 02 – Power Plant & Containment Routes Sheet 1 of 2	
				WW-Z3-02-PL-533-002	1	Zone Z3 – Level 02 – Power Plant & Containment Routes Sheet 2 of 2	
				WW-Z3-03-PL-533-001	1	Zone Z3 – Level 03 – Power Plant & Containment Routes Sheet 1 of 2	
				WW-Z3-03-PL-533-002	1	Zone Z3 – Level 03 – Power Plant & Containment Routes Sheet 2 of 2	
				WW-Z3-04-PL-533-001	1	Zone Z3 Level 04 Power Plant & Containment Routes Sheet 1 of 2	
				WW-Z3-04-PL-533-002	1	Zone Z3 Level 04 Power Plant & Containment Routes Sheet 2 of 2	
				WW-Z4-00-PL-533-001	1	Zone Z4 – Level 00 – Power Plant & Containment Routes Sheet 1 of 2	
				WW-Z4-00-PL-533-002	1	Zone Z4 – Level 00 – Power Plant & Containment Routes Sheet 2 of 2	
				WW-Z4-01-PL-533-001	1	Zone Z4 – Level 01 – Power Plant & Containment Routes Sheet 1 of 2	
				WW-Z4-01-PL-533-002	1	Zone Z4 – Level 01 – Power Plant & Containment Routes Sheet 2 of 2	
				WW-Z4-02-PL-533-001	1	Zone Z4 – Level 02 – Power Plant & Containment Routes Sheet 1 of 2	
				WW-Z4-02-PL-533-002	1	Zone Z4 – Level 02 – Power Plant & Containment Routes Sheet 2 of 2	
				WW-Z4-03-PL-533-001	1	Zone Z4 – Level 03 – Power Plant & Containment Routes Sheet 1 of 2	
				WW-Z4-03-PL-533-002	1	Zone Z4 – Level 03 – Power Plant & Containment Routes Sheet 2 of 2	
				WW-Z4-04-PL-533-001	1	Zone Z4 Level 04 Power Plant & Containment Routes Sheet 1 of 2	
				WW-Z4-04-PL-533-002	1	Zone Z4 Level 04 Power Plant & Containment Routes Sheet 2 of 2	
22/07/2015	22/07/2015	G1547 RDD Small Power Layout Zone Z4,Level 04 Sheet 2 of 2	BMCE-TRANSMIT-002072	WW-Z4-04-PL-531-002	01	Zone Z4 Level 04 Small Power Layout Sheet 2 of 2	21/08/2015
23/07/2015		T1 RDD - Zone 3&4 Basement Floor Nurse Call Layout Drawing (5 of 6)	BMCE-TRANSMIT-002073	ME-SZ-00-PL-538-422	2	Ground Floor Plan, Hospital Street / Communication, Nurse Call Layout	28/08/2015
				ME-SZ-00-PL-538-423	2	Ground Floor Plan, Hospital Street / Communication, Nurse Call Layout	
				ME-Z3-00-PL-538-407	2	Ground Floor Plan, Radiology Department, Nurse Call Layout.	
				ME-Z3-00-PL-538-408	2	Ground Floor Plan, Radiology Department, Nurse Call Layout.	
				ME-Z3-00-PL-538-409	2	Ground Floor Plan, DCN Outpatients Department, Nurse Call Layout	
				ME-Z3-00-PL-538-419	2	Ground Floor Plan, DCN Entrance Department, Nurse Call Layout	
				ME-Z4-00-PL-538-410	2	Ground Floor Plan, Paru/Emergency/Radiology Shared Department, Nurse Call Layout	
				ME-Z4-00-PL-538-411	2	Ground Floor Plan, Emergency Department, Nurse Call Layout.	
				ME-Z4-00-PL-538-412	2	Ground Floor Plan, Emergency Department, Nurse Call Layout	
				ME-Z4-00-PL-538-413	2	Ground Floor Plan, Paediatric Acute Receiving Unit Department, Nurse Call Layout	
				ME-Z4-00-PL-538-414	2	Ground Floor Plan, Paediatric Acute Receiving Unit Department, Nurse Call Layout	
				ME-Z4-00-PL-538-415	2	Ground Floor Plan, Spiritual & Pastoral Care Department, Nurse Call Layout	
				ME-Z4-00-PL-538-416	2	Ground Floor Plan, Child & Adolescent Mental Health Services Department, Nurse Call Layout	
				ME-Z4-00-PL-538-417	2	Ground Floor Plan, Child & Adolescent Mental Health Services Department, Nurse Call Layout	
				ME-Z4-00-PL-538-418	2	Ground Floor Plan, Child & Adolescent Mental Health Services Department, Nurse Call Layout	
23/07/2015		Fwd T1 RDD - Zone 3&4 Ground Floor Fire Detection Layout	BMCE-TRANSMIT-002074	ME-SZ-00-PL-572-422	02	Ground Floor Plan, Hospital Street / Communication, Fire Detection Layout	
				ME-SZ-00-PL-572-423	02	Ground Floor Plan, Hospital Street / Communication, Fire Detection Layout	

		Drawings (3 of 6)		ME Z3 00 PL 572 407	02	Ground Floor Plan Radiology Department Fire Detection Layout	
				ME Z3 00 PL 572 408	02	Ground Floor Plan Radiology Department Fire Detection Layout	
				ME Z3 00 PL 572 409	02	Ground Floor Plan DCN Outpatients Department Fire Detection Layout	
				ME Z3 00 PL 572 419	02	Ground Floor Plan DCN Entrance Department Fire Detection Layout	
				ME Z4 00 PL 572 410	02	Ground Floor Plan Paru/Emergency/Radiology Shared Department Fire Detection Layout	
				ME Z4 00 PL 572 411	02	Ground Floor Plan Emergency Department Fire Detection Layout	
				ME Z4 00 PL 572 412	02	Ground Floor Plan Emergency Department Fire Detection Layout	04/09/2015
				ME Z4 00 PL 572 413	02	Ground Floor Plan Paediatric Acute Receiving Unit Department Fire Detection Layout	
				ME Z4 00 PL 572 414	02	Ground Floor Plan Paediatric Acute Receiving Unit Department Fire Detection Layout	
				ME Z4 00 PL 572 415	02	Ground Floor Plan Spiritual & Pastoral Care Department Fire Detection Layout	
				ME Z4 00 PL 572 416	02	Ground Floor Plan Child & Adolescent Mental Health Services Department Fire Detection Layout	
				ME Z4 00 PL 572 417	02	Ground Floor Plan Child & Adolescent Mental Health Services Department Fire Detection Layout	
				ME Z4 00 PL 572 418	02	Ground Floor Plan Child & Adolescent Mental Health Services Department Fire Detection Layout	
23/07/2015		Fwd T1 RDD - Zone 3&4 Ground Floor Layout of Data Outlets Drawings (2 of 6)	<a href="#">BMCE-TRANSMIT-002075</a>	ME SZ 00 PL 556 422	02	Ground Floor Plan Hospital Street / Communication Layout of Data Outlets	
				ME SZ 00 PL 556 423	02	Ground Floor Plan Hospital Street / Communication Layout of Data Outlets	
				ME Z3 00 PL 556 407	02	Ground Floor Plan Radiology Department Layout of Data Outlets	
				ME Z3 00 PL 556 408	02	Ground Floor Plan Radiology Department Layout of Data Outlets	
				ME Z3 00 PL 556 409	02	Ground Floor Plan DCN Outpatients Department Layout of Data Outlets	
				ME Z3 00 PL 556 419	02	Ground Floor Plan DCN Entrance Department Layout of Data Outlets	
				ME Z4 00 PL 556 410	02	Ground Floor Plan Paru/Emergency/Radiology Shared Department Layout of Data Outlets	
				ME Z4 00 PL 556 411	02	Ground Floor Plan Emergency Department Layout of Data Outlets	
				ME Z4 00 PL 556 412	02	Ground Floor Plan Emergency Department Layout of Data Outlets	
				ME Z4 00 PL 556 413	02	Ground Floor Plan Paediatric Acute Receiving Unit Department Layout of Data Outlets	
				ME Z4 00 PL 556 414	02	Ground Floor Plan Paediatric Acute Receiving Unit Department Layout of Data Outlets	
				ME Z4 00 PL 556 415	02	Ground Floor Plan Spiritual & Pastoral Care Department Layout of Data Outlets	
				ME Z4 00 PL 556 416	02	Ground Floor Plan Child & Adolescent Mental Health Services Department Layout of Data Outlets	
				ME Z4 00 PL 556 417	02	Ground Floor Plan Child & Adolescent Mental Health Services Department Layout of Data Outlets	
				ME Z4 00 PL 556 418	02	Ground Floor Plan Child & Adolescent Mental Health Services Department Layout of Data Outlets	
23/07/2015		Fwd: T1 RDD - Zone 3&4 Basement Floor Layout of Data Outlets Drawings (2 of 6)	<a href="#">BMCE-TRANSMIT-002076</a>	ME SZ B1 PL 556 407	02	Basement Floor Plan Hospital Street Communication Layout of Data Outlets	
				ME Z3 B1 PL 556 405	02	Basement Floor Plan Estates Department Layout of Data Outlets	
				ME Z4 B1 PL 556 401	02	Basement Floor Plan Bed & Toy Store Department Layout of Data Outlets	
				ME Z4 B1 PL 556 402	02	Basement Floor Plan Kitchen Layout of Data Outlets	
				ME Z4 B1 PL 556 403	02	Basement Floor Plan Domestic Services Department Layout of Data Outlets	
				ME Z4 B1 PL 556 404	02	Basement Floor Plan Materials Management / Estates Department Layout of Data Outlets	
				ME Z4 B1 PL 556 406	02	Basement Floor Plan Sterile Supplies Store Department Layout of Data Outlets	
23/07/2015		Fwd: T1 RDD - Zone 3&4 Basement Floor Lighting Layout Drawings (4 of 6)	<a href="#">BMCE-TRANSMIT-002077</a>	ME SZ B1 PL 541 407	02	Basement Floor Plan Hospital Street Communication Lighting Layout	
				ME Z3 B1 PL 541 405	02	Basement Floor Plan Estates Department Lighting Layout	
				ME Z4 B1 PL 541 401	02	Basement Floor Plan Bed & Toy Store Department Lighting Layout	
				ME Z4 B1 PL 541 402	02	Basement Floor Plan Kitchen Lighting Layout	
				ME Z4 B1 PL 541 403	02	Basement Floor Plan Domestic Services Department Lighting Layout	
				ME Z4 B1 PL 541 404	02	Basement Floor Plan Materials Management / Estates Department Lighting Layout	
				ME Z4 B1 PL 541 406	02	Basement Floor Plan Sterile Supplies Store Department Lighting Layout	
23/07/2015		Fwd T1 RDD - Zone 3&4 Basement Floor Nurse Call Layout Drawing (5 of 6)	<a href="#">BMCE-TRANSMIT-002078</a>	ME Z4 B1 PL 538 401	02	Basement Floor Plan Bed & Toy Store Department Nurse Call Layout	28/08/2015
23/07/2015		T1 RDD - Zone 3&4 Basement Floor Pneumatic Tube System Layout Drawing (6 of 6)	<a href="#">BMCE-TRANSMIT-002079</a>	ME SZ B1 PL 569 001	04	Basement Floor Plan Pneumatic Tube System Layout	14/08/2015
24/07/2015		G1547 RDD Cooling Distribution Zone Z3 & Zone Z4 Level 02	<a href="#">BMCE-TRANSMIT-002081</a>	WW Z3 02 PL 525 001	1	Zone Z3 Level 02 Cooling Distribution Sheet 1 of 2	
				WW Z3 02 PL 525 002	1	Zone Z3 Level 02 Cooling Distribution Sheet 2 of 2	
				WW Z4 02 PL 525 001	1	Zone Z4 Level 02 Cooling Distribution Sheet 1 of 2	
				WW Z4 02 PL 525 002	1	Zone Z4 Level 02 Cooling Distribution Sheet 2 of 2	14/08/2015
27/07/2015	27/07/2015	T1 RDD - Zone 3&4 Second Floor Fire Detection Layout Drawings (3 of 6)	<a href="#">BMCE-TRANSMIT-002085</a>	ME SZ 02 PL 572 414	2	Second Floor Plan Hospital Street/ Communication Fire Detection Layout	
				ME SZ 02 PL 572 415	2	Second Floor Plan Hospital Street/ Communication Fire Detection Layout	
				ME Z3 02 PL 572 404	2	Second Floor Plan Equipment Library Department Fire Detection Layout	
				ME Z3 02 PL 572 405	2	Second Floor Plan Central Staff Changing Fire Detection Layout	
				ME Z4 02 PL 572 406	2	Second Floor Plan DCN Inpatients Department Fire Detection Layout	
				ME Z4 02 PL 572 407	2	Second Floor Plan DCN Inpatients Department Fire Detection Layout	
				ME Z4 02 PL 572 408	2	Second Floor Plan DCN Inpatients Department Fire Detection Layout	
				ME Z4 02 PL 572 409	2	Second Floor Plan DCN Wards / Health Records Support Department Fire Detection Layout	
				ME Z4 02 PL 572 410	2	Second Floor Plan Programmed Investigations Unit Department Fire Detection Layout	
				ME Z4 02 PL 572 411	2	Second Floor Plan DCN Therapies Department Fire Detection Layout	
				ME Z4 02 PL 572 412	2	Second Floor Plan E Health Infrastructure Department Fire Detection Layout	
				ME Z4 02 PL 572 413	2	Second Floor Plan DCN Neurophysiology Department Fire Detection Layout	
27/07/2015	27/07/2015	T1 RDD - Zone 3&4 Second Floor Layout of Data Outlets Drawings (2 of 6)	<a href="#">BMCE-TRANSMIT-002086</a>	ME SZ 02 PL 556 414	2	Second Floor Plan Hospital Street / Communication Layout of Data Outlets	
				ME SZ 02 PL 556 415	2	Second Floor Plan Hospital Street / Communication Layout of Data Outlets	
				ME Z3 02 PL 556 404	2	Second Floor Plan Equipment Library Department Layout of Data Outlets	
				ME Z3 02 PL 556 405	2	Second Floor Plan Central Staff Changing Layout of Data Outlets	
				ME Z4 02 PL 556 406	2	Second Floor Plan DCN Inpatients Department Layout of Data Outlets	
				ME Z4 02 PL 556 407	2	Second Floor Plan DCN Inpatients Department Layout of Data Outlets	
				ME Z4 02 PL 556 408	2	Second Floor Plan DCN Inpatients Department Layout of Data Outlets	
				ME Z4 02 PL 556 409	2	Second Floor Plan DCN Wards / Health Records Support Department Layout of Data Outlets	
				ME Z4 02 PL 556 410	2	Second Floor Plan Programmed Investigations Unit Department Layout of Data Outlets	
				ME Z4 02 PL 556 411	2	Second Floor Plan DCN Therapies Department Layout of Data Outlets	
				ME Z4 02 PL 556 412	2	Second Floor Plan E Health Infrastructure Department Layout of Data Outlets	
				ME Z4 02 PL 556 413	2	Second Floor Plan DCN Neurophysiology Department Layout of Data Outlets	
27/07/2015	27/07/2015	T1 RDD - Zone 3&4 Second Floor CCTV & Door Access Layout Drawings (1 of 6)	<a href="#">BMCE-TRANSMIT-002087</a>	ME SZ 02 PL 571 414	2	Second Floor Plan Hospital Street/ Communication CCTV & Door Access Layout	
				ME SZ 02 PL 571 415	2	Second Floor Plan Hospital Street/ Communication CCTV & Door Access Layout	
				ME Z3 02 PL 571 404	2	Second Floor Plan Equipment Library Department CCTV & Door Access Layout	
				ME Z3 02 PL 571 405	2	Second Floor Plan Central Staff Changing CCTV & Door Access Layout	
				ME Z4 02 PL 571 406	2	Second Floor Plan DCN Inpatients Department CCTV & Door Access Layout	
				ME Z4 02 PL 571 407	2	Second Floor Plan DCN Inpatients Department CCTV & Door Access Layout	
				ME Z4 02 PL 571 408	2	Second Floor Plan DCN Inpatients Department CCTV & Door Access Layout	
				ME Z4 02 PL 571 409	2	Second Floor Plan DCN Wards / Health Records Support Department CCTV & Door Access	
				ME Z4 02 PL 571 410	2	Second Floor Plan Programmed Investigations Unit Department CCTV & Door Access Layout	
				ME Z4 02 PL 571 411	2	Second Floor Plan DCN Therapies Department CCTV & Door Access Layout	
				ME Z4 02 PL 571 412	2	Second Floor Plan E Health Infrastructure Department CCTV & Door Access Layout	
				ME Z4 02 PL 571 413	2	Second Floor Plan DCN Neurophysiology Department CCTV & Door Access Layout	
27/07/2015	27/07/2015	T1 RDD - Zone 3&4 Basement Floor Lighting Layout Drawings	<a href="#">BMCE-TRANSMIT-002088</a>	ME Z3 00 PL 541 408	2	Ground Floor Plan Radiology Department Lighting Layout	
				ME Z3 00 PL 541 409	2	Ground Floor Plan DCN Outpatients Department Lighting Layout	
				ME Z3 00 PL 541 419	2	Ground Floor Plan DCN Entrance Department Lighting Layout	
27/07/2015	27/07/2015	T1 RDD - Zone 3&4 Third Floor CCTV & Door Access Layout Drawings (1 of 6)	<a href="#">BMCE-TRANSMIT-002089</a>	ME SZ 03 PL 571 419	2	Third Floor Plan Hospital Street/ Communication CCTV & Door Access Layout	
				ME SZ 03 PL 571 420	2	Third Floor Plan Hospital Street/ Communication CCTV & Door Access Layout	
				ME Z3 03 PL 571 405	2	Third Floor Plan Paediatric Neurophysiology Department CCTV & Door Access Layout	
				ME Z3 03 PL 571 406	2	Third Floor Plan Neuroscience Inpatients Department CCTV & Door Access Layout	
				ME Z3 03 PL 571 407	2	Third Floor Plan Special Feeds Unit Communication Department CCTV & Door Access Layout	
				ME Z3 03 PL 571 408	2	Third Floor Plan MED/SUR/NEURO/HAEM Shared Support Department CCTV & Door Access Layout	

				ME Z3 03 PL 571 409	2	Third Floor Plan Haematology / Oncology Inpatients & Daycases Department CCTV & Door Access Layout	11/09/2015
				ME Z3 03 PL 571 410	2	Third Floor Plan Specialist Paediatric Biochemistry Lab Department CCTV & Door Access Layout	
				ME Z4 03 PL 571 411	2	Third Floor Plan RHSC Wards Support Department CCTV & Door Access Layout	
				ME Z4 03 PL 571 412	2	Third Floor Plan Medical Day Care Unit CCTV & Door Access Layout	
				ME Z4 03 PL 571 413	2	Third Floor Plan Medical Inpatients Department CCTV & Door Access Layout	
				ME Z4 03 PL 571 414	2	Third Floor Plan Medical Inpatients Department CCTV & Door Access Layout	
				ME Z4 03 PL 571 415	2	Third Floor Plan Sleep Laboratory CCTV & Door Access Layout	
				ME Z4 03 PL 571 416	2	Third Floor Plan Adolescent Shared Accommodation Department CCTV & Door Access Layout	
				ME Z4 03 PL 571 417	2	Third Floor Plan Surgical Long Stay Inpatients Department CCTV & Door Access Layout	
				ME Z4 03 PL 571 418	2	Third Floor Plan Surgical Short Stay Inpatients Department CCTV & Door Access Layout	
27/07/2015	27/07/2015	T1 RDD - Zone 3&4 Second Floor Nurse Call Layout Drawing (5 of 6)	<a href="#">BMCE-TRANSMIT-002090</a>	ME SZ 02 PL 538 414	2	Second Floor Plan Hospital Street/ Communication Nurse Call Layout	28/08/2015
				ME SZ 02 PL 538 415	2	Second Floor Plan Hospital Street/ Communication Nurse Call Layout	
				ME Z3 02 PL 538 404	2	Second Floor Plan Equipment Library Department Nurse Call Layout	
				ME Z3 02 PL 538 405	2	Second Floor Plan Central Staff Changing Nurse Call Layout	
				ME Z4 02 PL 538 406	2	Second Floor Plan DCN Inpatients Department Nurse Call Layout	
				ME Z4 02 PL 538 407	2	Second Floor Plan DCN Inpatients Department Nurse Call Layout	
				ME Z4 02 PL 538 408	2	Second Floor Plan DCN Inpatients Department Nurse Call Layout	
				ME Z4 02 PL 538 409	2	Second Floor Plan DCN Wards / Health Records Support Department Nurse Call Layout	
				ME Z4 02 PL 538 410	2	Second Floor Plan Programmed Investments Unit Department Nurse Call Layout	
				ME Z4 02 PL 538 411	2	Second Floor Plan DCN Therapies Department Nurse Call Layout	
				ME Z4 02 PL 538 412	2	Second Floor Plan E Health Infrastructure Department Nurse Call Layout	
				ME Z4 02 PL 538 413	2	Second Floor Plan DCN Neurophysiology Department Nurse Call Layout	
28/07/2015	28/07/2015	G1547 E-mail 6 of 9 - RDD Ventilation Distribution Zone Z3 and Zone Z4, Levels 00,01 & B1	<a href="#">BMCE-TRANSMIT-002093</a>	WW SZ B1 PL 524 001	02	Level B1 Ventilation Distribution	14/08/2015
				WW Z3 00 PL 524 001	01	Zone Z3 Level 00 Ventilation Distribution Sheet 1 of 2	
				WW Z3 00 PL 524 002	01	Zone Z3 Level 00 Ventilation Distribution Sheet 2 of 2	
				WW Z3 01 PL 524 001	01	Zone Z3 Level 01 Ventilation Distribution Sheet 1 of 2	
				WW Z3 01 PL 524 002	01	Zone Z3 Level 01 Ventilation Distribution Sheet 2 of 2	
				WW Z4 00 PL 524 001	01	Zone Z4 Level 00 Ventilation Distribution Sheet 1 of 2	
				WW Z4 00 PL 524 002	01	Zone Z4 Level 00 Ventilation Distribution Sheet 2 of 2	
				WW Z4 01 PL 524 001	01	Zone Z4 Level 01 Ventilation Distribution Sheet 1 of 2	
				WW Z4 01 PL 524 002	01	Zone Z4 Level 01 Ventilation Distribution Sheet 2 of 2	
29/07/2015		T1 RDD - Zone 3&4 Basement Floor Pneumatic Tube System Layout Drawing (6 of 6)	<a href="#">BMCE-TRANSMIT-002102</a>	ME SZ 02 PL 569 001	B	Second Floor Plan Pneumatic Tube System Layout	
30/07/2015		T1 RDD - Zone 3&4 Third Floor Layout of Data Outlets Drawings (2 of 6)	<a href="#">BMCE-TRANSMIT-002116</a>	ME SZ 03 PL 556 419	2	Third Floor Plan Hospital Street/ Communication Layout of Data Outlets	18/09/2015
				ME SZ 03 PL 556 420	2	Third Floor Plan Hospital Street/ Communication Layout of Data Outlets	
				ME Z3 03 PL 556 405	2	Third Floor Plan Paediatric Neurophysiology Department Layout of Data Outlets	
				ME Z3 03 PL 556 406	2	Third Floor Plan Neuroscience Inpatients Department Layout of Data Outlets	
				ME Z3 03 PL 556 407	2	Third Floor Plan Special Feeds Unit Communication Department Layout of Data Outlets	
				ME Z3 03 PL 556 408	2	Third Floor Plan MED/SUR/NEURO/HAEM Shared Support Department Layout of Data Outlets	
				ME Z3 03 PL 556 409	2	Third Floor Plan Haematology / Oncology Inpatients & Daycases Department Layout of Data Outlets	
				ME Z3 03 PL 556 410	2	Third Floor Plan Specialist Paediatric Biochemistry Lab Department Layout of Data Outlets	
				ME Z4 03 PL 556 411	2	Third Floor Plan RHSC Wards Support Department Layout of Data Outlets	
				ME Z4 03 PL 556 412	2	Third Floor Plan Medical Day Care Unit Layout of Data Outlets	
				ME Z4 03 PL 556 413	2	Third Floor Plan Medical Inpatients Department Layout of Data Outlets	
				ME Z4 03 PL 556 414	2	Third Floor Plan Medical Inpatients Department Layout of Data Outlets	
				ME Z4 03 PL 556 415	2	Third Floor Plan Sleep Laboratory Layout of Data Outlets	
				ME Z4 03 PL 556 416	2	Third Floor Plan Adolescent Shared Accommodation Department Layout of Data Outlets	
				ME Z4 03 PL 556 417	2	Third Floor Plan Surgical Long Stay Inpatients Department Layout of Data Outlets	
				ME Z4 03 PL 556 418	2	Third Floor Plan Surgical Short Stay Inpatients Department Layout of Data Outlets	
30/07/2015		G1547 RDD Zone Z3 Level 01,02,03,04 & 05 Drainage Strategy Sheet 2 of 2	<a href="#">BMCE-TRANSMIT-002117</a>	WW Z3 01 PL 581 002	4	Zone Z3 Level 01 Drainage Strategy Sheet 2 of 2	21/08/2015
				WW Z3 02 PL 581 002	4	Zone Z3 Level 02 Drainage Strategy Sheet 2 of 2	
				WW Z3 03 PL 581 002	4	Zone Z3 Level 03 Drainage Strategy Sheet 2 of 2	
				WW Z3 04 PL 581 002	4	Zone Z3 Level 04 Drainage Strategy Sheet 2 of 2	
				WW Z3 05 PL 581 002	4	Zone Z3 Level 05 (Roof) Drainage Strategy Sheet 2 of 2	
30/07/2015		T1 RDD - Zone 3&4 Third Floor Fire Detection Layout Drawings (3 of 6)	<a href="#">BMCE-TRANSMIT-002118</a>	ME SZ 03 PL 572 419	2	Third Floor Plan Hospital Street/ Communication Fire Detection Layout	04/09/2015
				ME SZ 03 PL 572 420	2	Third Floor Plan Hospital Street/ Communication Fire Detection Layout	
				ME Z3 03 PL 572 405	2	Third Floor Plan Paediatric Neurophysiology Department Fire Detection Layout	
				ME Z3 03 PL 572 406	2	Third Floor Plan Neuroscience Inpatients Department Fire Detection Layout	
				ME Z3 03 PL 572 407	2	Third Floor Plan Special Feeds Unit Communication Department Fire Detection Layout	
				ME Z3 03 PL 572 408	2	Third Floor Plan MED/SUR/NEURO/HAEM Shared Support Department Fire Detection Layout	
				ME Z3 03 PL 572 409	2	Third Floor Plan Haematology / Oncology Inpatients & Daycases Department Fire Detection Layout	
				ME Z3 03 PL 572 410	2	Third Floor Plan Specialist Paediatric Biochemistry Lab Department Fire Detection Layout	
				ME Z4 03 PL 572 411	2	Third Floor Plan RHSC Wards Support Department Fire Detection Layout	
				ME Z4 03 PL 572 412	2	Third Floor Plan Medical Day Care Unit Fire Detection Layout	
				ME Z4 03 PL 572 413	2	Third Floor Plan Medical Inpatients Department Fire Detection Layout	
				ME Z4 03 PL 572 414	2	Third Floor Plan Medical Inpatients Department Fire Detection Layout	
				ME Z4 03 PL 572 415	2	Third Floor Plan Sleep Laboratory Fire Detection Layout	
				ME Z4 03 PL 572 416	2	Third Floor Plan Adolescent Shared Accommodation Department Fire Detection Layout	
				ME Z4 03 PL 572 417	2	Third Floor Plan Surgical Long Stay Inpatients Department Fire Detection Layout	
				ME Z4 03 PL 572 418	2	Third Floor Plan Surgical Short Stay Inpatients Department Fire Detection Layout	
30/07/2015		T1 RDD - Zone 3&4 Third Floor Pneumatic Tube System Layout Drawing (6 of 6)	<a href="#">BMCE-TRANSMIT-002119</a>	ME SZ 03 PL 569 001	06	Third Floor Plan Pneumatic Tube System Layout	14/08/2015
31/07/2015		T1 RDD - Zone 3&4 Fourth Floor Lighting Layout Drawings (4 of 5)	<a href="#">BMCE-TRANSMIT-002131</a>	ME SZ 04 PL 541 407	2	Fourth Floor Plan Hospital Street / Communication Lighting Layout	18/09/2015
				ME Z3 04 PL 541 401	2	Fourth Floor Plan Health Records Department Lighting Layout	
				ME Z3 04 PL 541 402	2	Fourth Floor Plan Helpad Support Department Lighting Layout	
				ME Z4 04 PL 541 403	2	Fourth Floor Plan Restaurant Lighting Layout	
				ME Z4 04 PL 541 404	4	Fourth Floor Plan Clinical/Management Suite Department Lighting Layout	
				ME Z4 04 PL 541 405	2	Fourth Floor Plan Classrooms Lighting Layout	
				ME Z4 04 PL 541 406	4	Fourth Floor Plan Child Life & Health Department Lighting Layout	
31/07/2015		T1 RDD - Zone 3&4 Fourth Floor Nurse Call Layout Drawing (5 of 5)	<a href="#">BMCE-TRANSMIT-002133</a>	ME SZ 04 PL 538 407	2	Fourth Floor Plan Hospital Street / Communication Nurse Call Layout	28/08/2015
				ME Z3 04 PL 538 401	2	Fourth Floor Plan Health Records Department Nurse Call Layout	
				ME Z3 04 PL 538 402	2	Fourth Floor Plan Helpad Support Department Nurse Call Layout	
				ME Z4 04 PL 538 403	2	Fourth Floor Plan Restaurant Nurse Call Layout	
				ME Z4 04 PL 538 404	2	Fourth Floor Plan Clinical / Management Suite Nurse Call Layout	
				ME Z4 04 PL 538 405	2	Fourth Floor Plan Classrooms Nurse Call Layout	
31/07/2015		T1 RDD - Zone 3&4 Fourth Floor CCTV & Door Access Layout Drawings (1 of 5)	<a href="#">BMCE-TRANSMIT-002134</a>	ME SZ 04 PL 571 407	2	Fourth Floor Plan Hospital Street / Communication CCTV & Door Access Layout	11/09/2015
				ME Z3 04 PL 571 401	2	Fourth Floor Plan Health Records Department CCTV & Door Access Layout	
				ME Z3 04 PL 571 402	2	Fourth Floor Plan Helpad Support Department CCTV & Door Access Layout	
				ME Z4 04 PL 571 403	2	Fourth Floor Plan Restaurant CCTV & Door Access Layout	
				ME Z4 04 PL 571 404	2	Fourth Floor Plan Clinical / Management Suite CCTV & Door Access Layout	
				ME Z4 04 PL 571 405	2	Fourth Floor Plan Classrooms CCTV & Door Access Layout	
				ME Z4 04 PL 571 406	2	Fourth Floor Plan Child Life & Health Department CCTV & Door Access Layout	

31/07/2015	T1 RDD - Zone 3&4 Fourth Floor Fire Detection Layout Drawings (3 of 5)	<a href="#">BMCE-TRANSMIT-002136</a>	ME SZ 04 PL 572 407	2	Fourth Floor Plan Hospital Street / Communication Fire Detection Layout	04/09/2015
			ME Z3 04 PL 572 401	2	Fourth Floor Plan Health Records Department Fire Detection Layout	
			ME Z3 04 PL 572 402	2	Fourth Floor Plan Helpad Support Department Fire Detection Layout	
			ME Z4 04 PL 572 403	2	Fourth Floor Plan Restaurant Fire Detection Layout	
			ME Z4 04 PL 572 404	2	Fourth Floor Plan Clinical / Management Suite Fire Detection Layout	
			ME Z4 04 PL 572 405	2	Fourth Floor Plan Classrooms Fire Detection Layout	
			ME Z4 04 PL 572 406	2	Fourth Floor Plan Child Life & Health Department Fire Detection Layout	
31/07/2015	T1 RDD - Zone 3&4 Fourth Floor Layout of Data Outlets Drawings (2 of 5)	<a href="#">BMCE-TRANSMIT-002137</a>	ME SZ 04 PL 556 407	2	Fourth Floor Plan Hospital Street / Communication Layout of Data Outlets	18/09/2015
			ME Z3 04 PL 556 401	2	Fourth Floor Plan Health Records Department Layout of Data Outlets	
			ME Z3 04 PL 556 402	2	Fourth Floor Plan Helpad Support Department Layout of Data Outlets	
			ME Z4 04 PL 556 403	2	Fourth Floor Plan Restaurant Layout of Data Outlets	
			ME Z4 04 PL 556 404	2	Fourth Floor Plan Clinical / Management Suite Layout of Data Outlets	
			ME Z4 04 PL 556 405	2	Fourth Floor Plan Classrooms Layout of Data Outlets	
			ME Z4 04 PL 556 406	2	Fourth Floor Plan Child Life & Health Department Layout of Data Outlets	
31/07/2015	T1 RDD - Zone 3&4 Second Floor Lighting Layout Drawings (4 of 6)	<a href="#">BMCE-TRANSMIT-002138</a>	ME SZ 02 PL 541 414 01	2	Second Floor Plan Hospital Street/ Communication Lighting Layout	18/09/2015
			ME SZ 02 PL 541 415 01	2	Second Floor Plan Hospital Street/ Communication Lighting Layout	
			ME Z3 02 PL 541 404 01	2	Second Floor Plan Equipment Library Department Lighting Layout	
			ME Z3 02 PL 541 405 01	2	Second Floor Plan Central Staff Changing Lighting Layout	
			ME Z4 02 PL 541 406	4	Second Floor Plan DCN Inpatients Department Lighting Layout	
			ME Z4 02 PL 541 407 01	2	Second Floor Plan DCN Inpatients Department Lighting Layout	
			ME Z4 02 PL 541 408 01	2	Second Floor Plan DCN Inpatients Department Lighting Layout	
			ME Z4 02 PL 541 409 01	2	Second Floor Plan DCN Wards / Health Records Support Department Lighting Layout	
			ME Z4 02 PL 541 410	4	Second Floor Plan Programmed Investigations Unit Department Lighting Layout	
			ME Z4 02 PL 541 411	4	Second Floor Plan DCN Therapies Department Lighting Layout	
			ME Z4 02 PL 541 412 01	2	Second Floor Plan E Health Infrastructure Department Lighting Layout	
			ME Z4 02 PL 541 413	4	Second Floor Plan DCN Neurophysiology Department Lighting Layout	
31/07/2015	G1547 RDD Zone Z3 and Zone Z4 Level 03 Heating Distribution	<a href="#">BMCE-TRANSMIT-002140</a>	WW Z3 03 PL 521 001	1	Zone Z3 Level 03 Heating Distribution Sheet 1 of 2	14/08/2015
			WW Z3 03 PL 521 002	1	Zone Z3 Level 03 Heating Distribution Sheet 2 of 2	
			WW Z4 03 PL 521 001	1	Zone Z4 Level 03 Heating Distribution Sheet 1 of 2	
			WW Z4 03 PL 521 002	1	Zone Z4 Level 03 Heating Distribution Sheet 2 of 2	
31/07/2015	T1 RDD - Zone 3&4 Basement Floor Nurse Call Layout Drawing (5 of 6)	<a href="#">BMCE-TRANSMIT-002142</a>	ME SZ 03 PL 538 419	2	Third Floor Plan Hospital Street/ Communication Nurse Call Layout	28/08/2015
			ME SZ 03 PL 538 420	2	Third Floor Plan Hospital Street/ Communication Nurse Call Layout	
			ME Z3 03 PL 538 405	2	Third Floor Plan Paediatric Neurophysiology Department Nurse Call Layout	
			ME Z3 03 PL 538 406	2	Third Floor Plan Neuroscience Inpatients Department Nurse Call Layout	
			ME Z3 03 PL 538 407	2	Third Floor Plan Special Feeds Unit Communication Department Nurse Call Layout	
			ME Z3 03 PL 538 408	2	Third Floor Plan MED/SUR/NEUROHAEM Shared Support Department Nurse Call Layout	
			ME Z3 03 PL 538 409	2	Third Floor Plan Haematology / Oncology Inpatients & Daycases Department Nurse Call Layout	
			ME Z3 03 PL 538 410	2	Third Floor Plan Specialist Paediatric Biochemistry Lab Department Nurse Call Layout	
			ME Z4 03 PL 538 411	2	Third Floor Plan RHSC Wards Support Department Nurse Call Layout	
			ME Z4 03 PL 538 412	2	Third Floor Plan Medical Day Care Unit Nurse Call Layout	
			ME Z4 03 PL 538 413	2	Third Floor Plan Medical Inpatients Department Nurse Ca 1 Layout	
			ME Z4 03 PL 538 414	2	Third Floor Plan Medical Inpatients Department Nurse Ca 1 Layout	
			ME Z4 03 PL 538 415	2	Third Floor Plan Sleep Laboratory Nurse Call Layout	
			ME Z4 03 PL 538 416	2	Third Floor Plan Adolescent Shared Accommodation Department Nurse Ca 1 Layout	
			ME Z4 03 PL 538 417	2	Third Floor Plan Surgical Long Stay Inpatients Department Nurse Call Layout	
			ME Z4 03 PL 538 418	2	Third Floor Plan Surgical Short Stay Inpatients Department Nurse Call Layout	
31/07/2015	G1547 RDD Zone Z3 and Zone Z4 Level 04 Heating Distribution Sheet	<a href="#">BMCE-TRANSMIT-002144</a>	WW Z3 04 PL 521 001	1	Zone Z3 Level 04 Heating Distribution Sheet 1 of 2	14/08/2015
			WW Z3 04 PL 521 002	1	Zone Z3 Level 04 Heating Distribution Sheet 2 of 2	
			WW Z4 04 PL 521 001	1	Zone Z4 Level 04 Heating Distribution Sheet 1 of 2	
			WW Z4 04 PL 521 002	1	Zone Z4 Level 04 Heating Distribution Sheet 1 of 2	
05/08/2015	T1 RDD CCTV & Door Access Layout Drawings	<a href="#">BMCE-TRANSMIT-002147</a>	ME SZ 00 PL 571 001	6	Ground Floor Plan CCTV & Door Access Layout	11/09/2015
			ME SZ 01 PL 571 001	6	First Floor Plan CCTV & Door Access Layout	
			ME SZ 02 PL 571 001	6	Second Floor Plan CCTV & Door Access Layout	
			ME SZ 03 PL 571 001	6	Third Floor Plan CCTV & Door Access Layout	
			ME SZ 04 PL 571 001	6	Fourth Floor Plan CCTV & Door Access Layout	
			ME SZ B1 PL 571 001	6	Basement Floor Plan CCTV & Door Access Layout	
05/08/2015	T1 RDD Layout of Nurse Call Panels Drawings	<a href="#">BMCE-TRANSMIT-002148</a>	ME SZ 00 PL 538 001	4	Ground Floor Plan Layout of Nurse Call Panels	28/08/2015
			ME SZ 01 PL 538 001	4	First Floor Plan Layout of Nurse Ca 1 Panels	
			ME SZ 02 PL 538 001	4	Second Floor Plan Layout of Nurse Call Panels	
			ME SZ 03 PL 538 001	4	Third Floor Plan Layout of Nurse Call Panels	
			ME SZ 04 PL 538 001	4	Fourth Floor Plan Layout of Nurse Call Panels	

**From:** MrKamilKolodziejczykMottMacDonaldLtd(HeadOfficeUK) <-> on behalf of MrKamilKolodziejczykMottMacDonaldLtd(HeadOfficeUK)  
**Sent:** 06 August 2015 14:29  
**To:** bmedinburghdocontrolbrookfieldmultiplexconstructioneurope;  
mrkenhallbrookfieldmultiplexconstructioneurope  
**Cc:** msjanicemackenzienhslonian; maureenbrownmottmacdonaldLtd;  
mrwallaceweirhcpsocialinfrastructurelimited;  
mrdarrenpikebrookfieldmultiplexconstructioneurope; mrbriancurrienhslonian;  
colinmacraemottmacdonaldLtd; nhslrhsc+dcnnhslonian;  
mrdavidmartinr.a.m.assetmanagementlimited  
**Subject:** M&E RDD Drawings  
**Attachments:** M&E RDD-279282490ma.pdf

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## Message

Ken,

Thanks for the meeting last week. Further to the M&E drawings received between 21 and 31 July for RDD review the Board will not respond to all RDD submissions within 15 business days due to an unreasonable sequence of release of drawings being submitted by Project Co.

As discussed, to help move this forward, the Board would like to propose the following RDD return dates:

- Heating, cooling, ventilation and PTS 14<sup>th</sup> August
- Drainage, small power water services and power plant 21<sup>st</sup> August
- Nurse call 28<sup>th</sup> August
- Fire detection 4<sup>th</sup> September
- CCTV 11<sup>th</sup> September
- Data outlets and lighting layouts 18<sup>th</sup> September.

For the avoidance of doubt, any drawings returned to Project Co outwith 15 BDs shall be returned in accordance with the dates in "Response to Project Co by" column shown in the attached and therefore should not be considered to have been endorsed as 'Status A – No Comment'.

Regards

Kamil

Updated

ORIGINAL SUBMITTED RDD PACK							
Date received	Date Hard Copy Issued	Transmittal Title	Transmittal No	Document No	Rev	Title	Response to Project Co by
21/07/2015	21/07/2015	RDD Cooling Distribution Zone Z3 & Zone Z4 Levels 00, 01 & B1	<a href="#">BMCE-TRANSMIT-002063</a>	WW-SZ-B1-PL-525-001 WW-Z3-00-PL-525-001 WW-Z3-00-PL-525-002 WW-Z3-01-PL-525-001 WW-Z3-01-PL-525-002 WW-Z4-00-PL-525-001 WW-Z4-00-PL-525-002 WW-Z4-01-PL-525-001 WW-Z4-01-PL-525-002	2 1 1 1 1 1 1 1 1	Level B1 Cooling Distribution Zone Z3 – Level 00 – Cooling Distribution Sheet 1 of 2 Zone Z3 – Level 00 – Cooling Distribution Sheet 2 of 2 Zone Z3 Level 01 Cooling Distribution Sheet 1 of 2 Zone Z3 Level 01 Cooling Distribution Sheet 2 of 2 Zone Z4 – Level 00 – Cooling Distribution Sheet 1 of 2 Zone Z4 – Level 00 – Cooling Distribution Sheet 2 of 2 Zone Z4 Level 01 Cooling Distribution Sheet 1 of 2 Zone Z4 Level 01 Cooling Distribution Sheet 2 of 2	14/08/2015
21/07/2015	21/07/2015	RDD Drainage Strategy Zone Z3 and Zone Z4, Levels 00,01,02,03,04,05 & B1	<a href="#">BMCE-TRANSMIT-002066</a>	WW-SZ-B1-PL-581-001 WW-Z3-00-PL-581-001 WW-Z3-00-PL-581-002 WW-Z3-01-PL-581-001 WW-Z3-02-PL-581-001 WW-Z3-03-PL-581-001 WW-Z3-04-PL-581-001 WW-Z3-05-PL-581-001 WW-Z4-00-PL-581-001 WW-Z4-00-PL-581-002 WW-Z4-01-PL-581-001 WW-Z4-01-PL-581-002 WW-Z4-02-PL-581-001 WW-Z4-02-PL-581-002 WW-Z4-03-PL-581-001 WW-Z4-03-PL-581-002 WW-Z4-04-PL-581-001 WW-Z4-04-PL-581-002 WW-Z4-05-PL-581-001 WW-Z4-05-PL-581-002	6 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Level B1 – Drainage Strategy Zone Z3 – Level 00 – Drainage Strategy- Sheet 1 of 2 Zone Z3 – Level 00 – Drainage Strategy- Sheet 2 of 2 Zone Z3 - Level 01 - Drainage Strategy - Sheet 1 of 2 Zone Z3 - Level 02 - Drainage Strategy - Sheet 1 of 2 Zone Z3 - Level 03 - Drainage Strategy - Sheet 1 of 2 Zone Z3 - Level 04 - Drainage Strategy - Sheet 1 of 2 Zone Z3 - Level 05 (Roof) - Drainage Strategy - Sheet 1 of 2 Zone Z4 – Level 00 – Drainage Strategy - Sheet 1 of 2 Zone Z4 – Level 00 – Drainage Strategy - Sheet 2 of 2 Zone Z4 - Level 01 - Drainage Strategy - Sheet 1 of 2 Zone Z4 - Level 01 - Drainage Strategy - Sheet 2 of 2 Zone Z4 - Level 02 - Drainage Strategy - Sheet 1 of 2 Zone Z4 - Level 02 - Drainage Strategy - Sheet 2 of 2 Zone Z4 - Level 03 - Drainage Strategy - Sheet 1 of 2 Zone Z4 - Level 03 - Drainage Strategy - Sheet 2 of 2 Zone Z4 - Level 04 - Drainage Strategy - Sheet 1 of 2 Zone Z4 - Level 04 - Drainage Strategy - Sheet 2 of 2 Zone Z4 - Level 05 (Roof) - Drainage Strategy - Sheet 1 of 2 Zone Z4 - Level 05 (Roof) - Drainage Strategy - Sheet 2 of 2	21/08/2015
21/07/2015	21/07/2015	RDD Small Power Layouts Zone Z2 Level B1, Zone Z3 Levels B1,00,01,02,03 & 04 and Zone Z4,Levels 00,01,02,03 & 04	<a href="#">BMCE-TRANSMIT-002067</a>	WW-SZ-B1-PL-531-001 WW-Z3-00-PL-531-001 WW-Z3-00-PL-531-002 WW-Z3-01-PL-531-001 WW-Z3-01-PL-531-002 WW-Z3-02-PL-531-001 WW-Z3-02-PL-531-002 WW-Z3-03-PL-531-001 WW-Z3-03-PL-531-002 WW-Z3-04-PL-531-001 WW-Z3-04-PL-531-002 WW-Z4-00-PL-531-001 WW-Z4-00-PL-531-002 WW-Z4-01-PL-531-001 WW-Z4-01-PL-531-002 WW-Z4-02-PL-531-001 WW-Z4-02-PL-531-002 WW-Z4-03-PL-531-001 WW-Z4-03-PL-531-002 WW-Z4-04-PL-531-001 WW-Z4-04-PL-531-002	1 1	Zone 3 Level B1 Small Power Layout Zone 2 Level B1 Small Power Layout Zone Z3 – Level 00 – Small Power Layout Sheet 1 of 2 Zone Z3 – Level 00 – Small Power Layout Sheet 2 of 2 Zone Z3 – Level 01 – Small Power Layout Sheet 1 of 2 Zone Z3 – Level 01 – Small Power Layout Sheet 2 of 2 Zone Z3 Level 02 Small Power Layout Sheet 1 of 2 Zone Z3 Level 02 Small Power Layout Sheet 2 of 2 Zone Z3 Level 03 Small Power Layout Sheet 1 of 2 Zone Z3 Level 03 Small Power Layout Sheet 2 of 2 Zone Z3 Level 04 Small Power Layout Sheet 1 of 2 Zone Z3 Level 04 Small Power Layout Sheet 2 of 2 Zone Z4 – Level 00 – Small Power Layout Sheet 1 of 2 Zone Z4 – Level 00 – Small Power Layout Sheet 2 of 2 Zone Z4 – Level 01 – Small Power Layout Sheet 1 of 2 Zone Z4 – Level 01 – Small Power Layout Sheet 2 of 2 Zone Z4 Level 02 Small Power Layout Sheet 1 of 2 Zone Z4 Level 02 Small Power Layout Sheet 2 of 2 Zone Z4 Level 03 Small Power Layout Sheet 1 of 2 Zone Z4 Level 03 Small Power Layout Sheet 2 of 2 Zone Z4 Level 04 Small Power Layout Sheet 1 of 2 Zone Z4 Level 04 Small Power Layout Sheet 2 of 2	21/08/2015
21/07/2015	21/07/2015	RDD Water Services Distribution Zone Z3 Levels 00 & 04 and Zone Z4 Level 00 (Sheet 2 of 2),02 & 04 & B1	<a href="#">BMCE-TRANSMIT-002069</a>	WW-SZ-B1-PL-500-001 WW-Z3-00-PL-500-001 WW-Z3-00-PL-500-002 WW-Z3-04-PL-500-001 WW-Z3-04-PL-500-002 WW-Z4-00-PL-500-001 WW-Z4-02-PL-500-001 WW-Z4-02-PL-500-002 WW-Z4-04-PL-500-001 WW-Z4-04-PL-500-002	2 1 1 1 1 1 1 1 1 1	Level B1 - Water Services Distribution Zone 3 Level 00 Water Services Distribution Sheet 1 of 2 Zone 3 Level 00 Water Services Distribution Sheet 2 of 2 Zone Z3 – Level 04 – Water Services Distribution Sheet 1 of 2 Zone Z3 – Level 04 – Water Services Distribution Sheet 2 of 2 Zone Z4 - Level 00 Water Services Distribution Sheet 2 of 2 Zone Z4 - Level 02 Water Services Distribution Sheet 1 of 2 Zone Z4 – Level 02 – Water Services Distribution Sheet 2 of 2 Zone Z4 – Level 04 – Water Services Distribution Sheet 1 of 2 Zone Z4 – Level 04 – Water Services Distribution Sheet 2 of 2	21/08/2015
22/07/2015	22/07/2015	RDD Power Plant & Containment Routes Zone Z3 and Zone Z4, Levels B1 00,01,02,03 & 04	<a href="#">BMCE-TRANSMIT-002070</a>	WW-SZ-B1-PL-533-001 WW-Z3-00-PL-533-001 WW-Z3-00-PL-533-002 WW-Z3-01-PL-533-001 WW-Z3-01-PL-533-002 WW-Z3-02-PL-533-001 WW-Z3-02-PL-533-002 WW-Z3-03-PL-533-001 WW-Z3-03-PL-533-002 WW-Z3-04-PL-533-001 WW-Z3-04-PL-533-002 WW-Z4-00-PL-533-001 WW-Z4-00-PL-533-002 WW-Z4-01-PL-533-001 WW-Z4-01-PL-533-002 WW-Z4-02-PL-533-001 WW-Z4-02-PL-533-002 WW-Z4-03-PL-533-001 WW-Z4-03-PL-533-002 WW-Z4-04-PL-533-001 WW-Z4-04-PL-533-002	2 1	Level B1 - Power Plant & Containment Routes Zone Z3 – Level 00 – Power Plant & Containment Routes Sheet 1 of 2 Zone Z3 – Level 00 – Power Plant & Containment Routes Sheet 2 of 2 Zone Z3 – Level 01 – Power Plant & Containment Routes Sheet 1 of 2 Zone Z3 – Level 01 – Power Plant & Containment Routes Sheet 2 of 2 Zone Z3 – Level 02 – Power Plant & Containment Routes Sheet 1 of 2 Zone Z3 – Level 02 – Power Plant & Containment Routes Sheet 2 of 2 Zone Z3 – Level 03 – Power Plant & Containment Routes Sheet 1 of 2 Zone Z3 – Level 03 – Power Plant & Containment Routes Sheet 2 of 2 Zone Z3 Level 04 Power Plant & Containment Routes Sheet 1 of 2 Zone Z3 Level 04 Power Plant & Containment Routes Sheet 2 of 2 Zone Z4 – Level 00 – Power Plant & Containment Routes Sheet 1 of 2 Zone Z4 – Level 00 – Power Plant & Containment Routes Sheet 2 of 2 Zone Z4 – Level 01 – Power Plant & Containment Routes Sheet 1 of 2 Zone Z4 – Level 01 – Power Plant & Containment Routes Sheet 2 of 2 Zone Z4 – Level 02 – Power Plant & Containment Routes Sheet 1 of 2 Zone Z4 – Level 02 – Power Plant & Containment Routes Sheet 2 of 2 Zone Z4 – Level 03 – Power Plant & Containment Routes Sheet 1 of 2 Zone Z4 – Level 03 – Power Plant & Containment Routes Sheet 2 of 2 Zone Z4 Level 04 Power Plant & Containment Routes Sheet 1 of 2 Zone Z4 Level 04 Power Plant & Containment Routes Sheet 2 of 2	21/08/2015
22/07/2015	22/07/2015	G1547 RDD Small Power Layout Zone Z4,Level 04 Sheet 2 of 2	<a href="#">BMCE-TRANSMIT-002072</a>	WW-Z4-04-PL-531-002	01	Zone Z4 Level 04 Small Power Layout Sheet 2 of 2	21/08/2015
23/07/2015		T1 RDD - Zone 3&4 Basement Floor Nurse Call Layout Drawing (5 of 6)	<a href="#">BMCE-TRANSMIT-002073</a>	ME-SZ-00-PL-538-422 ME-SZ-00-PL-538-423 ME-Z3-00-PL-538-407 ME-Z3-00-PL-538-408 ME-Z3-00-PL-538-409 ME-Z3-00-PL-538-419 ME-Z4-00-PL-538-410 ME-Z4-00-PL-538-411 ME-Z4-00-PL-538-412 ME-Z4-00-PL-538-413 ME-Z4-00-PL-538-414 ME-Z4-00-PL-538-415 ME-Z4-00-PL-538-416 ME-Z4-00-PL-538-417 ME-Z4-00-PL-538-418	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Ground Floor Plan, Hospital Street / Communication, Nurse Call Layout Ground Floor Plan, Hospital Street / Communication, Nurse Call Layout Ground Floor Plan, Radiology Department, Nurse Call Layout. Ground Floor Plan, Radiology Department, Nurse Call Layout. Ground Floor Plan, DCN Outpatients Department, Nurse Call Layout Ground Floor Plan, DCN Entrance Department, Nurse Call Layout Ground Floor Plan, Paru/Emergency/Radiology Shared Department, Nurse Call Layout Ground Floor Plan, Emergency Department, Nurse Call Layout. Ground Floor Plan, Emergency Department, Nurse Call Layout Ground Floor Plan, Paediatric Acute Receiving Unit Department, Nurse Call Layout Ground Floor Plan, Paediatric Acute Receiving Unit Department, Nurse Call Layout Ground Floor Plan, Spiritual & Pastoral Care Department, Nurse Call Layout Ground Floor Plan, Child & Adolescent Mental Health Services Department, Nurse Call Layout Ground Floor Plan, Child & Adolescent Mental Health Services Department, Nurse Call Layout Ground Floor Plan, Child & Adolescent Mental Health Services Department, Nurse Call Layout	28/08/2015
23/07/2015		Fwd T1 RDD - Zone 3&4 Ground Floor Fire Detection Layout	<a href="#">BMCE-TRANSMIT-002074</a>	ME-SZ-00-PL-572-422 ME-SZ-00-PL-572-423	02 02	Ground Floor Plan, Hospital Street / Communication, Fire Detection Layout Ground Floor Plan, Hospital Street / Communication, Fire Detection Layout	



		Drawings (3 of 6)		ME Z3 00 PL 572 407	02	Ground Floor Plan Radiology Department Fire Detection Layout	
				ME Z3 00 PL 572 408	02	Ground Floor Plan Radiology Department Fire Detection Layout	
				ME Z3 00 PL 572 409	02	Ground Floor Plan DCN Outpatients Department Fire Detection Layout	
				ME Z3 00 PL 572 419	02	Ground Floor Plan DCN Entrance Department Fire Detection Layout	
				ME Z4 00 PL 572 410	02	Ground Floor Plan Paru/Emergency/Radiology Shared Department Fire Detection Layout	
				ME Z4 00 PL 572 411	02	Ground Floor Plan Emergency Department Fire Detection Layout	
				ME Z4 00 PL 572 412	02	Ground Floor Plan Emergency Department Fire Detection Layout	04/09/2015
				ME Z4 00 PL 572 413	02	Ground Floor Plan Paediatric Acute Receiving Unit Department Fire Detection Layout	
				ME Z4 00 PL 572 414	02	Ground Floor Plan Paediatric Acute Receiving Unit Department Fire Detection Layout	
				ME Z4 00 PL 572 415	02	Ground Floor Plan Spiritual & Pastoral Care Department Fire Detection Layout	
				ME Z4 00 PL 572 416	02	Ground Floor Plan Child & Adolescent Mental Health Services Department Fire Detection Layout	
				ME Z4 00 PL 572 417	02	Ground Floor Plan Child & Adolescent Mental Health Services Department Fire Detection Layout	
				ME Z4 00 PL 572 418	02	Ground Floor Plan Child & Adolescent Mental Health Services Department Fire Detection Layout	
23/07/2015		Fwd T1 RDD - Zone 3&4 Ground Floor Layout of Data Outlets Drawings (2 of 6)	<a href="#">BMCE-TRANSMIT-002075</a>	ME SZ 00 PL 556 422	02	Ground Floor Plan Hospital Street / Communication Layout of Data Outlets	
				ME SZ 00 PL 556 423	02	Ground Floor Plan Hospital Street / Communication Layout of Data Outlets	
				ME Z3 00 PL 556 407	02	Ground Floor Plan Radiology Department Layout of Data Outlets	
				ME Z3 00 PL 556 408	02	Ground Floor Plan Radiology Department Layout of Data Outlets	
				ME Z3 00 PL 556 409	02	Ground Floor Plan DCN Outpatients Department Layout of Data Outlets	
				ME Z3 00 PL 556 419	02	Ground Floor Plan DCN Entrance Department Layout of Data Outlets	
				ME Z4 00 PL 556 410	02	Ground Floor Plan Paru/Emergency/Radiology Shared Department Layout of Data Outlets	
				ME Z4 00 PL 556 411	02	Ground Floor Plan Emergency Department Layout of Data Outlets	
				ME Z4 00 PL 556 412	02	Ground Floor Plan Emergency Department Layout of Data Outlets	
				ME Z4 00 PL 556 413	02	Ground Floor Plan Paediatric Acute Receiving Unit Department Layout of Data Outlets	
				ME Z4 00 PL 556 414	02	Ground Floor Plan Paediatric Acute Receiving Unit Department Layout of Data Outlets	
				ME Z4 00 PL 556 415	02	Ground Floor Plan Spiritual & Pastoral Care Department Layout of Data Outlets	
				ME Z4 00 PL 556 416	02	Ground Floor Plan Child & Adolescent Mental Health Services Department Layout of Data Outlets	
				ME Z4 00 PL 556 417	02	Ground Floor Plan Child & Adolescent Mental Health Services Department Layout of Data Outlets	
				ME Z4 00 PL 556 418	02	Ground Floor Plan Child & Adolescent Mental Health Services Department Layout of Data Outlets	
23/07/2015		Fwd: T1 RDD - Zone 3&4 Basement Floor Layout of Data Outlets Drawings (2 of 6)	<a href="#">BMCE-TRANSMIT-002076</a>	ME SZ B1 PL 556 407	02	Basement Floor Plan Hospital Street Communication Layout of Data Outlets	
				ME Z3 B1 PL 556 405	02	Basement Floor Plan Estates Department Layout of Data Outlets	
				ME Z4 B1 PL 556 401	02	Basement Floor Plan Bed & Toy Store Department Layout of Data Outlets	
				ME Z4 B1 PL 556 402	02	Basement Floor Plan Kitchen Layout of Data Outlets	
				ME Z4 B1 PL 556 403	02	Basement Floor Plan Domestic Services Department Layout of Data Outlets	
				ME Z4 B1 PL 556 404	02	Basement Floor Plan Materials Management / Estates Department Layout of Data Outlets	
				ME Z4 B1 PL 556 406	02	Basement Floor Plan Sterile Supplies Store Department Layout of Data Outlets	
23/07/2015		Fwd: T1 RDD - Zone 3&4 Basement Floor Lighting Layout Drawings (4 of 6)	<a href="#">BMCE-TRANSMIT-002077</a>	ME SZ B1 PL 541 407	02	Basement Floor Plan Hospital Street Communication Lighting Layout	
				ME Z3 B1 PL 541 405	02	Basement Floor Plan Estates Department Lighting Layout	
				ME Z4 B1 PL 541 401	02	Basement Floor Plan Bed & Toy Store Department Lighting Layout	
				ME Z4 B1 PL 541 402	02	Basement Floor Plan Kitchen Lighting Layout	
				ME Z4 B1 PL 541 403	02	Basement Floor Plan Domestic Services Department Lighting Layout	
				ME Z4 B1 PL 541 404	02	Basement Floor Plan Materials Management / Estates Department Lighting Layout	
				ME Z4 B1 PL 541 406	02	Basement Floor Plan Sterile Supplies Store Department Lighting Layout	
23/07/2015		Fwd T1 RDD - Zone 3&4 Basement Floor Nurse Call Layout Drawing (5 of 6)	<a href="#">BMCE-TRANSMIT-002078</a>	ME Z4 B1 PL 538 401	02	Basement Floor Plan Bed & Toy Store Department Nurse Call Layout	28/08/2015
23/07/2015		T1 RDD - Zone 3&4 Basement Floor Pneumatic Tube System Layout Drawing (6 of 6)	<a href="#">BMCE-TRANSMIT-002079</a>	ME SZ B1 PL 569 001	04	Basement Floor Plan Pneumatic Tube System Layout	14/08/2015
24/07/2015		G1547 RDD Cooling Distribution Zone Z3 & Zone Z4 Level 02	<a href="#">BMCE-TRANSMIT-002081</a>	WW Z3 02 PL 525 001	1	Zone Z3 Level 02 Cooling Distribution Sheet 1 of 2	
				WW Z3 02 PL 525 002	1	Zone Z3 Level 02 Cooling Distribution Sheet 2 of 2	
				WW Z4 02 PL 525 001	1	Zone Z4 Level 02 Cooling Distribution Sheet 1 of 2	
				WW Z4 02 PL 525 002	1	Zone Z4 Level 02 Cooling Distribution Sheet 2 of 2	14/08/2015
27/07/2015	27/07/2015	T1 RDD - Zone 3&4 Second Floor Fire Detection Layout Drawings (3 of 6)	<a href="#">BMCE-TRANSMIT-002085</a>	ME SZ 02 PL 572 414	2	Second Floor Plan Hospital Street/ Communication Fire Detection Layout	
				ME SZ 02 PL 572 415	2	Second Floor Plan Hospital Street/ Communication Fire Detection Layout	
				ME Z3 02 PL 572 404	2	Second Floor Plan Equipment Library Department Fire Detection Layout	
				ME Z3 02 PL 572 405	2	Second Floor Plan Central Staff Changing Fire Detection Layout	
				ME Z4 02 PL 572 406	2	Second Floor Plan DCN Inpatients Department Fire Detection Layout	
				ME Z4 02 PL 572 407	2	Second Floor Plan DCN Inpatients Department Fire Detection Layout	
				ME Z4 02 PL 572 408	2	Second Floor Plan DCN Inpatients Department Fire Detection Layout	
				ME Z4 02 PL 572 409	2	Second Floor Plan DCN Wards / Health Records Support Department Fire Detection Layout	
				ME Z4 02 PL 572 410	2	Second Floor Plan Programmed Investigations Unit Department Fire Detection Layout	
				ME Z4 02 PL 572 411	2	Second Floor Plan DCN Therapies Department Fire Detection Layout	
				ME Z4 02 PL 572 412	2	Second Floor Plan E Health Infrastructure Department Fire Detection Layout	
				ME Z4 02 PL 572 413	2	Second Floor Plan DCN Neurophysiology Department Fire Detection Layout	
27/07/2015	27/07/2015	T1 RDD - Zone 3&4 Second Floor Layout of Data Outlets Drawings (2 of 6)	<a href="#">BMCE-TRANSMIT-002086</a>	ME SZ 02 PL 556 414	2	Second Floor Plan Hospital Street / Communication Layout of Data Outlets	
				ME SZ 02 PL 556 415	2	Second Floor Plan Hospital Street / Communication Layout of Data Outlets	
				ME Z3 02 PL 556 404	2	Second Floor Plan Equipment Library Department Layout of Data Outlets	
				ME Z3 02 PL 556 405	2	Second Floor Plan Central Staff Changing Layout of Data Outlets	
				ME Z4 02 PL 556 406	2	Second Floor Plan DCN Inpatients Department Layout of Data Outlets	
				ME Z4 02 PL 556 407	2	Second Floor Plan DCN Inpatients Department Layout of Data Outlets	
				ME Z4 02 PL 556 408	2	Second Floor Plan DCN Inpatients Department Layout of Data Outlets	
				ME Z4 02 PL 556 409	2	Second Floor Plan DCN Wards / Health Records Support Department Layout of Data Outlets	
				ME Z4 02 PL 556 410	2	Second Floor Plan Programmed Investigations Unit Department Layout of Data Outlets	
				ME Z4 02 PL 556 411	2	Second Floor Plan DCN Therapies Department Layout of Data Outlets	
				ME Z4 02 PL 556 412	2	Second Floor Plan E Health Infrastructure Department Layout of Data Outlets	
				ME Z4 02 PL 556 413	2	Second Floor Plan DCN Neurophysiology Department Layout of Data Outlets	
27/07/2015	27/07/2015	T1 RDD - Zone 3&4 Second Floor CCTV & Door Access Layout Drawings (1 of 6)	<a href="#">BMCE-TRANSMIT-002087</a>	ME SZ 02 PL 571 414	2	Second Floor Plan Hospital Street/ Communication CCTV & Door Access Layout	
				ME SZ 02 PL 571 415	2	Second Floor Plan Hospital Street/ Communication CCTV & Door Access Layout	
				ME Z3 02 PL 571 404	2	Second Floor Plan Equipment Library Department CCTV & Door Access Layout	
				ME Z3 02 PL 571 405	2	Second Floor Plan Central Staff Changing CCTV & Door Access Layout	
				ME Z4 02 PL 571 406	2	Second Floor Plan DCN Inpatients Department CCTV & Door Access Layout	
				ME Z4 02 PL 571 407	2	Second Floor Plan DCN Inpatients Department CCTV & Door Access Layout	
				ME Z4 02 PL 571 408	2	Second Floor Plan DCN Inpatients Department CCTV & Door Access Layout	
				ME Z4 02 PL 571 409	2	Second Floor Plan DCN Wards / Health Records Support Department CCTV & Door Access	
				ME Z4 02 PL 571 410	2	Second Floor Plan Programmed Investigations Unit Department CCTV & Door Access Layout	
				ME Z4 02 PL 571 411	2	Second Floor Plan DCN Therapies Department CCTV & Door Access Layout	
				ME Z4 02 PL 571 412	2	Second Floor Plan E Health Infrastructure Department CCTV & Door Access Layout	
				ME Z4 02 PL 571 413	2	Second Floor Plan DCN Neurophysiology Department CCTV & Door Access Layout	
27/07/2015	27/07/2015	T1 RDD - Zone 3&4 Basement Floor Lighting Layout Drawings	<a href="#">BMCE-TRANSMIT-002088</a>	ME Z3 00 PL 541 408	2	Ground Floor Plan Radiology Department Lighting Layout	
				ME Z3 00 PL 541 409	2	Ground Floor Plan DCN Outpatients Department Lighting Layout	
				ME Z3 00 PL 541 419	2	Ground Floor Plan DCN Entrance Department Lighting Layout	
27/07/2015	27/07/2015	T1 RDD - Zone 3&4 Third Floor CCTV & Door Access Layout Drawings (1 of 6)	<a href="#">BMCE-TRANSMIT-002089</a>	ME SZ 03 PL 571 419	2	Third Floor Plan Hospital Street/ Communication CCTV & Door Access Layout	
				ME SZ 03 PL 571 420	2	Third Floor Plan Hospital Street/ Communication CCTV & Door Access Layout	
				ME Z3 03 PL 571 405	2	Third Floor Plan Paediatric Neurophysiology Department CCTV & Door Access Layout	
				ME Z3 03 PL 571 406	2	Third Floor Plan Neuroscience Inpatients Department CCTV & Door Access Layout	
				ME Z3 03 PL 571 407	2	Third Floor Plan Special Feeds Unit Communication Department CCTV & Door Access Layout	
				ME Z3 03 PL 571 408	2	Third Floor Plan MED/SUR/NEURO/HAEM Shared Support Department CCTV & Door Access Layout	

				ME Z3 03 PL 571 409	2	Third Floor Plan Haematology / Oncology Inpatients & Daycases Department CCTV & Door Access Layout	11/09/2015
				ME Z3 03 PL 571 410	2	Third Floor Plan Specialist Paediatric Biochemistry Lab Department CCTV & Door Access Layout	
				ME Z4 03 PL 571 411	2	Third Floor Plan RHSC Wards Support Department CCTV & Door Access Layout	
				ME Z4 03 PL 571 412	2	Third Floor Plan Medical Day Care Unit CCTV & Door Access Layout	
				ME Z4 03 PL 571 413	2	Third Floor Plan Medical Inpatients Department CCTV & Door Access Layout	
				ME Z4 03 PL 571 414	2	Third Floor Plan Medical Inpatients Department CCTV & Door Access Layout	
				ME Z4 03 PL 571 415	2	Third Floor Plan Sleep Laboratory CCTV & Door Access Layout	
				ME Z4 03 PL 571 416	2	Third Floor Plan Adolescent Shared Accommodation Department CCTV & Door Access Layout	
				ME Z4 03 PL 571 417	2	Third Floor Plan Surgical Long Stay Inpatients Department CCTV & Door Access Layout	
				ME Z4 03 PL 571 418	2	Third Floor Plan Surgical Short Stay Inpatients Department CCTV & Door Access Layout	
27/07/2015	27/07/2015	T1 RDD - Zone 3&4 Second Floor Nurse Call Layout Drawing (5 of 6)	<a href="#">BMCE-TRANSMIT-002090</a>	ME SZ 02 PL 538 414	2	Second Floor Plan Hospital Street/ Communication Nurse Call Layout	28/08/2015
				ME SZ 02 PL 538 415	2	Second Floor Plan Hospital Street/ Communication Nurse Call Layout	
				ME Z3 02 PL 538 404	2	Second Floor Plan Equipment Library Department Nurse Call Layout	
				ME Z3 02 PL 538 405	2	Second Floor Plan Central Staff Changing Nurse Call Layout	
				ME Z4 02 PL 538 406	2	Second Floor Plan DCN Inpatients Department Nurse Call Layout	
				ME Z4 02 PL 538 407	2	Second Floor Plan DCN Inpatients Department Nurse Call Layout	
				ME Z4 02 PL 538 408	2	Second Floor Plan DCN Inpatients Department Nurse Call Layout	
				ME Z4 02 PL 538 409	2	Second Floor Plan DCN Wards / Health Records Support Department Nurse Call Layout	
				ME Z4 02 PL 538 410	2	Second Floor Plan Programmed Investments Unit Department Nurse Call Layout	
				ME Z4 02 PL 538 411	2	Second Floor Plan DCN Therapies Department Nurse Call Layout	
				ME Z4 02 PL 538 412	2	Second Floor Plan E Health Infrastructure Department Nurse Call Layout	
				ME Z4 02 PL 538 413	2	Second Floor Plan DCN Neurophysiology Department Nurse Call Layout	
28/07/2015	28/07/2015	G1547 E-mail 6 of 9 - RDD Ventilation Distribution Zone Z3 and Zone Z4, Levels 00,01 & B1	<a href="#">BMCE-TRANSMIT-002093</a>	WW SZ B1 PL 524 001	02	Level B1 Ventilation Distribution	14/08/2015
				WW Z3 00 PL 524 001	01	Zone Z3 Level 00 Ventilation Distribution Sheet 1 of 2	
				WW Z3 00 PL 524 002	01	Zone Z3 Level 00 Ventilation Distribution Sheet 2 of 2	
				WW Z3 01 PL 524 001	01	Zone Z3 Level 01 Ventilation Distribution Sheet 1 of 2	
				WW Z3 01 PL 524 002	01	Zone Z3 Level 01 Ventilation Distribution Sheet 2 of 2	
				WW Z4 00 PL 524 001	01	Zone Z4 Level 00 Ventilation Distribution Sheet 1 of 2	
				WW Z4 00 PL 524 002	01	Zone Z4 Level 00 Ventilation Distribution Sheet 2 of 2	
				WW Z4 01 PL 524 001	01	Zone Z4 Level 01 Ventilation Distribution Sheet 1 of 2	
				WW Z4 01 PL 524 002	01	Zone Z4 Level 01 Ventilation Distribution Sheet 2 of 2	
29/07/2015		T1 RDD - Zone 3&4 Basement Floor Pneumatic Tube System Layout Drawing (6 of 6)	<a href="#">BMCE-TRANSMIT-002102</a>	ME SZ 02 PL 569 001	B	Second Floor Plan Pneumatic Tube System Layout	14/08/2015
30/07/2015		T1 RDD - Zone 3&4 Third Floor Layout of Data Outlets Drawings (2 of 6)	<a href="#">BMCE-TRANSMIT-002116</a>	ME SZ 03 PL 556 419	2	Third Floor Plan Hospital Street/ Communication Layout of Data Outlets	18/09/2015
				ME SZ 03 PL 556 420	2	Third Floor Plan Hospital Street/ Communication Layout of Data Outlets	
				ME Z3 03 PL 556 405	2	Third Floor Plan Paediatric Neurophysiology Department Layout of Data Outlets	
				ME Z3 03 PL 556 406	2	Third Floor Plan Neuroscience Inpatients Department Layout of Data Outlets	
				ME Z3 03 PL 556 407	2	Third Floor Plan Special Feeds Unit Communication Department Layout of Data Outlets	
				ME Z3 03 PL 556 408	2	Third Floor Plan MED/SUR/NEURO/HAEM Shared Support Department Layout of Data Outlets	
				ME Z3 03 PL 556 409	2	Third Floor Plan Haematology / Oncology Inpatients & Daycases Department Layout of Data Outlets	
				ME Z3 03 PL 556 410	2	Third Floor Plan Specialist Paediatric Biochemistry Lab Department Layout of Data Outlets	
				ME Z4 03 PL 556 411	2	Third Floor Plan RHSC Wards Support Department Layout of Data Outlets	
				ME Z4 03 PL 556 412	2	Third Floor Plan Medical Day Care Unit Layout of Data Outlets	
				ME Z4 03 PL 556 413	2	Third Floor Plan Medical Inpatients Department Layout of Data Outlets	
				ME Z4 03 PL 556 414	2	Third Floor Plan Medical Inpatients Department Layout of Data Outlets	
				ME Z4 03 PL 556 415	2	Third Floor Plan Sleep Laboratory Layout of Data Outlets	
				ME Z4 03 PL 556 416	2	Third Floor Plan Adolescent Shared Accommodation Department Layout of Data Outlets	
				ME Z4 03 PL 556 417	2	Third Floor Plan Surgical Long Stay Inpatients Department Layout of Data Outlets	
				ME Z4 03 PL 556 418	2	Third Floor Plan Surgical Short Stay Inpatients Department Layout of Data Outlets	
30/07/2015		G1547 RDD Zone Z3 Level 01,02,03,04 & 05 Drainage Strategy Sheet 2 of 2	<a href="#">BMCE-TRANSMIT-002117</a>	WW Z3 01 PL 581 002	4	Zone Z3 Level 01 Drainage Strategy Sheet 2 of 2	21/08/2015
				WW Z3 02 PL 581 002	4	Zone Z3 Level 02 Drainage Strategy Sheet 2 of 2	
				WW Z3 03 PL 581 002	4	Zone Z3 Level 03 Drainage Strategy Sheet 2 of 2	
				WW Z3 04 PL 581 002	4	Zone Z3 Level 04 Drainage Strategy Sheet 2 of 2	
				WW Z3 05 PL 581 002	4	Zone Z3 Level 05 (Roof) Drainage Strategy Sheet 2 of 2	
30/07/2015		T1 RDD - Zone 3&4 Third Floor Fire Detection Layout Drawings (3 of 6)	<a href="#">BMCE-TRANSMIT-002118</a>	ME SZ 03 PL 572 419	2	Third Floor Plan Hospital Street/ Communication Fire Detection Layout	04/09/2015
				ME SZ 03 PL 572 420	2	Third Floor Plan Hospital Street/ Communication Fire Detection Layout	
				ME Z3 03 PL 572 405	2	Third Floor Plan Paediatric Neurophysiology Department Fire Detection Layout	
				ME Z3 03 PL 572 406	2	Third Floor Plan Neuroscience Inpatients Department Fire Detection Layout	
				ME Z3 03 PL 572 407	2	Third Floor Plan Special Feeds Unit Communication Department Fire Detection Layout	
				ME Z3 03 PL 572 408	2	Third Floor Plan MED/SUR/NEURO/HAEM Shared Support Department Fire Detection Layout	
				ME Z3 03 PL 572 409	2	Third Floor Plan Haematology / Oncology Inpatients & Daycases Department Fire Detection Layout	
				ME Z3 03 PL 572 410	2	Third Floor Plan Specialist Paediatric Biochemistry Lab Department Fire Detection Layout	
				ME Z4 03 PL 572 411	2	Third Floor Plan RHSC Wards Support Department Fire Detection Layout	
				ME Z4 03 PL 572 412	2	Third Floor Plan Medical Day Care Unit Fire Detection Layout	
				ME Z4 03 PL 572 413	2	Third Floor Plan Medical Inpatients Department Fire Detection Layout	
				ME Z4 03 PL 572 414	2	Third Floor Plan Medical Inpatients Department Fire Detection Layout	
				ME Z4 03 PL 572 415	2	Third Floor Plan Sleep Laboratory Fire Detection Layout	
				ME Z4 03 PL 572 416	2	Third Floor Plan Adolescent Shared Accommodation Department Fire Detection Layout	
				ME Z4 03 PL 572 417	2	Third Floor Plan Surgical Long Stay Inpatients Department Fire Detection Layout	
				ME Z4 03 PL 572 418	2	Third Floor Plan Surgical Short Stay Inpatients Department Fire Detection Layout	
30/07/2015		T1 RDD - Zone 3&4 Third Floor Pneumatic Tube System Layout Drawing (6 of 6)	<a href="#">BMCE-TRANSMIT-002119</a>	ME SZ 03 PL 569 001	06	Third Floor Plan Pneumatic Tube System Layout	14/08/2015
31/07/2015		T1 RDD - Zone 3&4 Fourth Floor Lighting Layout Drawings (4 of 5)	<a href="#">BMCE-TRANSMIT-002131</a>	ME SZ 04 PL 541 407	2	Fourth Floor Plan Hospital Street / Communication Lighting Layout	18/09/2015
				ME Z3 04 PL 541 401	2	Fourth Floor Plan Health Records Department Lighting Layout	
				ME Z3 04 PL 541 402	2	Fourth Floor Plan Helpad Support Department Lighting Layout	
				ME Z4 04 PL 541 403	2	Fourth Floor Plan Restaurant Lighting Layout	
				ME Z4 04 PL 541 404	4	Fourth Floor Plan Clinical/Management Suite Department Lighting Layout	
				ME Z4 04 PL 541 405	2	Fourth Floor Plan Classrooms Lighting Layout	
				ME Z4 04 PL 541 406	4	Fourth Floor Plan Child Life & Health Department Lighting Layout	
31/07/2015		T1 RDD - Zone 3&4 Fourth Floor Nurse Call Layout Drawing (5 of 5)	<a href="#">BMCE-TRANSMIT-002133</a>	ME SZ 04 PL 538 407	2	Fourth Floor Plan Hospital Street / Communication Nurse Call Layout	28/08/2015
				ME Z3 04 PL 538 401	2	Fourth Floor Plan Health Records Department Nurse Call Layout	
				ME Z3 04 PL 538 402	2	Fourth Floor Plan Helpad Support Department Nurse Call Layout	
				ME Z4 04 PL 538 403	2	Fourth Floor Plan Restaurant Nurse Call Layout	
				ME Z4 04 PL 538 404	2	Fourth Floor Plan Clinical / Management Suite Nurse Call Layout	
				ME Z4 04 PL 538 405	2	Fourth Floor Plan Classrooms Nurse Call Layout	
31/07/2015		T1 RDD - Zone 3&4 Fourth Floor CCTV & Door Access Layout Drawings (1 of 5)	<a href="#">BMCE-TRANSMIT-002134</a>	ME SZ 04 PL 571 407	2	Fourth Floor Plan Hospital Street / Communication CCTV & Door Access Layout	11/09/2015
				ME Z3 04 PL 571 401	2	Fourth Floor Plan Health Records Department CCTV & Door Access Layout	
				ME Z3 04 PL 571 402	2	Fourth Floor Plan Helpad Support Department CCTV & Door Access Layout	
				ME Z4 04 PL 571 403	2	Fourth Floor Plan Restaurant CCTV & Door Access Layout	
				ME Z4 04 PL 571 404	2	Fourth Floor Plan Clinical / Management Suite CCTV & Door Access Layout	
				ME Z4 04 PL 571 405	2	Fourth Floor Plan Classrooms CCTV & Door Access Layout	
				ME Z4 04 PL 571 406	2	Fourth Floor Plan Child Life & Health Department CCTV & Door Access Layout	



31/07/2015	T1 RDD - Zone 3&4 Fourth Floor Fire Detection Layout Drawings (3 of 5)	<a href="#">BMCE-TRANSMIT-002136</a>	ME SZ 04 PL 572 407	2	Fourth Floor Plan Hospital Street / Communication Fire Detection Layout	04/09/2015
			ME Z3 04 PL 572 401	2	Fourth Floor Plan Health Records Department Fire Detection Layout	
			ME Z3 04 PL 572 402	2	Fourth Floor Plan Helpad Support Department Fire Detection Layout	
			ME Z4 04 PL 572 403	2	Fourth Floor Plan Restaurant Fire Detection Layout	
			ME Z4 04 PL 572 404	2	Fourth Floor Plan Clinical / Management Suite Fire Detection Layout	
			ME Z4 04 PL 572 405	2	Fourth Floor Plan Classrooms Fire Detection Layout	
			ME Z4 04 PL 572 406	2	Fourth Floor Plan Child Life & Health Department Fire Detection Layout	
31/07/2015	T1 RDD - Zone 3&4 Fourth Floor Layout of Data Outlets Drawings (2 of 5)	<a href="#">BMCE-TRANSMIT-002137</a>	ME SZ 04 PL 556 407	2	Fourth Floor Plan Hospital Street / Communication Layout of Data Outlets	18/09/2015
			ME Z3 04 PL 556 401	2	Fourth Floor Plan Health Records Department Layout of Data Outlets	
			ME Z3 04 PL 556 402	2	Fourth Floor Plan Helpad Support Department Layout of Data Outlets	
			ME Z4 04 PL 556 403	2	Fourth Floor Plan Restaurant Layout of Data Outlets	
			ME Z4 04 PL 556 404	2	Fourth Floor Plan Clinical / Management Suite Layout of Data Outlets	
			ME Z4 04 PL 556 405	2	Fourth Floor Plan Classrooms Layout of Data Outlets	
			ME Z4 04 PL 556 406	2	Fourth Floor Plan Child Life & Health Department Layout of Data Outlets	
31/07/2015	T1 RDD - Zone 3&4 Second Floor Lighting Layout Drawings (4 of 6)	<a href="#">BMCE-TRANSMIT-002138</a>	ME SZ 02 PL 541 414 01	2	Second Floor Plan Hospital Street/ Communication Lighting Layout	18/09/2015
			ME SZ 02 PL 541 415 01	2	Second Floor Plan Hospital Street/ Communication Lighting Layout	
			ME Z3 02 PL 541 404 01	2	Second Floor Plan Equipment Library Department Lighting Layout	
			ME Z3 02 PL 541 405 01	2	Second Floor Plan Central Staff Changing Lighting Layout	
			ME Z4 02 PL 541 406	4	Second Floor Plan DCN Inpatients Department Lighting Layout	
			ME Z4 02 PL 541 407 01	2	Second Floor Plan DCN Inpatients Department Lighting Layout	
			ME Z4 02 PL 541 408 01	2	Second Floor Plan DCN Inpatients Department Lighting Layout	
			ME Z4 02 PL 541 409 01	2	Second Floor Plan DCN Wards / Health Records Support Department Lighting Layout	
			ME Z4 02 PL 541 410	4	Second Floor Plan Programmed Investigations Unit Department Lighting Layout	
			ME Z4 02 PL 541 411	4	Second Floor Plan DCN Therapies Department Lighting Layout	
			ME Z4 02 PL 541 412 01	2	Second Floor Plan E Health Infrastructure Department Lighting Layout	
			ME Z4 02 PL 541 413	4	Second Floor Plan DCN Neurophysiology Department Lighting Layout	
31/07/2015	G1547 RDD Zone Z3 and Zone Z4 Level 03 Heating Distribution	<a href="#">BMCE-TRANSMIT-002140</a>	WW Z3 03 PL 521 001	1	Zone Z3 Level 03 Heating Distribution Sheet 1 of 2	14/08/2015
			WW Z3 03 PL 521 002	1	Zone Z3 Level 03 Heating Distribution Sheet 2 of 2	
			WW Z4 03 PL 521 001	1	Zone Z4 Level 03 Heating Distribution Sheet 1 of 2	
			WW Z4 03 PL 521 002	1	Zone Z4 Level 03 Heating Distribution Sheet 2 of 2	
31/07/2015	T1 RDD - Zone 3&4 Basement Floor Nurse Call Layout Drawing (5 of 6)	<a href="#">BMCE-TRANSMIT-002142</a>	ME SZ 03 PL 538 419	2	Third Floor Plan Hospital Street/ Communication Nurse Call Layout	28/08/2015
			ME SZ 03 PL 538 420	2	Third Floor Plan Hospital Street/ Communication Nurse Call Layout	
			ME Z3 03 PL 538 405	2	Third Floor Plan Paediatric Neurophysiology Department Nurse Call Layout	
			ME Z3 03 PL 538 406	2	Third Floor Plan Neuroscience Inpatients Department Nurse Call Layout	
			ME Z3 03 PL 538 407	2	Third Floor Plan Special Feeds Unit Communication Department Nurse Call Layout	
			ME Z3 03 PL 538 408	2	Third Floor Plan MED/SUR/NEUROHAEM Shared Support Department Nurse Call Layout	
			ME Z3 03 PL 538 409	2	Third Floor Plan Haematology / Oncology Inpatients & Daycases Department Nurse Call Layout	
			ME Z3 03 PL 538 410	2	Third Floor Plan Specialist Paediatric Biochemistry Lab Department Nurse Call Layout	
			ME Z4 03 PL 538 411	2	Third Floor Plan RHSC Wards Support Department Nurse Call Layout	
			ME Z4 03 PL 538 412	2	Third Floor Plan Medical Day Care Unit Nurse Call Layout	
			ME Z4 03 PL 538 413	2	Third Floor Plan Medical Inpatients Department Nurse Ca 1 Layout	
			ME Z4 03 PL 538 414	2	Third Floor Plan Medical Inpatients Department Nurse Ca 1 Layout	
			ME Z4 03 PL 538 415	2	Third Floor Plan Sleep Laboratory Nurse Call Layout	
			ME Z4 03 PL 538 416	2	Third Floor Plan Adolescent Shared Accommodation Department Nurse Ca 1 Layout	
			ME Z4 03 PL 538 417	2	Third Floor Plan Surgical Long Stay Inpatients Department Nurse Call Layout	
			ME Z4 03 PL 538 418	2	Third Floor Plan Surgical Short Stay Inpatients Department Nurse Call Layout	
31/07/2015	G1547 RDD Zone Z3 and Zone Z4 Level 04 Heating Distribution Sheet	<a href="#">BMCE-TRANSMIT-002144</a>	WW Z3 04 PL 521 001	1	Zone Z3 Level 04 Heating Distribution Sheet 1 of 2	14/08/2015
			WW Z3 04 PL 521 002	1	Zone Z3 Level 04 Heating Distribution Sheet 2 of 2	
			WW Z4 04 PL 521 001	1	Zone Z4 Level 04 Heating Distribution Sheet 1 of 2	
			WW Z4 04 PL 521 002	1	Zone Z4 Level 04 Heating Distribution Sheet 1 of 2	
05/08/2015	T1 RDD CCTV & Door Access Layout Drawings	<a href="#">BMCE-TRANSMIT-002147</a>	ME SZ 00 PL 571 001	6	Ground Floor Plan CCTV & Door Access Layout	11/09/2015
			ME SZ 01 PL 571 001	6	First Floor Plan CCTV & Door Access Layout	
			ME SZ 02 PL 571 001	6	Second Floor Plan CCTV & Door Access Layout	
			ME SZ 03 PL 571 001	6	Third Floor Plan CCTV & Door Access Layout	
			ME SZ 04 PL 571 001	6	Fourth Floor Plan CCTV & Door Access Layout	
			ME SZ B1 PL 571 001	6	Basement Floor Plan CCTV & Door Access Layout	
05/08/2015	T1 RDD Layout of Nurse Call Panels Drawings	<a href="#">BMCE-TRANSMIT-002148</a>	ME SZ 00 PL 538 001	4	Ground Floor Plan Layout of Nurse Call Panels	28/08/2015
			ME SZ 01 PL 538 001	4	First Floor Plan Layout of Nurse Ca 1 Panels	
			ME SZ 02 PL 538 001	4	Second Floor Plan Layout of Nurse Call Panels	
			ME SZ 03 PL 538 001	4	Third Floor Plan Layout of Nurse Call Panels	
			ME SZ 04 PL 538 001	4	Fourth Floor Plan Layout of Nurse Call Panels	

**From:** Stevenson, William  
**Sent:** 07 November 2014 12:35  
**To:** Brown, Maureen  
**Cc:** Macrae, Colin; Wholley, Andrew D  
**Subject:** PCP Combined Comments (4 15 4 17 4 18) (5)  
**Attachments:** PCP Combined Comments (4 15 4 17 4 18) (5).docx

**Importance:** High

Maureen,

Finished discussing with Colin.

More Strike-Outs enclosed.

Regards

Willie S.

**From:** Ken Hall <[REDACTED]>  
**Sent:** 17 June 2015 16:20  
**To:** Kolodziejczyk, Kamil K  
**Subject:** FW: Environmental Matrix  
**Attachments:** RHSC\_DCN RDS Environmental Matrix- 20150603.xlsx

Hi Kamil

Excel copy as requested.

Ken Hall BEng(Hons) MBA CEng MIET MCIBSE MSL  
M&E Design Manager



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**From:** Little France@WallaceWhittle [REDACTED]  
**Sent:** 17 June 2015 15:29  
**To:** Ken Hall; 'Ross A. Barrett'  
**Subject:** Environmental Matrix

Ken / Ross,

Please find attached an excel copy of the environmental matrix.

Regards  
Lyndsey Johnston  
Document Controller

TUV SUD Limited  
The Venlaw Building  
349 Bath Street  
Glasgow  
G2 4AA  
United Kingdom

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## Royal Hospital for Sick Children and Department for Clinical Neurosciences - Edinburgh

### RHSC / DCN RDS Environmental Matrix

Dept Code	Index
~	Cover
~	Guidance Notes
~	Room Function Reference Sheet
~	Occupancy & Equipment Load Allowances
A1 - A4	Front Door - A&E / Assessment Ward
B1	Critical Care / HDU / Neonatal Surgery
C1- C5	RHSC In Patient Pathway / Ward Care
D1 - D10	RHSC Ambulatory Care
E1	Pod
F1	Child and Adolescent Mental Health
G2 - G3	Clinical Support
H1 - H3	Academic
I1 - I2	Facilities / Infrastructure Support Services
J1 - J2	Patient / Family Support
K1 - K2	Family Facilities
L1 - L2	DCN In Patient Pathway / Ward Care
M1- M4	DCN Support Space
N1	DCN Out Patient Departments
P1	Combined Theatres
Q1	Combined Radiology
R1 - R2	Office / Admin Support Services
S1 - S7	Combined Facilities / Infrastructure Support Services
T1	Plant
U1	Shelled Space

This document has been compiled from the Schedule of Accommodation Revision 03 and is based on the environmental data at FC stage.

3rd June 2015

**Environmental Matrix - Guidance Notes**

- 1 This workbook is prepared for the Financial Close Stage as an easier reference tool to replace ADB RDS M&E Sheets for the Environmental Criteria elements as described on these sheets.
- 2 The services matrices are produced from the Schedule of Accommodation Sheets.
- 3 The design of the HVAC systems to the theatres shall be in accordance with SHTM 03-01.
- 4 Where radiant panels are indicated in any room in these matrices, detailed design development may remove the need for these without detriment to environmental temperature. This design development is dependant on actual room layout - i.e. whether a room is located adjacent to an external wall, ground bearing floor, roof surface or is internal.
- 5 Ventilation air change rates and the use of natural ventilation in Patient Areas shall be reviewed throughout the detail design process to ensure a maximum internal temperature of 25°C (dry bulb) is not exceeded during normal occupancy. This criteria shall also apply to cellular and open plan office spaces.
- 6 Maximum internal temperatures listed relate to normal occupancy and Summer Design Conditions ; External Summer Conditions for Cooling Plant Selection as per SHTM2025, Enthalpy 54kJ/kgda.26deg°Cdb, 19deg°C wb. External Winter Conditions as per CIBSE Guide A Table A 2.2 for locality = - 6°C for Heat Losses, and as SHTM 2025 for locality = -10°C for AHU Ventilation Plant design.
- 7 Examination lamp notes where listed are provisional. Detailed requirements (fixed, mobile, illumination) will be detailed on C sheets as agreed from signed off 1:50 RDS, which shall take precedence over this schedule.
- 8 All lighting levels are derived from CIBSE Lighting Guide LG2.
- 9 Colour rendering refers to CIBSE Lighting Design Guide and will be applied throughout.  
 "80" : Normal  
 "90" - Enhanced to provide close as possible match to natural light for clinical purposes
- 10 Thermostatic Mixing Devices - SHTM 04-01 Guidance shall be employed for specific TRV Type versus listed Area/Activity.
- 11 Standby Lighting to be Grade A throughout .
- 12 The internal temperature in naturally or mechanically ventilated rooms shall not exceed the maximum temperature as listed on these Environmental Matrices provided external summer design criteria is not exceeded .
- 13 Local Radiant Panel PICV's shall have adjustable sensors.
- 14 Local Control BMS Temperature Sensors for ducted reheat zones and chilled water cassettes for hotspots shall be provided with local range adjustment to +/- 2°C of BMS Set Point. BMS set point shall be adjustable via operator/user dialogue through formal FM channels.
- 15 **Typical bedroom** - Design Criteria - SHTM 03-01 Clause 2.11 - internal temperatures in patient areas should not exceed 28°C db for more than 50 hrs per year. Appendix 1 SHTM 03-01 gives 18°C to 28°C float range. NHSL however require that the maximum internal design temperature should not exceed 25°C for more than 50 hrs per year.  
  
**HDU bed areas** - Design Criteria - HBN 57 gives specific guidance as well as SHTM 03-01 - Appendix 1 for air change rates - 10ac/hr Supply, 18°C to 25°C control range. ( Capability shall be provided but not at the summer and winter external ambient design extremes against the internal maximum and minimum range conditions ).  
  
 The department will be comfort cooled and controlled on a zonal basis.  
  
 Central AHU to be provided with blank section for future provision of humidification.  
  
**Post theatre recovery areas** - Design Criteria - SHTM 03-01 - Appendix 1 for air change rates - 15ac/hr S&E , 18°C to 25°C control range.( Capability shall be provided but not at the summer and winter external ambient design extremes against the maximum and minimum range conditions ).  
  
**Critical Care areas** - Design Criteria - SHTM 03-01 - Appendix 1 for air change rates - 10ac/hr Supply , 18°C to 25°C control range.( Capability shall be provided but not at the summer and winter external ambient design extremes against the maximum and minimum range conditions). NHSL may require specific rooms to have a control range up to 28°C.  
  
 Central AHU to be provided with blank section for future provision of humidification.

- 16 **Corridor** ventilation may be either mechanical or where the opportunity exists natural. To be determined during detailed design with due regard to clinical functionality.
- 17 **Single Room WC** - SHTM 03-01 Appendix 1 suggests 3ac/hr extract air change rate only. We have applied 10ac/hr extract rate to provide a more robust rate of extract.
- 18 **Diagnostic Rooms** - ( X Ray, CT Scanner, MRI Scanners, Gamma Camera ) - air change rates listed at 8ac/hr. Actual air change rate must be derived through room heat gain analysis and actual equipment guidance.
- 19 **Operating Theatre Laminar Flow/UCV Requirements** - Refer to Operational Policy Documents for specific theatres which require Laminar Flow/UCV canopy style ventilation solution.
- 20 **Small workshop Areas** - Local Extract Ventilation (LEV) unit requirement to be determined from room equipment schedules.
- 21 **Note that Isolation Suite ventilation solutions for this project shall follow HBN 4 Supplement 1 Section 4 Item 4.8 Guidance i.e.**  
 A common departmental AHU shall be employed to provide supply air ventilation ( and shall therefore employ duty & standby motors ).  
 Isolation Rooms En Suite Extracts shall be provided with an independent Isolation Room toilet extract ventilation system.  
 Isolation Rooms En Suite Extracts shall be provided with either externally located 3 mtr high discharge stack in a safe location or with extract filters ( H14 ) within a safe change housing outside the building on the suction side of the fan.  
 Heating & Cooling Isolation Suites shall be provided via the ventilation system.
- 22 **Retail Provision** - Service provisions listed are Infrastructure only for future fit-out by retailer. ( Fire detection shall be provided to assist completion).
- 23 **Comfort Cooled Fresh Air** - Where noted as such on the matrices, this means as provided via departmental air handling plant via chilled water cooling coils.
- 24 **Body View Room** to be provided with ceiling cassette incorporating specialist refrigeration based cooling unit to reduce room temperature to 8°C minimum +/- 2°C. Room temperature will be achieved within two hours of plant operation.  
 This room will have dual function capability, normally at 28°C design max temperature and when required go to 8°C for storage and viewing of body.
- 25 Anti ligature rooms (5no. off ) will be treated as sealed rooms with Supply at 6ac/hr and Extract to match to achieve a balanced pressure.
- 26 **Single Bedroom** - The design philosophy for ventilation is for a mixed mode operation where natural vent is encouraged which has benefits both psychological with users being partly in control, and from an energy stand point where mechanical vent loading is partly reduced (2/3rds). This strategy results in zero pressure differential regime within the room where supply and extract is balanced.

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location		
G-A1-002	A1	Emergency Department	Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-003			Store - Medical Gas Cylinders	1	3.0	Storage Area Med Gas	W1585	28	16	Frost protection	Room Thermostat	No	None	Natural ventilation	0	0	n/a	None	n/a	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-004			Processing Room	1	10.0	Diagnostic room	M0251	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	4	3	Positive	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1	
G-A1-005			Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-006			General X-Ray Room	1	33.0	Diagnostic room	E0128	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1	
G-A1-007			Dirty Utility	1	11.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-008			Washdown Room	1	16.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-009			WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-010			Laboratory - Near Patient Testing / Status	1	8.0	Laboratory	L1308	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60	500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
G-A1-011			Linen Bay (1 Trolley)	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-012			Treatment Room 5 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
G-A1-013			Treatment Room 10 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
G-A1-014			Treatment Room 6 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
G-A1-015			Treatment Room 11 Dual Access (Mental Health)	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
G-A1-016			Staff & Communication Base	1	16.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
G-A1-017			Store - Dispensing Drugs	1	8.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-018			Treatment Room 7 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
G-A1-019			Treatment Room 12 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
G-A1-020			Treatment Room 8 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
G-A1-021			Treatment Room 13 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
G-A1-022			Treatment Room 9 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
G-A1-023			Supplies Base	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-025			Treatment Room 14 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
G-A1-026			Main Entrance Draught Lobby	1	10.0	Circulation Areas - Entrance Lobby	G0800-01	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-028			Resuscitation Room 2 places	1	50.0	Resuscitation Bay	X0242-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	10	6	Positive	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-029			Resuscitation Room 2 places	1	50.0	Resuscitation Bay	X0242-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	10	6	Positive	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-030			IPS Room	1	1.1	IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-031			Body Viewing Room	1	10.0	Body View	S0027-01	25	8	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Specialist Cooling	Central Supply and Extract	4	6	Negative	G4	43	n/a	300	n/a	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	n/a	
G-A1-032			Sitting Room	1	16.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
G-A1-033			WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-034			Store - Major Incident / Ambulance Equipment	1	6.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-035			Triage Room	1	16.0	Consulting Room	X0242-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
G-A1-036			Reception 2 staff	1	16.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
G-A1-037			Parking Bay 6 wheelchairs	1	4.0	Circulation Equipment Storage Bays	G0180-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-038			Main Entrance Draught Lobby	1	10.0	Circulation Areas - Entrance Lobby	G0800-01	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-039			Parking Bay 3 accident trolleys & 3 wheelchairs	1	12.0	Circulation Equipment Storage Bays	G0180-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-040			Store - Equipment & Supplies	1	18.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-041			WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-042			WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-043			Female Staff Changing and Lockers 30 places	1	16.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-044			Staff Shower ambulant	1	2.5	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-045			Waiting Area Inc Play Area	1	83.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
G-A1-046			Baby Infant / Feeding Room	1	4.0	baby Feeding	S0012	25	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Positive	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-047			Nappy Change	1	4.0	Toilet	V1131	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-048			Male Staff Changing Room and Lockers 20 places	1	11.5	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-049			Staff Shower ambulant	1	2.5	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-A1-050			Consultant Office (6 person)	1	24.6	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
G-A1-052			Ward Manager's Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
G-A1-053			Interview/Meeting Room 6 persons	1	9.0	Meeting Room	H1313-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
G-A1-067		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-002		Single Bedroom 15 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-A2-003		En-suite wheelchair-accessible WC, Shower & wash	14	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-004		Single Bedroom 19 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-A2-005		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-006		Single Bedroom 16 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-A2-007		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-008		Reception/Staff Base	1	6.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-A2-009		Single Bedroom 20 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-A2-010		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-011		Touchdown Base 4	4	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-A2-012		Single Bedroom 17 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-A2-013		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-014		Single Bedroom 21 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-A2-015		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-016		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-017		Single Bedroom 18 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-A2-018		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-019		Single Bedroom 22 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-A2-020		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-021		Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
G-A2-022		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-023		WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-024		WC - Visitors	1	3.0	Toilet	V1010-02	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-025		Linen Bay (1 Trolley)	1	1.5	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-026		Touchdown Base 3	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-A2-027		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-028		4 Bed Room	1	58.5	Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensu te	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-A2-029		En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-030		WC Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-031		Single Bedroom 14 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-A2-032		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-033		Single Bedroom 13 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-A2-034		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-035		Single Bedroom 12 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-A2-036		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-037		Single Bedroom 11 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-A2-038		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-039		Treatment Room	1	16.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-A2-040		Dining / Play Room	1	30.0	Common room/staff room/lounge	D0608-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-A2-041		Ward Kitchen	1	12.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette-Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
G-A2-042	A2	Single Bedroom 10 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-A2-043		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-044		Single Bedroom 9 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-A2-045		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A2-046		4 Bed Room	1	58.5	Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensu te	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-A2-047		WC Accessible	1	4.5	Toilet	V0922	28</																						

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
G-A2-064		Store - Equipment	1	6.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-065		Single Bedroom 4 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-066		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-067		Single Bedroom 3 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		200	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-068		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-069		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
G-A2-070		Single Bedroom 2 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-071		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-072		Single Bedroom 1 (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-073		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-074		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-075 A&B		Store - General	1	12.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-076		Patients' Assisted Bathroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-077		Multi-Disciplinary Office	1	26.0	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-A2-078		Ward Management Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-A2-079		On-Call Consultant Office (2 Person)	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-A2-080		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-A2-081		Initial Coordination Office (2 Person)	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-A2-082		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-083		Patient Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-A2-084		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A3-001		Staff Room	1	80.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-A3-002		Seminar & Training Room	1	32.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-A3-003		Meeting / Case Conference Room	1	32.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-B1-002		Retrieval Equipment Store	1	14.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-B1-003		Staff Room	1	32.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
I-B1-004		Senior Nursing Office	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-B1-005		WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-B1-006		WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-B1-007		Equipment Service Room	1	24.0	Small Workshop	L1804	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-B1-008		IPS Room	1	3.0	IPS Room	Engineering Manufacturer Dependant	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-B1-009		Open Plan Bay (4 beds)	1	104.0	Multi-bed Wards	B1609-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensu te	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes
I-B1-010		Gas Cylinder Store	1	2.0	Storage Area Med Gas	W1585	28	16	Frost protection	Room Thermostat	No	None	Natural ventilation	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-B1-011		Multidisciplinary Work Area PICU	1	15.0	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-B1-012		Staff Base	1	12.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-B1-014		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-B1-015		Gowning Lobby	1	6.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-B1-016		Single Bed Isolation Cubicle	1	26.0	Isolation Bedroom	B1401-01	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
I-B1-017		Single Bed Isolation Cubicle	1	26.0	Isolation Bedroom	B1401-01	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
I-B1-018		Gowning Lobby	1	6.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-B1-019		Single Bed Cubicle	1	26.0	Bedroom	B1401	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
I-B1-020		Single Bed Cubicle	1	26.0	Bedroom	B1401	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
I-B1-021		Single Bed Cubicle	1	26.0	Bedroom	B1401	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
I-B1-023		Staff Base	1	4.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-B1-024		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-B1-025		Gowning Lobby	1	6.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-B1-026		Single Bed Isolation Cubicle	1	26.0	Isolation Bedroom	B1401-01	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
I-B1-027		Clean Utility	1	18.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None					

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
1-B1-043		Laboratory	1	10.0	Laboratory	L1804	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-B1-044		IPS Room	1	2.0	IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-045		Quiet / Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-B1-046		Store - Equipment	1	40.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-047		Family Interview Room	1	12.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-B1-048		On call consultant	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-B1-049		Retrieval Team	1	12.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-B1-050		Bulk Supplies Store	1	55.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-051		Data Manager & Secretarial Office (3 person)	1	22.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-B1-055		Waiting Area (Visitors)	1	18.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
1-B1-056		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-057		X-Ray Processing	1	8.0	Diagnostic room	L1804	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
1-B1-058		Mobile X-Ray / Ultrasound Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-059		Cardiac Echo/ECG Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-060		Seminar Room	1	34.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-B1-061		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-062		WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-063		Open Plan Bay (4 beds)	1	80.0	Multi-bed Wards	B1609-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-B1-064		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-065		Open Plan Bay (3 cots)	1	45.0	Multi-bed Wards	B1407-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-B1-066		Clean Utility (Neo-Natal)	1	8.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
1-B1-067		Gas Cylinder Store	1	2.0	Storage Area Med Gas	W1585	28	16	Frost protection	Room Thermostat	No	None	Natural ventilation	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-068		Baby Infant / Feeding Room	1	5.0	Baby Feeding	S0012	25	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-069		Staff Base	1	6.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-B1-071		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-072		Play Specia list Base & Store	1	8.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-073		Pantry / Milk Store	1	10.0	Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
1-B1-074		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-075		Single Cot Cubicle	1	26.0	Bedroom	B1421	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-B1-077		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-078		Relative Overnight Stay Room	1	10.0	Relatives Overnight Stay	D1311	28	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41		100	n/a	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-B1-079		En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-080		WC - Relatives	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-082		Relative Overnight Stay Room	1	10.0	Relatives Overnight Stay	D1311	28	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41		100	n/a	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-B1-083		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-084		Relatives' Sitting Room	1	18.5	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
1-B1-090		Equipment Cleaning	1	1.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1-1-002		IPS Room	1	1.8	IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1-1-003		Ward Management Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1-1-004		Single Isolation Bedroom (RHSC)	1	19.0	Isolation Bedroom	B0308	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1-1-005		En-suite trolley shower	1	8.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1-1-006		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1-1-007		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1-1-008		Sitting Room / Lounge	1	16.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
3-C1-1-009		Single Bedroom (RHSC)	1	19.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1-1-010		En-suite trolley shower	1	8.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1-1-011		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Dirty Extract	10 l/s per person	10 l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
3-C1-1-012		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1-1-013		Single Bedroom (RHSC)	1	19.0	Bedroom	B0305-01	25																					

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
3-C1.1-027	C1	WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-028		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-029		Mobile X-Ray/Utrasound Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-030		Multi-disciplinary Office	1	18.0	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.1-031		Reception / Staff Base	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.1-032		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-033		Single Isolation Bedroom	1	17.0	Isolation Bedroom	B0308	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.1-034		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-035		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-036		Single Isolation Bedroom	1	17.0	Isolation Bedroom	B0308	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.1-037		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-038		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.1-039		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-040		Single Isolation Bedroom	1	17.0	Isolation Bedroom	B0308	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.1-041		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-042		Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
3-C1.1-043		Treatment Room	1	16.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
3-C1.1-044		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-045		Treatment Room	1	2.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
3-C1.1-046		4 Bed Room	1	58.5	Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensu te	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.1-047		WC Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-048		En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-049		Patients' Assisted Bathroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-050		Patient Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.1-051		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.1-052		Single Bedroom	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.1-053		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-054		Single Bedroom	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.1-055		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-056		Single Bedroom	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.1-057		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-058		Single Bedroom	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.1-059		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-060		Single Bedroom	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.1-061		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-062		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.1-063		Single Bedroom	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.1-064		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-065		Single Bedroom	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.1-066		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-067		Single Bedroom	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.1-068		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.1-070		WC - Visitors	1	3.0	Toilet	V1010-02	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.2-002		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.2-003		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.2-004		Linen Bay (1 Trolley)	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.2-005		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.2-006		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.2-007		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	25</																					

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location		
3-C1.2-021	C1.2	En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.2-022		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
3-C1.2-023		4 Bed Room	1	58.5	Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a	
3-C1.2-024		WC Accessible	1	4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.2-025		Wetroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.2-026		4 Bed Room	1	58.5	Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a	
3-C1.2-027		WC Accessible	2	4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.2-028		Ward Management Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
3-C1.2-029		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.2-030		Store - Equipment	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.2-031		Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a	
3-C1.2-032		Treatment Room	1	16.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
3-C1.2-033		Dining / Play Room	1	13.0	Eating/Drinking	D0608-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
3-C1.2-034		Ward kitchen	1	12.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a	
3-C1.2-035		Patient Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
3-C1.2-036		Reception / Staff Base	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
3-C1.2-037		Discharge Lounge	1	20.0	Common room/staff room/lounge	D1135	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
3-C1.2-038		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.2-039		Store - General	1	12.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.2-040		WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.2-041		WC - Visitors	1	3.0	Toilet	V1010-02	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.2-042		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
3-C1.2-043		Multi-Disciplinary Office	1	18.0	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
3-C1.2-044		WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.3-002		C1.3	Waiting Area	1	10.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-C1.3-003			Reception / Staff Base	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-C1.3-004			WC Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.3-005			Store - Equipment	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.3-006			Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-C1.3-007			Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.3-008			Single Isolation Bedroom (RHSC)	1	17.0	Isolation Bedroom	B0306	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-C1.3-009			En-suite wheelchair-accessible WC, Shower & wash Iscl	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.3-010			En-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.3-011			4 Bed Room	1	58.5	Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
3-C1.3-012			Wetroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.3-013			4 Bed Room	1	58.5	Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
3-C1.3-014			En-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.3-015			Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.3-016			Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.3-017			Store - General	1	16.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.3-018			Multi-Disciplinary Office	1	18.0	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-C1.3-019			Patient Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-C1.3-020			Ward Management Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-C1.3-021	WC - Staff		1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.3-022	WC - Staff		1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.3-023	WC - Visitors		1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.3-024	Snoezelen Room		1	12.0	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
3-C1.3-025	Rehabilitation Room		1	30.0	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4													

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
3-C1.3-040		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.3-041		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-002		Quiet Study Room	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.4-004		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-005		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-006		Store - General	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-007		Patient Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.4-008		Complementary Therapy Room	1	10.0	Consulting Room	X0813	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-009		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-010		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-011		Patients' Assisted Bathroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-012		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.4-013		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-014		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-015		Kitchen / Lounge/Social Space	1	25.0	Common room/staff room/lounge	D1120-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
3-C1.4-016		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-017		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-018		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-019		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-021		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-022		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-023		Pharmacy Base	1	9.0	Consulting Room	T0151	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-024		Multi-Disciplinary Office	1	18.0	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.4-025		Medical Staff Office	1	20.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.4-026		Consultant Office (5 person)	1	24.6	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.4-027		Store - Equipment	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-028		Research Staff Office	1	19.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.4-029		Nursing Staff Office	1	15.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.4-030		Ward Management Office	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.4-032		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-033		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-034		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.4-035		Linen Bay (1 Trolley)	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-036		WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-037		WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-038		Treatment / Clean Utility	1	18.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-039		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-040		Single Isolation Bedroom (RHSC)	1	17.0	Isolation Bedroom	B0308	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-041		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-042		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-043		Single Isolation Bedroom (RHSC)	1	17.0	Isolation Bedroom	B0308	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-044		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-045		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.4-046		Single Bedroom	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-047		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-048		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-049		Single Isolation Bedroom (RHSC)	1	17.0	Isolation Bedroom	B0308	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-050		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract															

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
3-C1.4-065		Treatment Room	1	12.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Pos itive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-066		Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Pos itive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
3-C1.4-067		WC - Visitors	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-068		Waiting Area	1	12.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
3-C1.4-069		Reception / Staff Base	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.5-002		Store - back up clothing	1	4.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.5-003		Family Sitting Room	1	27.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
3-C1.5-004		Baby Infant / Feeding Room	1	4.0	Baby Feeding	S0012	25	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Pos itive	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.5-005		Nappy Change	1	4.0	Nappy Change	V1131	25	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.5-006		Breast Pump Room	1	4.0	Baby Feeding	S0012	25	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Pos itive	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.5-007		WC-Wheelchair Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.5-008		WC-Wheelchair Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.6-001		Dining / Recreation Room	1	26.0	Common room/staff room/lounge	D0608-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
3-C1.6-002		Quiet Room / Study	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos itive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.7-002		EEG Review Room	1	15.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos itive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.7-003		EEG Recording Room	1	16.0	Diagnostic room	X0125	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
3-C1.7-004		EEG Recording Room	1	16.0	Diagnostic room	X0125	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
3-C1.7-005		Evoked Potential Recording Room	1	16.0	Diagnostic room	C0800	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
3-C1.8-002		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-003		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-005		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.8-006		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-007		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-008		WC - Visitors	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-009		Dining / Play Room	1	15.0	Eating/Drinking	D0608-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
3-C1.8-010		Ward Kitchen	1	12.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
3-C1.8-011		Reception Desk/Staff Base	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.8-012		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-013		Store - General	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-014		Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Pos itive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
3-C1.8-015		Treatment Room	1	16.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Pos itive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
3-C1.8-016		4 Bed Room	1	58.5	Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensu te	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.8-017		En-suite Shower / WC / WHB	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-018		WC Wheelchair Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-019		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.8-020		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-021		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.8-022		En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-023		Single Bedroom	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.8-024		En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-025		Single Bedroom	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.8-026		En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-027		4 Bed Room	1	58.5	Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensu te	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.8-028		WC Wheelchair Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-029		En-suite Shower / WC / WHB	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-030		Single Bedroom	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.8-031		En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-032		Single Bedroom	1	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / T	

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location		
3-C4-002	C4	Sleep Lab	Store	1	6.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C4-003			En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C4-005			Sleep Room	1	15.0	Bedroom	B0704	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes		
3-C4-006			Parents Room	1	10.0	Bedroom	D1311	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	positive to ensuite	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes		
3-C4-007			Control Room	1	15.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos tive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		
3-C4-008			Sleep Room	1	15.0	Bedroom	B0704	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes		
3-C4-009			Parents Room	1	10.0	Bedroom	D1311	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	positive to ensuite	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes		
3-C4-010			En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
4-C5-002			C5	Classrooms	WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
4-C5-003					Store	1	3.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
4-C5-004	Primary Classroom	1			18.0	Classroom	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		
4-C5-005	Upper Primary Classroom	1			18.0	Classroom	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		
4-C5-006	Secondary Classroom	1			18.0	Classroom	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		
4-C5-007	Administration Area	1			15.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos tive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		
4-C5-008	Resource Storage	1			10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
4-C5-009	WC Ambulant	1			3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
1-D1-001	D1	RHSC Main Outpatients Department			DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-D1-002			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-003			Treatment Room (with prep area)	1	16.0	Treatment Room	X0105-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Pos tive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-004			Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
1-D1-005			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-008			Treatment Room (with prep area)	1	16.0	Treatment Room	X0105-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Pos tive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-009			Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a	200	n/a	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-010			Dirty Utility	1	11.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
1-D1-011			WC wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
1-D1-012			Shower Room	1	5.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
1-D1-013			Clean Utility	1	8.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Pos tive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes		
1-D1-014			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-015			Play Therapy (inc messy play) Room	1	18.0	Common room/staff room/lounge	H1322-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes		
1-D1-016			Consult/Multi-Disciplinary	1	24.0	Consulting Room	C0217	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-017			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-018			Consult/Examination (Ophthalmology)	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-019			Consult/Examination (ENT)	1	17.0	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-020			Consult/Examination (Cleft)	1	18.0	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-021			Consult/Examination (Cleft)	1	18.0	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-022			Consult/Examination (ENT)	1	17.0	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-023			Consult/Examination (ENT)	1	17.0	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-025			Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-026			Infant Measuring Room	1	6.0	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-027			Sub Waiting Area (incl supervised play) with Nurse Base	1	46	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes		
1-D1-028			Sub Waiting Area	1	3.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes		
1-D1-029			Baby Infant / Feeding Room	1	4.0	Baby Feeding	S0012	25	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Pos tive	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
1-D1-030			Nappy Change	1	4.0	Nappy Change	V1131	25	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Dirty Extract	0	10	Negative	None	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
1-D1-031			Equipment / General Store	1	9.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
1-D1-032			WC wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
1-D1-033			Phlebotomy Room	1	8.0	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-034			Mobile Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
1-D1-035			Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
1-D1-036			Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		
1-D1-037			Reception	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	4											



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
G-D1-012		Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-013		Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-014		Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-015		Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-016		Consult/Examination (Child Protection)	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-019		Equipment / General Store	1	6.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-D1-020		Phlebotomy Room	1	8.0	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-021		Child Protection Room	1	24.0	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-022		Mobile Host Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-D1-023		Dirty Utility	1	11.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-D1-024		Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes
G-D1-025		Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-026		Specimen/ Disabled WC	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-D1-027		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-D1-028		Infant Measuring Room	1	6.0	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-029		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-D1-030		Linen Bay (1 Trolley)	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-D1-031		Clean Utility	1	8.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
G-D1-032		Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-033		Treatment Room (with prep area)	1	16.0	Treatment Room	X0105-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-034		Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-035		Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-036		Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-037		Meeting Room	1	15.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-D1-038		Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-039		Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-040		Consult/Multi-Disciplinary	1	24.0	Consulting Room	C0217	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D1-041		Outpatients Management Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-D1-042		Shower Room	1	5.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-D2-001		Waiting Area	1	9.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-D2-003		Admin Office	1	12.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-D2-004		WC Staff	1	4.5	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-D2-005		Exercise Room/Lung Function Laboratory	1	22.0	Treatment Room	C0715	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D2-006		Echocardiography Room	1	20.0	Diagnostic room	C0712	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
G-D2-007		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-D2-008		Store/ Equipment	1	9.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-D2-009		ECG Procedure Room	1	12.0	Consulting Room	C0718	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D2-010		Admin Office	1	15.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-D2-012		Domiciliary Sleep Studies	1	12.0	Consulting Room	C0224-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D2-013		Lung Function Laboratory	1	28.0	Treatment Room	C0718-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D2-014		Exercise Tolerance Test Room	1	20.0	Consulting Room	C0718-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D2-015		Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
I-D3-001		Staff Office	1	16.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-D3-002		Parking Bay pushchairs	1	2.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
I-D3-003		WC & handwash specimen; wheelchair	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-D3-004		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-D3-005		Examination Room Fields test	1	12.0	Consulting Room	C0143	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
I-D3-006		C/E Orthotic (6 metre room)	1	15.5	Consulting Room	C0230	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
I-D3-007																												

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (achr)	Extract (achr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
I-D4-013		Mould Room	1	9.0	Small Workshop	L1804	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-D5-002		Laboratory	1	10.0	Laboratory	L1804	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-D5-003		Clean Utility / Dental Store	1	23.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
G-D5-004		Surgery (mu 8-disciplinary)	1	20.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D5-005		Dirty Utility	1	11.0	Dirty Utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-D5-006		Mobile Inter-oral Storage	1	6.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-D5-007		Recovery	1	10.0	Recovery Bay / Recovery Room	C0522-04	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-D5-008		Surgeries (standard)	1	18.0	Operating Theatre Suite	C0903	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D5-009		Surgeries (standard)	1	18.0	Operating Theatre Suite	C0903	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-D5-010		Surgeries (standard)	1	18.0	Operating Theatre Suite	C0903	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
I-D6-001		Dictation/ 1 i/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-D6-002		Staff Office - All specialties (39 person)	1	159.0	Open Plan Office	M0132-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-D6-003		Meeting Room - 6 person	1	9.0	Meeting Room	H1313-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-D6-004		Dictation/ 1 i/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-D6-005		Meeting Room - 4 person	1	6.0	Meeting Room	H1313-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-D6-006		WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-D6-007		WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-D6-009		Dictation/ 1 i/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-D6-010		Dictation/ 1 i/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-D6-011		Store - TIP	1	4.5	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-D6-013		Store - Dietetic	1	8.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-D6-014		Store - Physio	1	32.5	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-D6-015		Store - Physio	1	13.5	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-D6-016		management office	1	20.5	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-D6-017		A&C Staff Office/Appliance Officer	1	36.9	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-D6-018		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-D6-019		Equipment Decontamination	1	10.0	Equipment Decontamination	Y0335	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	7	10	Negative	G4	43	41		200	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
I-D6-020		Dietetic Clinic Room	1	12.0	Diagnostic room	C0224-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-D6-021		Dietetic Clinic Room	1	12.0	Diagnostic room	C0224-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-D6-022		Waiting Play Area	1	33.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
I-D6-023		Reception	1	6.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
I-D6-024		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-D6-025		Infant Measuring Room	1	6.0	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
I-D6-026		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-D6-027		Standard Treatment Room	1	15.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
I-D6-028		Standard Treatment Room	1	15.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
I-D6-029		Standard Treatment Room	1	15.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
I-D6-030		Standard Distraction Free Treatment Room	1	15.0	Consulting Room	C0110-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
I-D6-031		Store - Dietetic	1	2.5	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-D6-032		Large Distraction Free Treatment Room	1	20.0	Consulting Room	C0110-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		200	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
I-D6-035		Standard Distraction Free Treatment Room	1	15.0	Consulting Room	C0110-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
I-D6-036		Treatment Room (OT equip)	1	20.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
I-D6-037		Store - Physio	1	8.5	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-D6-038		Store - OT	1	4.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-D6-039		Rehabilitation Room	1	30.0	Treatment Room	X0208-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
I-D6-040		Splinting / Casting Room	1	18.0	Consulting Room	X0206-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
I-D6-041		Store - OT	1	16.5	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
I-D6-042		Pantry	1	8.0	Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6														

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location				
1-D7-001	D7	Plastics Dressings Clinic	Assisted Bathroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a			
1-D7-002			Dressings / Doppler/Store	1	4.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
1-D7-003			Dressings Room (Burns)	1	16.0	Consulting Room	X0242	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
1-D7-004			Sluice	1	6.0	Dirty util ty	Y0431	28	18	Adjacent Space Transfer Air	None	None	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
1-D7-005			Single Telephone Booth	1	4.0	Circulation Areas	G0710	28	18	underfloor heating / none to suit location	BMS Adjustable Sensor	No	None	to suit location	to suit location	to suit location	Balanced	G4	43	41		200	n/a	None	A	80	presence detection	Floor 0m	See Guidance Notes	n/a		
1-D7-006			Dressings Room (Burns)	1	16.0	Consulting Room	X0242	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
1-D7-007			Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D8-001	D8	Social Work	Open Plan Area	1	45.1	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
G-D8-002			Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
3-D9-002	D9	Medical Day Care Unit - 5 Beds	Waiting Area	1	12.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
3-D9-003			Reception 1 staff	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
3-D9-004			WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-D9-005			Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-D9-006			Interview, Counselling & Quiet Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
3-D9-007			Office and Storage 2 staff	1	12.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos tive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
3-D9-008			Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-D9-009			Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
3-D9-010			Waiting Play Area	1	20.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
3-D9-011			Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
3-D9-012			Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Pos tive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a		
3-D9-013			Treatment Room	1	16.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Pos tive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a		
3-D9-014			Pantry	1	8.0	Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
3-D9-015			Ward Management Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos tive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
3-D9-016			Patient Treatment Lounge	1	32.4	Treatment Room	X1504	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Pos tive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a		
3-D9-017			Dirty Utility	1	11.0	Dirty util ty	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-D9-018			Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
3-D9-019			Single Bedroom	1	17.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
3-D9-020			En-suite WC / WHB	1	4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-D9-021			Parking Bay 1 patient trolley/whch	1	5.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-D9-022			Multi Bed Room day care, 3 beds	1	40.5	Multi-bed Wards	B0405-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensu te	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a		
3-D9-023			En-suite wheelchair-accessible WC, Shower & wash Multi	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-D9-024			Single Bedroom	1	17.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
3-D9-025			En-suite WC / WHB	1	4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-D9-026			Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-D9-027			Store - General	1	8.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-D9-028			WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-D9-030			DSR	1	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D10-001			D10	Ambulatory Care Shared Support	Staff Room	1	48.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-E1-001			E1	Pod	Multi-Functional Activity Zone	1	297.0	Patient Accommodation Day	J0232-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	41		100	n/a	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-E1-002					RHSC OPD Reception	1	10.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-E1-003					RHSC OPD Suite A Sub Waiting	1	54.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-E1-004					Wheelchair Accessible	1	4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-E1-005	Wheelchair Accessible	1			4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-E1-006	WC Fu ly Accessible changing room	4			7.0	Toilet	V0922-01	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-E1-007	Wheelchair Accessible	1			4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-E1-008	DSR	1			8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-E1-009	WC - Ambulant	1			3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-E1-010	Wheelchair Accessible	1			4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200										

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
G-F1-017		Shower / WC / WHB assisted	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-018		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-019		Play Room	1	24.0	Common room/staff room/lounge	H1322-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-020		Group Room	1	24.0	Meeting Room	H1107	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-021		Control / Viewing	1	10.0	Diagnostic room	E0604-06	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
G-F1-022		Time Out Room	1	6.0	Common room/staff room/lounge	H1107-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-023		Family Interview Room	1	12.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-024		Large Group Room	1	30.0	Meeting Room	H1107	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-026		Large Family Interview Room	1	14.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-027		Sitting Room	1	15.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-028		Multi-Disciplinary Office	1	24.6	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-030		Multi-Disciplinary Office	1	28.7	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-031		Sitting Room	1	15.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-032		Group Room	1	24.0	Common room/staff room/lounge	H1107	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-033		Art Room	1	24.0	Classroom	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-034		Therapy / Play Therapy Room	1	15.0	Common room/staff room/lounge	H0322-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-036		Dining Room (Inpatients & Day Prog)	1	62.0	Eating/Drinking	D0608-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-037		Therapeutic Kitchen	1	22.0	Ward Kitchen	Q0121	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
G-F1-038		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-039		Ward kitchen	1	12.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
G-F1-040		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-041		Waiting Area	1	15.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-042		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-043		WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-044		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos itive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-045		Multi-disciplinary Office - ITS	1	24.6	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-047		Recreation Room	1	45.0	Common room/staff room/lounge	H0322-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-048		Group Room	1	24.0	Meeting Room	H1107	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-049		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos itive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-050		Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-F1-051		Treatment Room	1	16.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Pos itive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-F1-052		Dirig Room	1	6.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Pos itive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
G-F1-053		Multi-Disciplinary Office	1	28.7	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-054		Laundry Room	1	6.0	Laundry	Y0521	28	18	Adjacent Space Transfer Air	None	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative	G4	43	60		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-056		Open Space	1	31.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-057		Pantry	1	8.0	Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-058		WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-059		Dirty Utility	1	6.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-061		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-062		C initial Base - Open Plan Area	1	10.0	Reception	T0151	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-063		Therapy Room	1	15.0	Consulting Room	X0613	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-F1-065		Quiet Zone	1	23.0	Common room/staff room/lounge	H1107-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-067		Single Bed Room	1	10.0	Bedroom	B0510	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	6	via bedroom & ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-F1-068		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-069		Single Bed Room	1	10.0	Bedroom	B0510	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	6	via bedroom & ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-F1-070		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-071		Single Bed Room	1	10.0	Bedroom	B0510	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	6	via bedroom & ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-F1-072		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None					

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
G-F1-087		Single Bed Room (large)	1	11.5	Bedroom	B0510	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-F1-088		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-089		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-090		Single Bed Room (large)	1	11.5	Bedroom	B0510	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-F1-091		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-092		Quiet Room	1	12	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-F1-096		Store	1		Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-099		Store	1		Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-G2-002		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-G2-003		Clean Equipment	1	50.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-G2-004		Dirty Equipment	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-G2-005		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
1-G3-002		On-Call Bedroom	1	10.0	Bedroom	D1311	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-G3-003		En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-G3-004		On-Call Bedroom	1	10.0	Bedroom	D1311	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-G3-005		En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-G3-006		On-Call Bedroom	1	10.0	Bedroom	D1311	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-G3-007		En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-G3-008		Mini Kitchen	1	3.6	Eating/Drinking	D0608-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-G3-009		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-002		Conference / Meeting Room	1	25.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-003		Seminar / Tutorial Room	1	40.0	Classroom	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-004		Seminar / Tutorial Room	1	40.0	Classroom	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-005		WC - Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-006		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-007		Waiting Area	1	10.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
4-H1-008		Lockers	1	12.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-009		WC - Ambulant	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-010		WC - Ambulant	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-011		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-012		16 Person Office	1	80	Open Plan Office	M0132-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-013		Admin Office	1	20.5	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-014		Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	n/a		200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes	n/a
4-H1-015		Stationery / Photocopying	1	6.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-016		Tissue Culture Room	1	9.0	Laboratory	L0102-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-017		Meeting Room - 4 person	1	6.0	Meeting Room	H1313-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-018		Molecular Biology Laboratory	1	45.0	Laboratory	L0102-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-019		WC - Ambulant	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-020		WC - Ambulant	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-021		Student Records Store	1	12.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-022		Laboratory / Finance Manager's Office	1	11	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-024		Senior Academic Staff	1	11	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-025		Senior Academic Staff	1	11	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-026		Freezer Store	1	6.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-027		Physiological Laboratory	1	45.0	Laboratory	L0102-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-028		Senior Academic Staff	1	11	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-029		Head of Department	1	16	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-030	</																												

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location				
1-H2-011	H2	Clinical Research Facility	WC Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a			
1-H2-012			Pantry	1	6.0	Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
1-H2-013			Store - Equipment	1	24.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
1-H2-014			Clinical Study Room	1	63.0	Consulting Room	B0405-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
1-H2-015			En-suite Shower / WC / WHB	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
1-H2-016			Sample Processing	1	15.0	Diagnostic room	L1804	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1		
1-H2-017			Dirty Utility	1	6.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
1-H2-018			En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
1-H2-020			Clean Utility	1	8.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a		
1-H2-021			Single Bed Room	1	15.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
1-H2-022			En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
1-H2-023			Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
1-H2-024			Single Bed Room	1	15.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
1-H2-028			Touch Down Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
3-H3-001			H3	Clinical Education Suite	Workshop / Tutorial Room	1	20.0	Classroom	H0202-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-H3-002					Control Room	1	8.0	Diagnostic room	C0516	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
3-H3-003					Storage	1	15.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-H3-004					Workshop / Tutorial Room	1	20.0	Classroom	H0202-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-H3-005					Scenario Room	1	20.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-H3-006					WC / WHB disabled	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-H3-007					WC Ambulant	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-H3-008					WC Ambulant	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-H3-010					Workshop / Tutorial Room	1	20.0	Classroom	H0202-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-H3-011					Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes	n/a
3-H3-012	DSR	1			8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-H3-013	Manual Handling, Health & Safety	1			15.0	Classroom	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
3-H3-014	Practice Based Educators Office	1			20	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
3-H3-015	Meeting Room	1			25.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
3-H3-016	Seminar Room	1			40.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
3-H3-018	Management / Admin Office	1			15	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
3-H3-019	Computer Carrels	1			12.0	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
3-H3-020	Lockers	1			8.0	Circulation Equipment Storage Bays	V0653	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-11-001	I1	Main Entrance - Public Spaces			Draught Lobby	1	15.0	Circulation Areas - Entrance Lobby	G0800-01	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-11-002					Wheelchair Bay	1	6.0	Circulation Areas	G0180-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-11-003					Security Office	1	12.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-11-004					Vending Machine	1	3.0	Waiting Room	J0132-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-11-005					Reception / Information Desk	1	12.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-11-006					Retail Shop	1	30.0	Retail Shop		28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	3	3	Balanced	None	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-11-007			Catering Shop	1	30.0	Catering Shop		28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	3	3	Balanced	None	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
G-11-008			Waiting Area	1	16.5	Waiting Room	J1155	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
G-11-009			Public Telephone Booth	1	2.0	Circulation Phone Booth	G0710	28	18	Adjacent Space Transfer Air	None	No	None	n/a	n/a	n/a	n/a	n/a	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-11-010			WC - Visitors	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-11-011			WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-11-012			Assisted Change/Nappy Change	1	7.0	Nappy Change	V1131	25	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-11-013			DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-11-014			Fire Control room	1	12.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
B-12-002	I2	Bed & Toy Stores	DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
B-12-004			Store - Beds	1	96.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n									

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location			
G-K1-005	K1	Family Support	Office 2	1	15.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
G-K1-006			Waiting	1	8.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	200	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
G-K1-007			Nappy Changing Room	1	4.0	Toilet	V1131	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-K1-008			WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-K1-010			Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
G-K1-011			Office 3	1	10	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
G-K1-012			Office 5	1	19.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
G-K1-013			Store	1	24.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-K1-015			Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
G-K1-016			Drop-In Lounge / Beverage Bay	1	35.0	Common room/staff room/lounge	D1120-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
G-K1-017			Drop-In Multi-Purpose Room	1	39.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
G-K1-018			WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-K1-019			Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41	200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes	n/a		
G-K1-021			Complementary Therapy Room	1	15.0	Consulting Room	X0613	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-K1-022			Radio Lollipop Broadcasting Studio, Lobby	1	20.0	Circulation Areas	C0516-01	28	18	underfloor heating / none to suit location	BMS Adjustable Sensor	No	None	to suit location	to suit location	to suit location	Balanced	G4	43	41	200	n/a	None	A	80	presence detection	Floor 0m	See Guidance Notes	n/a		
G-K1-023			Wheelchair Bay	1	6.0	Circulation Equipment Storage Bays	S0180-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-K1-024			Office 4	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
G-K1-025			WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-K1-026			DSR	1	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-K1-029			Disposal Hold	1	4.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-K2-002			K2	Family Hotel	Reception/Waiting	1	6.0	Waiting Room	J0232-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-K2-003					Office - 1 person	1	8.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-K2-004					WC - Female	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-005					WC - Male	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-006					Lounge - non residents	1	30.0	Common room/staff room/lounge	D1120-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-K2-007					WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-008	Family Room for 4 persons inc en-suite	1			19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
3-K2-009	En-suite Shower / WC / WHB	1			6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-K2-010	Family Room for 4 persons inc en-suite	1			19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
3-K2-011	En-suite Shower / WC / WHB	1			6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-K2-012	Family Room for 4 persons inc en-suite	1			19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
3-K2-013	En-suite Shower / WC / WHB	1			6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-K2-014	Family Room for 4 persons inc en-suite	1			19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
3-K2-015	En-suite Shower / WC / WHB	1			6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-K2-016	Family Room for 4 persons inc en-suite	1			19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
3-K2-017	En-suite Shower / WC / WHB	1			6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-K2-019	Family Room accessible for 4 persons inc en-suite	1			24.0	Bedroom	D1311-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
3-K2-020	En-suite Shower / WC / WHB	1			6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-K2-021	Family Room for 4 persons inc en-suite	1			19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
3-K2-022	En-suite Shower / WC / WHB	1			6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-K2-023	Family Room for 4 persons inc en-suite	1			19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
3-K2-024	En-suite Shower / WC / WHB	1			6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-K2-025	Family Room for 4 persons inc en-suite	1			19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
3-K2-026	En-suite Shower / WC / WHB	1			6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-K2-027	Family Room for 4 persons inc en-suite	1			19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
3-K2-028	En-suite Shower / WC / WHB	1			6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-K2-029	Family Room for 4 persons inc en-suite	1			19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
3-K2-030	En-suite Shower / WC / WHB	1			6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-K2-032	Family Room for 4 persons inc en-suite	1			19.0	Bedroom	D1311-02	25	1																						

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
3-K2-047		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-048		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-050		Kitchen / Dining Rooms	1	116.0	Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-K2-051		Residents Day Room	1	18.0	Common room/staff room/lounge	H1322-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-K2-053		Residents Play Room	1	18.0	Common room/staff room/lounge	H1322-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-K2-054		Switch/Meter Cupboard	1	6.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-057		Store	1	12.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-058		En-suite Shower / WC / WHB	1	6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-059		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-K2-060		Family Room accessible for 4 persons inc en-suite	1	24.0	Bedroom	D1311-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-K2-061		En-suite Shower / WC / WHB	1	6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-062		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-K2-063		En-suite Shower / WC / WHB	1	6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-064		En-suite Shower / WC / WHB	1	6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-065		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-K2-066		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-K2-067		En-suite Shower / WC / WHB	1	6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-068		En-suite Shower / WC / WHB	1	6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-069		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-K2-071		En-suite Shower / WC / WHB	1	6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-072		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-K2-073		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-K2-074		En-suite Shower / WC / WHB	1	6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-075		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	D1311-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-K2-076		En-suite Shower / WC / WHB	1	6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-078		Laundry	1	15.0	Laundry	Y0521	28	18	Adjacent Space Transfer Air	None	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative	G4	43	60		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-K2-080		Storage - refuse	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-K2-085		Fundraisers	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-002		Single Bed Room	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-003		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-004		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-005		Receiving/Resuscitation area	1	30.0	Resuscitation Bay	B1411	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-006		Single Bed Room	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-007		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-008		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10lts/per person	10lts/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-009		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-010		Single Bed Room	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-011		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-012		Waiting Area, relatives	1	30.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-L1-013		Refreshment Vending Machine	1	3.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-L1-014		WC - Wheelchair accessible (Visitors)	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-015		Single Bed Room	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-016		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-017		Single Bed Room	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-018		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-019		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-020		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200								



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (achr)	Extract (achr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
1-L1-036	L1	DCN Acute Care - 24 Beds	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
1-L1-037			1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-038			1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-039			1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-040			1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-044			1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-046			1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-047			1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
1-L1-052			1	9.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-L1-053			1	18.0	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-054			1	12.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	No	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60	500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
1-L1-055			1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-060			1	20.0	Classroom	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-061			1	14.0	Dirty Utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-066			1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-067			1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-068			1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-069			1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-070			1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-071			1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	No	None	Central Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-072			1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-073			1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-074			1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	No	None	None	0	0	n/a	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-075			1	6.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-076			1	18.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-077			1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-078			1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-079			1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-080			1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-082			1	10.0	Relatives Overnight Stay	D1311	28	20	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41	100	n/a	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-L1-083			1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-084			1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-085			1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-086A			1	5.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-086B			1	5.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-087			1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-088			1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-089			1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-090			1	4.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-091			1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-092			1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-093			1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-094			1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-095			1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-096			1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-097			1	84.0	Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41	100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-L1-099			1	6.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-100			1	84.0	Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41	100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-L1-101			1	6.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-103			1	16	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive												

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
2-L2-011		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-012		Store	1	12.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-013		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-014		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-015		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-016		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-017		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-018		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-019		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-020		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-021		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-022		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-023		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-024		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-025		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-026		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-027		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-028		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-029		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-030		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-031		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-032		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-033		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-034		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-035		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-036		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-037		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-038		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510-02	25	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Pos itive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-039		Single Isolation Bedroom	1	19.0	Isolation Bedroom	B0308	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-040		Isolation Shower Room	1	4.5	Isolation Shower Room Ensuite	B0308	28	20	Adjacent Space Transfer Air	None	No	None	Dirty Extract	0	158l/s	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-041		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-042		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-043		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-044		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-045		Touchdown Base	8	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-046		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-047		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-048		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-049		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-050		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-051		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-052		Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Pos itive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
2-L2-053		Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-054		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-055		Sitting Room	1	12.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
2-L2-056		Ward Management Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos itive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-057		Multi-disciplinary Office	1	18.0	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Presence detection	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-058		Store	1	12.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-059		Hoist Bay	3	3.0	Circulation Equipment Storage Bays	G01																						

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
2-L2-073	L2	DCN Inpatients - 43 Beds	Reception	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-074			Waiting Area	1	16.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
2-L2-075			Multi-disciplinary Office	1	18.0	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-076			Ward Management Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos itive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-077			Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-078			Ward Kitchen	1	16.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60	500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
2-L2-079			Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Pos itive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
2-L2-080			Assisted Bathroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-081			Sitting Room	1	12.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
2-L2-082			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-083			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-084			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-085			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-086			Touchdown Base	6	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-087			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-088			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-089			Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-090			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-091			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-092			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-093			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-094			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-095			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-096			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-097			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-098			Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-099			Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-100			Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-101			Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-102			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-103			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-104			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-105			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-106			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-107			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-108			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-109			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-110			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-111			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-112			Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-113			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-114			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-115			Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-117			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-118			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-119			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-120			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-121			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-122			Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-123			Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / T	

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
2-L2-136		Isolation Shower Room	1	4.5	Isolation Shower Room Ensuite		28	20	Adjacent Space Transfer Air	None	No	None	Dirty Extract	0	158/s	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-137		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10/s/per person	10/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-138		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-139		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-140		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-141		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-142		Single Bedroom	1	19.0	Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensu te	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-143		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-144		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-152		Physical Measure	1	3.0	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
2-L2-153		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10/s/per person	10/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
G-M1-002		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-003		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-004		Nurse Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10/s/per person	10/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
G-M1-005		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-M1-006		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-M1-007		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-008		Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-009		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-010		Pre Op Clinic Team Office (3 person)	1	3.5	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos tive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-M1-011		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-012		Consult/Multi-Disciplinary	1	24.0	Consulting Room	C0207-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-013		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-014		Treatment Room (with prep area)	1	16.0	Treatment Room	X0105-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Pos tive	F7	43	41		500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-015		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-016		Clean Utility	1	8.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Pos tive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
G-M1-017		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-018		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-019		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-020		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-021		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-022		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-023		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-024	M1	Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-025		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-027		Consult/Multi-Disciplinary	1	24.0	Consulting Room	C0207-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-028		Dirty Utility urine test	1	11.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-M1-029		Outpatients Management Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos tive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-M1-031		Nurse Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10/s/per person	10/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
G-M1-032		Main Waiting	1	59.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-M1-034		WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-M1-035		WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-M1-036		Staff Room	1	12.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-M1-037		Store Clinical Supplies, Equipment & Stationery	1	15.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-M1-038		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-M1-039		WC Fully Accessible Changing Room	1	7.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-M1-040		Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-M1-041		Store - Equipment / General	1	6.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location			
2-M2-008	M2	DCN Therapies	Physio Treatment Room	1	15.0	Physiotherapy Studio	X0105-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	6	Negative	G4	43	41	300	n/a	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	n/a		
2-M2-009			ADL Kitchen	1	22.0	Pantry	Q0120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
2-M2-010			Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
2-M2-011			Distraction Free Treatment Room	1	15.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Pos itive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a		
2-M2-012			Distraction Free Treatment Room	1	15.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Pos itive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a		
2-M2-013			Staff Lockers	1	4.5	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
2-M2-014			WC Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
2-M2-015			Staff Toilet	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
2-M2-016			Staff Toilet	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
2-M2-017			Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
2-M2-018			Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
2-M2-019			Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
2-M2-020			Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
2-M2-021			Store General/Equipment	1	25.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
2-M2-022			Patient Toilet	1	5.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
2-M2-023			Multi-Purpose Rehabilitation Room	1	80.0	Physiotherapy Studio	X0318	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	6	Negative	G4	43	41	300	n/a	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	n/a		
2-M2-024			Store General/Equipment	1	5.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
2-M2-025			Store General/Equipment	1	20.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
2-M3-002			M3	Programmed Investigations Unit	Treatment Room	1	16.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Pos itive	F7	43	41	500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
2-M3-003					Treatment Area	1	45.0	Treatment Room	X0111	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Pos itive	F7	43	41	500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
2-M3-004					Waiting area, 4 & 2 wheelchairs	1	17.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-M4-002					Waiting Area (DCN)	1	15.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-M4-003					Secretarial Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos itive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-M4-004					Reporting Room	1	20.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos itive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-M4-005					HOD Office	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos itive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-M4-006	WC - wheelchair access bile (DCN)	1			4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
2-M4-007	Quiet Room	1			10.0	Common room/staff room/lounge	H1107-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
2-M4-008	EMG/Nerve Conduction Room	1			16.0	Diagnostic room	X0136	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1		
2-M4-009	EMG/Nerve Conduction Room	1	16.0	Diagnostic room	X0136	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1				
2-M4-011	EMG/Nerve Conduction Room	1	16.0	Diagnostic room	X0136	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1				
2-M4-012	VTEMI/Ambulatory Review Room	1	20.0	Diagnostic room	M0251	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1				
2-M4-013	Clinical Physiologist Room	1	24.6	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos itive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a				
2-M4-014	WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a				
2-M4-016	Store / Records	1	32.5	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a				
2-M4-017	EEG Recording Room	1	16.0	Diagnostic room	X0125	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1				
2-M4-018	EEG Recording Room	1	16.0	Diagnostic room	X0125	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1				
2-M4-019	EEG Recording Room	1	16.0	Diagnostic room	X0125	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1				
G-N1-001	N1	DCN Entrance	Reception / Information Desk	1	6.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
G-N1-002			Draught Lobby	1	9.0	Circulation Areas - Entrance Lobby	G0800-01	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-N1-003			WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-N1-004			WC - Visitors	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-N1-005			Wheelchair Bay	1	6.0	Circulation Equipment Storage Bays	G0180-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-N1-006			Vending Machine	1	3.0	Circulation Areas	P0808	28	18	underfloor heating / none to suit location	BMS Adjustable Sensor	No	None	to suit location	to suit location	Balanced	G4	43	41	200	n/a	None	A	80	presence detection	Floor 0m	See Guidance Notes	n/a			
G-N1-007			Waiting Area	1	8.0	Waiting Room	J1155	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
2-N2-002	N2	DCN Wards / Health Records Support - (N2)	Staff Room	1	34.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
2-N2-003			Grab & Go	1	20.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
2-N2-004			Disposal Hold (small)	1	4.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
2-N2-005			DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
1-P1-002	P1	DCN Wards / Health Records Support - (N2)	Physical Measurement Bay	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3</															

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/r)	Extract (ach/r)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
1-P1-016		Pantry (DCU)	1	8.0	Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
1-P1-017		Wheelchair Parking Bay	1	1.5	Circulation Equipment Storage Bays	G0180-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-018		Linon Bay	1	1.5	Linon Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-020		WC - Patients	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-021		SDCU Post Op Staff Base/Utility	1	10.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
1-P1-022		Recovery Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
1-P1-023		Recovery Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-024		SDCU Recovery	1	88.0	Recovery Bay / Recovery Room	B2517	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-P1-025		SDCU Recovery Room	1	11	Recovery Bay / Recovery Room	B2517	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-P1-026		SDCU Recovery Room	1	11	Recovery Bay / Recovery Room	B2417	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-P1-027		Linon Bay	1	1.5	Linon Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-028		Recovery Staff Base	1	12.0	Cellular / Ward Offices	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-P1-029		Post Anaesthetic Recovery	1	93.8	Recovery Bay / Recovery Room	B2417	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-P1-030		Recovery room post anaesthetic, 1 place	1	26.0	Recovery Bay / Recovery Room	B2417-01	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-P1-031		Recovery room post anaesthetic, 1 place	1	26.0	Recovery Bay / Recovery Room	B2417-01	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-P1-032		Operating Theatre	1	55.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-033		Anaesthetic Room	1	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-034		Scrub-up (single)	1	11.0	Operating Theatre Suite	N0224	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-035		Dictation/ 1 /Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-P1-036		Image Intensifier Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-038		Satellite Pharmacy Store	1	6.0	Clean Utility	T0526-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
1-P1-039		Preparation Room	1	12.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-040		Exit Bay	1	12.0	Operating Theatre Suite	G0407	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-041		Utility Room	1	14.0	Operating Theatre Suite	Y0431-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-042		Parking bay fibre optic bronchoscope light source trolley DCN	1	1.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-043		X-Ray/Ultrasound Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-044		Operating Theatre	1	55.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-045		Preparation Room	1	12.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-046		Scrub-up (single)	1	11.0	Operating Theatre Suite	N0224	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-047		Anaesthetic Room	1	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-048		DSR	1	8.0	Adjacent Space Transfer Air	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-049		Clean Scopes Store	1	8.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-050		Day Case Theatre	1	40.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-051		MRI Reporting	1	15.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-P1-052		WC-Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-053		Staff Room	1	60.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
1-P1-054		Sub-Wait Area	1	4.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
1-P1-055		Inpatient Holding Bays	1	8.0	Circulation Equipment Storage Bays	J0132-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-056		Inpatient Holding Bays	1	8.0	Circulation Equipment Storage Bays	J0132-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-057		Trolley Bay	1	4.0	Circulation Equipment Storage Bays	J1264	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-058		Angiography Procedures Machine Room	1	16.0	Operating Theatre Suite	E0311	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-059		Preparation Room	1	12.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-060		Trolley Bay	1	4.0	Circulation Equipment Storage Bays	J1264	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-061		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-063		Preparation Room	1	14.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-064		MRI Room	1	45.0	Diagnostic room	E0801-02	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
1-P1-065	</																											

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
1-P1-083	P1	Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
1-P1-084		Image Intensifier Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-085		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	200	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
1-P1-086		Medical Gas Cylinder Store	1	4.0	Storage Area Med Gas	W1585	28	16	Frost protection	Room Thermostat	No	None	Natural ventilation	0	0	n/a	None	n/a	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-087		Clinical Equipment Store	1	60.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-088		IPS Room	1	1.5	IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-089		DCN Nurse Management Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
1-P1-090		Dirty Utility bedpan disposal & urine test	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-091		Operating Theatre	1	55.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10 000 - 100 000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-092		Utility Room	1	14.0	Operating Theatre Suite	Y0431-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10 000 - 100 000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-093		Angiography Procedures Room	1	55.0	Operating Theatre Suite	E0311	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10 000 - 100 000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-094		Angiography Procedures Control Room	1	16.0	Operating Theatre Suite	X0216	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10 000 - 100 000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-095		Sterile Supplies Store	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	
1-P1-097		Image Intensifier Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-098		WC-Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-099		Sterile Supplies Store	1	89.0	Clean Utility	T0526	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	
1-P1-100		Female Staff Changing and Lockers	1	70.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-101		Clean Trays	1	12.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-102		Male Staff Changing and Lockers	1	60.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-103		Footwear Machine Washing Area	1	4.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-104		Dirty Trays	1	6.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-105		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-106		Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	
1-P1-107		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-108		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-109		Recovery bay post anaesthetic, 1 place	1	108.0	Recovery Bay / Recovery Room	B2417-01	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41	500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-113		Staff and communication base, enclosed 3 staff	1	12.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
1-P1-116		Consulting, examination & changing room	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-117		IPS Room	1	1.8	IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central Supply and Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-118		Consulting, examination & changing room	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-119		Reception, administration office & communication base 4 staff	1	24.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
1-P1-120		Consulting, examination & changing room	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-121		Interview, counselling & quiet room 5 persons	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 1/s per person	10 1/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
1-P1-122		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-123		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-124		Duty Room 2 porters	1	5.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
1-P1-127		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-P1-128		Admissions Lounge	1	36.0	Common room/staff room/lounge	D2155	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
1-P1-129		Operating Theatre	1	55.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10 000 - 100 000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-130		Utility Room	1	14.0	Operating Theatre Suite	Y0431-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10 000 - 100 000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-131		Operating Theatre	1	55.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10 000 - 100 000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-132		Anaesthetic Room	1	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10 000 - 100 000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-133		Scrub-up (single)	1	11.0	Operating Theatre Suite	N0224	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10 000 - 100 000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-134		Preparation Room	1	12.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10 000 - 100 000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-135		Exit Bay	1	12.0	Operating Theatre Suite	G0407	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10 000 - 100 000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-136		Preparation Room	1	12.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10 000 - 100 000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-137		Scrub-up (single)	1	11.0	Operating Theatre Suite	N0224	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10 000 - 100 000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P1-138		Anaesthetic Room	1	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10 000 - 100 000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	
1-P																												

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
1-P1-156		Anaesthetic Room	1	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
1-P1-158		Dirty Scopes Store	1	6.0	Dirty util ty	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-159		Store - Plaster	1	6.0	Storage Area Equipment	W1585	28	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-161		Disposal Hold	1	15.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-162		Staff Reception / Office / Control Base	1	20.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
1-P1-163		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-164		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-165		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-167		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-168		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-169		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-170		Immediate Pre Theatre Wait	1	51.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
1-P1-171		WC-Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-172		Charge Nurse Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos itive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
1-P1-173		Locker Bay	1	13.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-174		General Office	1	14.5	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos itive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
1-P1-175		Reception	1	8.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
1-P1-176		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
1-P1-177		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
1-P1-178		Main Waiting/Play Area	1	50.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
1-P1-179		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-180		WC Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-183		Anaesthetic Room	1	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
1-P1-184		Anaesthetic Room	1	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
1-P1-185		Scrub-up (single)	1	11.0	Operating Theatre Suite	N0224	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
1-P1-186		Exit Bay (interoperative)	1	6.0	Operating Theatre Suite	G0407	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
1-P1-187		Utility Room (interoperative)	1	12.0	Operating Theatre Suite	Y0431-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
1-P1-193		Toy Wash Store	1	4.5	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-194		Cleaner Cupboard	1	1.5	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-195		Store (RHSC)	1		Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-P1-196		Preparation Room	1	12.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41	500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
1-P1-197		IV Store	1		Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-Q1-002		IPS Room	1	1.0	IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-003		Nappy Change Room with handwash	1	4.0	Toilet	V1131	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-Q1-004		General X-Ray Room	1	33.0	Diagnostic room	E0128	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1	
G-Q1-005		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-Q1-006		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-Q1-007		Trolley Bay	1	4.0	Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-Q1-008		Processing Area	1	30.0	Diagnostic room	M0251	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1	
G-Q1-009		Acute Reporting	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Pos itive	G4	43	n/a	300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
G-Q1-010		Utrasound Room	1	16.0	Diagnostic room	E0115	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1	
G-Q1-011		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-Q1-012		General X-Ray Room	1	33.0	Diagnostic room	E0128	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1	
G-Q1-013		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-Q1-014		Utrasound Room	1	16.0	Diagnostic room	E0115	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1	
G-Q1-015		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-Q1-016		Screening Room (fluoroscopy)	1	39.0	Diagnostic room	E0218-01	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1	
G-Q1-017		Preparation Room	1	10.0	Consulting Room	T0																							



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
G-Q1-033	Q1 Radiology	Emergency Shower	1	2.5	Bathroom	V1643-01	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-034		Hot Waiting Area	1	10.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-Q1-035		Injection Room	1	8.0	Consulting Room	E0715	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-Q1-036		Recovery Area	1	15.0	Recovery Bay / Recovery Room	C0522-04	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-Q1-037		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-039		Gamma Camera	1	40.0	Diagnostic room	E0176	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
G-Q1-041		Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes
G-Q1-042		Gamma Camera Control Area	1	17.0	Consulting Room	E0604-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-Q1-043		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-044		Gamma Camera	1	40.0	Diagnostic room	E0176	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
G-Q1-045		Injection Room	1	8.0	Consulting Room	E0715	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-Q1-046		Stress Room (myocardial work)	1	14.0	Consulting Room	C0224-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-Q1-047		Hot Waiting Area	1	10.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-Q1-048		WC - Wheelchair accessible (hot)	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-049		WC - Wheelchair accessible (cold)	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-050		Cold Waiting Area	1	10.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-Q1-052		Counting Laboratory	1	14.0	Laboratory	L1804	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-053		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-054		Meeting Room - 4 person	1	6.0	Meeting Room	H1313-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-055		Meeting Room - 6 person	1	9.0	Meeting Room	H1313-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-057		Other Clinical Staff Office (7 Person)	1	28.7	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-058		Acute Reporting	1	25.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-059		CT Room	1	36.0	Diagnostic room	E0601-01	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
G-Q1-061		Disabled Toilet	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-062		WC - Patients	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-063		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-064		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-066		Preparation Room	1	26.0	Consulting Room	T0526	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-Q1-067		Disabled Toilet	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-068		Toilets	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-069		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-070		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-071		Control Room - CT	1	16.0	Cellular / Ward Offices	E0604-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-072		Teleradiology Reporting	1	12.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-073		Quiet Reporting	1	20.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-074		Consultant Office (5 person)	1	20.5	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-075		Consultant Office (5 person)	1	20.5	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-076		Ultrasound Admin Office	1	15.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-077		Admin Office	1	28.7	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-078		Waiting Area - Main Dept	1	40.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-Q1-079		Reception	1	8.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-080		Waiting Area	1	35.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-Q1-081		Doppler Ultrasound	1	16.0	Diagnostic room	E0113	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
G-Q1-082		Meeting Room - 4 person	1	6.0	Meeting Room	H1313-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-083		Photocopy Room	1	6	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-084		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-086		Control Room - MRI	1	24.0	Cellular / Ward Offices	E0604-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-089		Inpatient Holding Bays	1	43.2	Circulation Equipment Storage Bays	J0132-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-092		MRI Room	1	45.0	Diagnostic room	E0801	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
G-Q1																												

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
G-Q1-109		Toilets	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-110		MRI Room	1	45.0	Diagnostic room	E0801-01	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
G-Q1-111		Control Room - MRI	1	24.0	Cellular / Ward Offices	E0604-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-112		Clean Utility	1	10.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
G-Q1-113		Dirty Utility	1	9.0	Dirty Utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-114		Store Room	1	20.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-115		Adult Waiting Area	1	8.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-Q1-119		Waiting Area	1	12.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-Q1-120		MRI Reporting	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-121		Baby Infant / Feeding Room	1	4.0	Baby Feeding	S0012	25	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-123		MRI Room	1	45.0	Diagnostic room	E0801-01	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
G-Q1-124		Equipment Room	1	16.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-125		Recovery Area - 1 place	1	16.0	Treatment Room	B2417-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-Q1-126		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-127		WC - Wheelchair accessible & change	1	7.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-128		Accessible Changing Cubicles	1	6.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-129		Accessible Changing Cubicles	1	6.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-130		Induction Area - 1 place	1	16.0	Treatment Room	X0145-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-Q1-131		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-132		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-133		Equipment Room - MRI	1	16.0	IT equipment (comms server)	E0311	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-Q1-134		MRI Room	1	45.0	Diagnostic room	E0801-01	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
G-Q1-135		Control Room - CT/MRI	1	24.0	Cellular / Ward Offices	E0604-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-136		CT Room	1	36.0	Diagnostic room	E0601	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
G-Q1-137		Main Reporting	1	25.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-138		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-139		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-140		IPS Room	1	3.0	IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-141		Dental Room	1	20.0	Consulting Room	E0135	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-Q1-142		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-143		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-144		Female Staff Changing and Lockers	1	65.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-145		Trolley Bay	1	4.0	Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-146		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-148		Store Room	1	20.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-149		Resource Room / Library	1	39.0	Open Plan Office	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-150		Male Staff Changing and Lockers	1	27.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-151		Consultant Office (5 person)	1	20.5	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-152		Admin Office	1	20	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-153		Reception Area	1	8.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-154		Waiting Play Area	1	10.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-Q1-160		Shelved Space	1	28.0			28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	3	3	Balanced	None	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-Q1-161		Trolley Bay	1	4.0	Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-R1-001		Staff Room	1	24.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
2-R1-002		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-003		Meeting Room - 4 person	1	6.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-004		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-005		Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
2-R1-006		Meeting Room - 6 person	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None					



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
4-R1-019		Printer/Photocopier Room	1	6.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R2-002		RHSC Office	1	12.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R2-003		Assistant Health Records Manager / Supervisors	1	16.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R2-004		RHSC / DCN Office 17 Person	1	69.7	Open Plan Office	M0132-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R2-005		WC Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
4-R2-006		Receipt / Dispatch Counter	1	6.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R2-007		Trolley Area	1	6.0	Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
4-R2-008		RHSC & DCN Records Library (160 000 records)	1	368.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
4-R2-010		Access ble WC	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
4-R2-011		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
B-S1-001		Preparation/Cooking Area	1	94.0	CDS	cds	28	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	DW172 Dependant	DW172 Dependant	Negative	G4	43	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
B-S1-002		Preparation/Cooking Area	1	16.0	CDS	cds	28	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	DW172 Dependant	DW172 Dependant	Negative	G4	43	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
B-S1-003		Diet Prep Area	1	12.0	CDS	cds	28	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	DW172 Dependant	DW172 Dependant	Negative	G4	43	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
B-S1-004		Diet Store	1	5.0	CDS	W1585	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S1-005		Temperature Controlled Sandwich Prep	1	18.0	CDS	cds	12	10	None	None	Yes	Ceiling Cassette - Chi led Water	General Supply and Extract	4	4	Balanced	G4	43	41		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
B-S1-006		Bakery Preparation	1	13.0	CDS	cds	12	10	None	None	Yes	Ceiling Cassette - Chi led Water	General Supply and Extract	4	4	Balanced	G4	43	41		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
B-S1-007		Staff Room	1	8.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
B-S1-008		Office 5 person	1	20.5	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
B-S1-009		Female Staff Changing inc Shower	1	13.0	Changing Facilities	V0554	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S1-010		Male Staff Changing inc Shower	1	10.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S1-011		Kitchen Equipment	1	6.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S1-012		Pan Wash	1	12.0	CDS	cds	28	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	DW172 Dependant	DW172 Dependant	Negative	G4	43	60		300	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
B-S1-013		Returned Trolleys	1	25.0	CDS	cds	28	16	Adjacent Space Transfer Air	None	No	None	General Supply and Extract	1	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S1-014		Trolley Wash Area	1	6.0	CDS	cds	28	16	Adjacent Space Transfer Air	None	No	None	General Supply and Extract	2	3	Negative	None	43	41		300	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
B-S1-015		Refuse	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S1-016		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		300	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S1-017		Clean Trolleys Park	1	21.5	CDS	cds	28	16	Adjacent Space Transfer Air	None	No	None	General Supply and Extract	1	2	Negative	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S1-018		Disposables / Detergent	1	6.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S1-019		Raw Meat	1	7.0	CDS	cds	8	5	None	None	Yes	By Specialist	None	0	0	n/a	None	n/a	n/a		300	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
B-S1-020		Veg Store	1	6.0	CDS	cds	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S1-021		Freezer	1	5.0	CDS	cds	-18	-20	None	None	Yes	By Specialist	None	0	0	n/a	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
B-S1-022		Freezer	1	5.0	CDS	cds	-18	-20	None	None	Yes	By Specialist	None	0	0	n/a	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
B-S1-023		Receipt Bay	1	3.0	Circulation Areas	cds	28	18	under/floor heating / none to suit location	BMS Adjustable Sensor	No	None	to suit location	to suit location	to suit location	Balanced	G4	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S1-025		Dairy Store	1	9.0	CDS	cds	5	2	None	None	Yes	By Specialist	None	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S1-026		Weighing	1	7.0	CDS	cds	28	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central Supply and Extract	DW172 Dependant	DW172 Dependant	Negative	G4	43	60		300	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
B-S1-027		Dry Goods	1	9.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S1-031		Pick and Pack	1		Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-S2-001	S2	e-Health Infrastructure	1	40.0	IT equipment (comms server)	Engineering	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
B-S3-002		Linen Pool (Clean)	1	80.0	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S3-003		Supplies Store	1	20.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S3-004		Laundry (microfibre)	1	15.0	Laundry	Y0521	28	18	Adjacent Space Transfer Air	None	No	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative	G4	43	60		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
B-S3-005		Linen Pool (Dirty)	1	32.0	Dirty util ty	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S3-007		Cleaning Equipment Store	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S3-008		Sanitary Bins Store	1	6.0	Dirty util ty	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S3-009		DSR	1	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S3-010		Bu k Equipment Store	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S3-011		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
B-S3-012		Domestic Service Office	1	20.5	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
B-S3-013		Curtain Store	1	7.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S4-001		Storage/Holding Area	1	100.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0														

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location			
B-S6-008	S6	Shower	1	2.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
B-S6-009		Workshop (NHSL)	1	30.0	Small Workshop	K0421	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
B-S6-010		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
B-S6-011		Supervisors	1		Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
B-S6-012		Estates Library	1		Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
B-S6-013		Office	1		Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
B-S6-014		Store	1	25.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
B-S6-015		Contract Manager	1		Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
G-S6-016		Office/Reception	1		Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
B-S6-019		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-S6-020		Atrium Cleaning Equipment	1		Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
B-S6-021		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-S6-022		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-S6-023		Chemical Store	1		Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-S6-024		Trolley Holding Bay	1		Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
B-S6-025		Trolley Holding Bay	1		Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
B-S6-050		Staff Welfare	1		Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
4-S7-002		S7	Male WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
4-S7-003			Female WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
4-S7-004			Male WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
4-S7-007			Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
4-S7-008			Storage/Dishwashing	1	25.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
4-S7-009			DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
4-S7-010			Restaurant	1	157.0	Eating/Drinking	D0608-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
4-S7-011			WC Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
B-S8-001			S8	Trolley Holding Bay	1	23	Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-S9-001				WC Ambulant	1	3	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-S9-002		S9	RFFS Changing / Support	1	29	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
4-S9-004A			RFFS Medical Equipment Store	1	6	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
4-S9-005	Trolley Bay Equip St		1	3.4	Trolley bay	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
4-S9-006	Cleaner		1		DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
B-T1-001	T1	IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
B-T1-002		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
B-T1-003		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
G-T1-003		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
G-T1-004		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
G-T1-005		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
G-T1-006		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
G-T1-007		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
1-T1-001		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
1-T1-002		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
1-T1-003		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
1-T1-004		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
1-T1-005		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
2-T1-001		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
2-T1-002		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
2-T1-003		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
2-T1-004		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
2-T1-005		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
2-T1-006		IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chi led Water	Central General Extract	0	2	Negative															

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location			
3-U1-005	U1	Labs	Record Store	1	15.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-U1-006			Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-U1-007			Meeting/Staff	1	16.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
3-U1-008			Male Change	2	6.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-U1-009			Female Change	1	6.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-U1-010			Office	1	29.7	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
3-U1-012			Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-U1-013			Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
B-V1-001				Confidential Waste	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
B-V1-002				WEEE / Furniture / Waste Goods	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-X1-001				EC Plant Room 1	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-X1-002				EC Plant Room 2	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-X1-003				HV Gen Control Room	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-X1-004		HV Generator	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-X1-005		HV Plant	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-X1-006		HV Plant	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
M-X1-001		Mezz Plant 1	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-S6-016		Office / Reception	1		Cellular / Ward Offices	M0251	25	18	Electric Heater	Remote Sensor Adj.	Yes	None	Supply and Extract	4	3	Positive	G4	n/a	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
G-S6-022		WC - Staff	1		Toilet	V1010	28	18	Electric Heater	Remote Sensor Adj.	No	None	Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-S6-023		Chemical Store	1		Storage Area Equipment	W1585	28	16	Electric Heater	Remote Sensor Adj.	No	None	Dirty Extract	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-S6-024		Trolley Holding Bay	1		Circulation Equipment Storage Bays	J1624	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
B-S6-025		Trolley Holding Bay	1		Circulation Equipment Storage Bays	J1624	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-Y1-001A		C initial Waste - Dirty	1		Dirty utility	Y0431	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-Y1-001B		C initial Waste - Dirty	1		Dirty utility	Y0431	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-Y1-001C		C initial Waste - Dirty	1		Dirty utility	Y0431	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-Y1-002		General Waste	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-Y1-003		Gas Manifold	1		Storage Area Equipment	W1585	40	10	Electric Heater	Remote Sensor Adj.	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-Y1-004		Kitchen Waste	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-Y1-005		C initial Waste - Clean	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-Y1-006		Wash Area	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		

**From:** Kolodziejczyk, Kamil K [REDACTED] on behalf of Kolodziejczyk, Kamil K  
**Sent:** 22 July 2015 09:03  
**To:** 'Ken Hall'; 'Greer, Graeme'  
**Cc:** 'Darren Pike'; 'Brown, Maureen'  
**Subject:** RE: Environmental Matrix NHSL Comments Feedback  
**Attachments:** image001.jpg

Hi Ken,

Sorry for the delay. In relation to item 7.0 the Board response is as follows:

*?NHSL confirm following discussion with users that the use of a cooling blanket or cooling cot for the body is appropriate and therefore there is no requirement to have the room at 8 degrees and 25<sup>0</sup>C is acceptable.?*

Furthermore we have reviewed the EM and highlighted our comments in green below.

Regards  
Kamil

---

**From:** Ken Hall [REDACTED]  
**Sent:** 15 June 2015 10:22  
**To:** Greer, Graeme  
**Cc:** Darren Pike; Kolodziejczyk, Kamil K; Brown, Maureen  
**Subject:** RE: Environmental Matrix NHSL Comments Feedback

Good morning Graeme

WW have updated the matrix, any chance of reviewing the attached in line with comments below then we can formally issue if you are in agreement all comments have been captured?

Many thanks

Ken

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**From:** Ken Hall  
**Sent:** 26 May 2015 14:24  
**To:** 'Greer, Graeme'  
**Cc:** Darren Pike; Kolodziejczyk, Kamil K [REDACTED]; Brown, Maureen  
**Subject:** RE: Environmental Matrix NHSL Comments Feedback

Hi Graeme

I am checking the work WW have performed on the matrix to avoid it going backwards and forwards. Can you review comments prior to issue? I have WW just completing a few minor corrections. Item 7.0, body view room is one I am thinking if you could clarify the agreed position.

Many thanks

Ken



Project Co shall update the Environmental Matrix to reflect the following Board comments

- 1.0 Update the Environmental Matrix shall be updated by Project Co to reflect all the rooms and room types in the proposed Facility, this should be based on an updated Schedule of Accommodation that has been commented on separately by the Board. This also needs to reflect the names and room numbers in the GSU table, individual room numbering being applied. **OK**
- 2.0 Include the requirements contained in the Clinical Output Specification including but not limited to the requirement that theatre temperatures are to be able to be raised to 31°C for certain operations. We have made reference to the figure of 31°C in the Guidance Notes. ?Theatre temperatures are to be able to be raised to 31°C for certain operations.?

Temperature control in theatres is covered in the Operational Design Notes V5 14<sup>th</sup> Oct2014 for RHSC Theatres 1 & 2. Operating theatres 1-P1-032 and 1-P1-044 shall operate normally as detailed in the Environmental Matrix. These rooms shall be provided with a manual control to raise the temperature to 31°C within a period of 2 hours. This manual control function shall be logged in the BMS and the temperature requirements of the Environmental Matrix shall not apply for the duration of the elevated temperature operation. **THIS HOWEVER IS NOT NOTED ANYWHERE**

- 3.0 Measures shall be assessed, modelled and implemented to demonstrate that the internal air temperature of the following room types to reduce the temperature control from 28°C to 25°C
  - 3.1 Treatment Rooms;
  - 3.2 Consulting Rooms;
  - 3.3 Laboratory;
  - 3.4 Physiotherapy Studio;
  - 3.5 Recovery.

These room shall not exceed the maximum acceptable level of 25°C for more than 50 hours per annum. The Temp (max) column within the table has been updated to 25°C for the agreed rooms 3.1- 3.5 above. **OK**

- 4.0 Detailed proposal awaited on bedroom ventilation to achieve balanced/negative pressure relative to corridor. The single bedrooms have had their ensuite extract increased to achieve a balance within the room, this has been noted within the matrix. **NOTE 26 AND VENTILATION TYPE HAVE NOT BEEN ALTERED**
- 5.0 Colour rendering all stated as 80 where certain areas should be 90 Amended. **NEEDS TO BE CHECKED FOR ALL**
- 6.0 There also need to have a consistent approach e.g. guidance notes and ED body view room stated as 28 -8, bereavement suite body view room stated as 25 -8. The figure of 25-8 is now reflected within the matrix. **OK**
- 7.0 Further discussion is required on the minimum temperate requirement for the Body View Room. Awaiting confirmation on this one from the client, however discussion at the meeting on the 11/11/14 was that rather than take the room temperature down to 8°C which would require specialist cooling they would look at providing a cold blanket for the body and room temperatures would be retained as a normal room. **NHS confirm following discussion with users that the use of a cooling blanket or cooling cot for the body is appropriate and therefore there is no requirement to have the room at 8 degrees and 25°C is acceptable.**

Ken Hall BEng(Hons) MBA CEng MIET MCIBSE MSL  
M&E Design Manager



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## Royal Hospital for Sick Children and Department for Clinical Neurosciences - Edinburgh

### RHSC / DCN RDS Environmental Matrix

Document highlighted  
items amended inline  
with NHS comments.

26th November 2015

WW-XX-XX-DC-XXX-001

Dept Code	Index
~	Cover
~	Guidance Notes
~	Room Function Reference Sheet
~	Occupancy & Equipment Load Allowances
A1 - A4	Front Door - A&E / Assessment Ward
B1	Critical Care / HDU / Neonatal Surgery
C1- C5	RHSC In Patient Pathway / Ward Care
D1 - D10	RHSC Ambulatory Care
E1	Pod
F1	Child and Adolescent Mental Health
G2 - G3	Clinical Support
H1 - H3	Academic
I1 - I2	Facilities / Infrastructure Support Services
J1 - J2	Patient / Family Support
K1 - K2	Family Facilities
L1 - L2	DCN In Patient Pathway / Ward Care
M1- M4	DCN Support Space
N1	DCN Out Patient Departments
P1	Combined Theatres
Q1	Combined Radiology
R1 - R2	Office / Admin Support Services
S1 - S7	Combined Facilities / Infrastructure Support Services
T1	Plant
U1	Shelled Space

The following table indicates Board Comments, initial response together with the Environmental Matrix to reflect the following Board comments

	Item	Initial Response	Feed back	Reconciliation
1	Update the Environmental Matrix shall be updated by Project Co to reflect all the rooms and room types in the proposed Facility, this should be based on an updated Schedule of Accommodation that has been commented on separately by the Board. This also needs to reflect the names and room numbers in the GSU table.	Individual room numbering being applied.	OK	Agreed
2	Include the requirements contained in the Clinical Output Specification including but not limited to the requirement that theatre temperatures are to be able to be raised to 31°C for certain operations.'	We have made reference to the figure of 31°C in the Guidance Notes. 'Theatre temperatures are to be able to be raised to 31°C for certain operations.'	Temperature control in theatres is covered in the Operational Design Notes V5 14th Oct2014 for RHSC Theatres 1 & 2. Operating theatres 1-P1-032 and 1-P1-044 shall operate normally as detailed in the Environmental Matrix. These rooms shall be provided with a manual control to raise the temperature to 31°C within a period of 2 hours. This manual control function shall be logged in the BMS and the temperature requirements of the Environmental Matrix shall not apply for the duration of the elevated temperature operation. THIS HOWEVER IS NOT NOTED ANYWHERE	This statement is now incorporated within the guidance notes of the matrix
3	Measures shall be assessed, modelled and implemented to demonstrate that the internal air temperature of the following room types to reduce the temperature control from 28°C to 25°C- Treatment Rooms, Consulting Rooms; Laboratory; Physiotherapy Studio, Recovery.  These room shall not exceed the maximum acceptable level of 25°C for more than 50 hours per annum	The Temp (max) column within the table has been updated to 25°C for the agreed rooms 3.1- 3.5 above.	OK	Agreed
4	Detailed proposal awaited on bedroom ventilation to achieve balanced/ negative pressure relative to corridor.,	The single bedrooms have had their ensuite extract increased to achieve a balance within the room, this has been noted within the matrix.	NOTE 26 AND VENTILATION TYPE HAVE NOT BEEN ALTERED.	Refer to Matrix
5	Colour rendering all stated as 80 where certain areas should be 90	Amended.	NEEDS TO BE CHECKED FOR ALL	Refer to Matrix
6	There also need to have a consistent approach e.g. guidance notes and ED body view room stated as 28 -8, bereavement suite body view room stated as 25 -8.	The figure of 25-8 is now reflected within the matrix.	OK	Matrix now amended. See item 7 below.
7	Further discussion is required on the minimum temperate requirement for the Body View Room.	Awaiting confirmation on this one from the client, however discussion at the meeting on the 11/11/14 was that rather than take the room temperature down to 8°C which would require specialist cooling they would look at providing a cold blanket for the body and room temperatures would be retained as a normal room.	NHSL confirm following discussion with users that the use of a cooling blanket or cooling cot for the body is appropriate and therefore there is no requirement to have the room at 8 degrees and 25°C is acceptable	Matrix amended to minimum temperature of 18°C in place of 8°C.

**Environmental Matrix - Guidance Notes**

- 1 This workbook is prepared for the Financial Close Stage as an easier reference tool to replace ADB RDS M&E Sheets for the Environmental Criteria elements as described on these sheets.
- 2 The services matrices are produced from the Schedule of Accommodation Sheets.
- 3 The design of the HVAC systems to the theatres shall be in accordance with SHTM 03-01.
- 4 Where radiant panels are indicated in any room in these matrices, detailed design development may remove the need for these without detriment to environmental temperature. This design development is dependant on actual room layout - i.e. whether a room is located adjacent to an external wall, ground bearing floor, roof surface or is internal.
- 5 Ventilation air change rates and the use of natural ventilation in Patient Areas shall be reviewed throughout the detail design process to ensure a maximum internal temperature of 25°C (dry bulb) is not exceeded during normal occupancy. This criteria shall also apply to cellular and open plan office spaces.
- 6 Maximum internal temperatures listed relate to normal occupancy and Summer Design Conditions ; External Summer Conditions for Cooling Plant Selection as per SHTM2025, Enthalpy 54kJ/kgda 26deg°Cdb, 19deg°C wb. External Winter Conditions as per C BSE Guide A Table A 2.2 for locality = - 6°C for Heat Losses, and as SHTM 2025 for locality = -10°C for AHU Ventilation Plant design.
- 7 Examination lamp notes where listed are provisional. Detailed requirements (fixed, mobile, illumination) will be detailed on C sheets as agreed from signed off 1:50 RDS, which shall take precedence over this schedule.
- 8 All lighting levels are derived from CIBSE Lighting Guide LG2.
- 9 Colour rendering refers to C BSE Lighting Design Guide and will be applied throughout.  
"80" : Normal  
"90" - Enhanced to provide close as possible match to natural light for clinical purposes
- 10 Thermostatic Mixing Devices - SHTM 04-01 Guidance shall be employed for specific TRV Type versus listed Area/Activity.
- 11 Standby Lighting to be Grade A throughout .
- 12 The internal temperature in naturally or mechanically ventilated rooms shall not exceed the maximum temperature as listed on these Environmental Matrices provided external summer design criteria is not exceeded .
- 13 Local Radiant Panel PICV's shall have adjustable sensors.
- 14 Local Control BMS Temperature Sensors for ducted reheat zones and chilled water cassettes for hotspots shall be provided with local range adjustment to +/- 2°C of BMS Set Point. BMS set point shall be adjustable via operator/user dialogue through formal FM
- 15 **Typical bedroom** - Design Criteria - SHTM 03-01 Clause 2.11 - internal temperatures in patient areas should not exceed 28°C db for more than 50 hrs per year. Appendix 1 SHTM 03-01 gives 18°C to 28°C float range. NHSL however require that the maximum internal design temperature should not exceed 25°C for more than 50 hrs per year.  
**HDU bed areas** - Design Criteria - HBN 57 gives specific guidance as well as SHTM 03-01 - Appendix 1 for air change rates - 10ac/hr Supply, 18°C to 25°C control range. ( Capability shall be provided but not at the summer and winter external ambient design extremes against the internal maximum and minimum range conditions ).  
The department will be comfort cooled and controlled on a zonal basis.  
Central AHU to be provided with blank section for future provision of humidification.  
**Post theatre recovery areas** - Design Criteria - SHTM 03-01 - Appendix 1 for air change rates - 15ac/hr S&E , 18°C to 25°C control range ( Capability shall be provided but not at the summer and winter external ambient design extremes against the maximum and minimum range conditions ).  
**Critical Care areas** - Design Criteria - SHTM 03-01 - Appendix 1 for air change rates - 10ac/hr Supply for isolation cubicles , 18°C to 25°C control range.( Capability shall be provided but not at the summer and winter external ambient design extremes against the maximum and minimum range conditions). NHSL may require specific rooms to have a control range up to 28°C.  
Central AHU to be provided with blank section for future provision of humidification.
- 16 **Corridor** ventilation may be either mechanical or where the opportunity exists natural. To be determined during detailed design with due regard to clinical functionality.
- 17 **Single Room WC** - SHTM 03-01 Appendix 1 suggests 3ac/hr extract air change rate only. We have applied 10ac/hr extract rate to provide a more robust rate of extract.
- 18 **Diagnostic Rooms** - ( X Ray, CT Scanner, MRI Scanners, Gamma Camera ) - air change rates listed at 8ac/hr. Actual air change rate must be derived through room heat gain analysis and actual equipment guidance.
- 19 **Operating Theatre Laminar Flow/UCV Requirements** - Refer to Operational Policy Documents for specific theatres which require Laminar Flow/UCV canopy style ventilation solution.  
Central AHU to be provided with blank section for future provision of humidification.  
**Operating Theatres 1-P1-032 and 1-P1-044 shall operate normally as detailed in the Environmental Matrix. These rooms shall be provided with a manual control to raise the temperature to 31°C within a period of 2 hours. This manual control function shall be logged on the BMS and the temperature requirements of the Environmental Matrix shall not apply for the duration of the elevated temperature operation.**
- 20 **Small workshop Areas** - Local Extract Ventilation (LEV) unit requirement to be determined from room equipment schedules.
- 21 **Note that Isolation Suite ventilation solutions for this project shall follow HBN 4 Supplement 1 Section 4 Item 4.8 Guidance i.e.**  
A common departmental AHU shall be employed to provide supply air ventilation ( and shall therefore employ duty & standby fans).  
Isolation Rooms En Suite Extracts shall be provided with an independent Isolation Room toilet extract ventilation system.  
Isolation Rooms En Suite Extracts shall be provided with either externally located 3 mtr high discharge stack in a safe location or with extract filters ( H14 ) within a safe change housing outside the building on the suction side of the fan.  
Heating & Cooling the Isolation Suites shall be provided via the ventilation system.
- 22 **Retail Provision** - Service provisions listed are Infrastructure only for future fit-out by retailer. ( Fire detection shall be provided to assist completion).
- 23 **Comfort Cooled Fresh Air** - Where noted as such on the matrix, these are provided via departmental air handling plant via chilled water cooling coils.
- 24 **Body View Room** - A cooling blanket or cooling cot shall be used in this room.
- 25 Anti ligature rooms (17no. off ) will be treated as sealed rooms with Supply at 6ac/hr and Extract to match to achieve a balanced pressure.  
**Single Bedroom** - The design philosophy for ventilation is for a mixed mode operation where natural vent is encouraged which has benefits both physiological with users being partly in control, and from an energy stand point where mechanical vent loading is partly reduced (2/3rds). This strategy results in zero pressure differential regime within the room where supply and extract is balanced.  
**En suite dirty extract volume flow rate has been increased to achieve a balanced ventilation system.**



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
G-A1-002		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-003		Store - Medical Gas Cylinders	1	3.0	Storage Area Med Gas	W1585-??	28	16	Frost protection	Room Thermostat	No	None	Natural ventilation	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-004		Processing Room	1	10.0	Diagnostic room	M0251	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
G-A1-005		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-006		General X-Ray Room	1	33.0	Diagnostic room	E0128	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
G-A1-007		Dirty Utility	1	11.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-008		Washdown Room	1	16.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-009		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-010		Laboratory - Near Patient Testing / Status	1	8.0	Laboratory	L1308	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-A1-011		Linen Bay (1 Trolley)	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-012		Treatment Room 5 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-A1-013		Treatment Room 10 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-A1-014		Treatment Room 6 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-A1-015		Treatment Room 11 Dual Access (Mental Health)	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-A1-016		Staff & Communication Base	1	16.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-A1-017		Store - Dispensing Drugs	1	8.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-018		Treatment Room 7 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-A1-019		Treatment Room 12 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-A1-020		Treatment Room 8 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-A1-021		Treatment Room 13 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-A1-022		Treatment Room 9 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-A1-023		Supplies Base	1	10.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-025		Treatment Room 14 Dual Access	1	16.0	Treatment Room	X0242-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-A1-026		Main Entrance Draught Lobby	1	10.0	Circulation Areas - Entrance Lobby	G0800-01	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-028		Resuscitation Room 2 places	1	50.0	Resuscitation Bay	X0242-06	25	18	Radiant Panels	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	10	6	Positive	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-029		Resuscitation Room 2 places	1	50.0	Resuscitation Bay	X0242-06	25	18	Radiant Panels	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	10	6	Positive	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-030		IPS Room	1	1.1	IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-031		Body Viewing Room	1	10.0	Body View	S0027-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	6	Negative	G4	43	n/a		300	n/a	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	n/a
G-A1-032		Sitting Room	1	16.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-A1-033		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-034		Store - Major Incident / Ambulance Equipment	1	6.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-035	A1	Emergency Department	1	16.0	Consulting Room	X0242-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
G-A1-036		Reception 2 staff	1	16.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-A1-037		Parking Bay 6 wheelchairs	1	4.0	Circulation Equipment Storage Bays	G0180-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-038		Main Entrance Draught Lobby	1	10.0	Circulation Areas - Entrance Lobby	G0800-01	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-039		Parking Bay 3 accident trolleys & 3 wheelchairs	1	12.0	Circulation Equipment Storage Bays	G0180-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-040		Store - Equipment & Supplies	1	18.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-041		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-042		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-043		Female Staff Changing and Lockers 20 places	1	16.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-044		Staff Shower ambulant	1	2.5	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-045		Waiting Area inc Play Area	1	63.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-A1-046		Baby Infant / Feeding Room	1	4.0	Baby Feeding	S0012	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-047		Nappy Change	1	4.0	Nappy Change	V1131	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-048		Male Staff Changing Room and Lockers 20 places	1	11.5	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-049		Staff Shower ambulant	1	2.5	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-A1-050		Consultant Office (6 person)	1	24.6	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
G-A1-066		Plaster Suite (2 bays)	1	24.0	Consulting Room	X0206		18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-A1-067		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-002		Single Bedroom 15 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-003		En-suite wheelchair-accessible WC, Shower & wash	14	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-004		Single Bedroom 19 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-005		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-006		Single Bedroom 16 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-007		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-008		Reception/Staff Base	1	6.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-A2-009		Single Bedroom 20 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-010		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-011		Touchdown Base 4	4	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
G-A2-012		Single Bedroom 17 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-013		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-014		Single Bedroom 21 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-015		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-016		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-017		Single Bedroom 18 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-018		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-019		Single Bedroom 22 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-020		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-021		Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
G-A2-022		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-023		WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-024		WC - Visitors	1	3.0	Toilet	V1010-02	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-025		Linon Bay (1 Trolley)	1	1.5	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-026		Touchdown Base 3	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
G-A2-027		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-028		4 Bed Room	1	58.5	Multi-bed Wards	B0405	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural and Central Supply Air	4	via ensuite	Positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-029		En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-030		WC Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-031		Single Bedroom 14 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-032		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-033		Single Bedroom 13 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-034		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-035		Single Bedroom 12 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-036		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-037		Single Bedroom 11 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-038		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-039		Treatment Room	1	16.0	Treatment Room	X0105	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-A2-040		Dining / Play Room	1	30.0	Common room/staff room/lounge	D0608-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-A2-041		Ward Kitchen	1	12.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
G-A2-042		Single Bedroom 10 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-043		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-044		Single Bedroom 9 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-045		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-046		4 Bed Room	1	58.5	Multi-bed Wards	B0405	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural and Central Supply Air	4	via ensuite	Positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-047		WC Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10													

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
G-A2-062		WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-063		Linen Bay (1 Trolley)	1	1.5	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-064		Store - Equipment	1	6.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-065		Single Bedroom 4 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-066		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-067		Single Bedroom 3 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-068		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-069		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
G-A2-070		Single Bedroom 2 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-071		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-072		Single Bedroom 1 (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
G-A2-073		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	To match total bedroom air volume	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-074		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	28	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	in line w/ SHPN 04	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-075 A&B		Store - General	1	12.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-076		Patients' Assisted Bathroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-077		Multi-Disciplinary Office	1	26.0	Multi Disciplinary Work Areas	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-A2-078		Ward Management Office	1	9.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-A2-079		On-Call Consultant Office (2 Person)	1	10.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-A2-080		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-081		Clinical Coordination Office (2 Person)	1	10.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-A2-082		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A2-083		Patient Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-A2-084		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-A3-001	A3	Staff Room	1	80.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-A3-002		Seminar & Training Room	1	32.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-A3-003		Meeting / Case Conference Room	1	32.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-B1-002		Retrieval Equipment Store	1	14.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-003		Staff Room	1	32.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
1-B1-004		Senior Nursing Office	1	10.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-B1-005		WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-006		WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-007		Equipment Service Room	1	24.0	Small Workshop	L1804	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-B1-008		IPS Room	1	3.0	IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-009		Open Plan Bay (4 beds)	1	104.0	Multi-bed Wards	B1609-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	Switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-B1-010		Gas Cylinder Store	1	2.0	Storage Area Med Gas	W1585-??	28	16	Frost protection	Room Thermostat	No	None	Natural ventilation	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-011		Multidisciplinary Work Area PICU	1	15.0	Multi Disciplinary Work Areas	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-B1-012		Staff Base	1	12.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-B1-014		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-015		Gowning Lobby	1	6.0	Isolation Lobby	G0510	28	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	in line w/ SHPN 04	To match total bedroom air volume	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-016		Single Bed Isolation Cubicle	1	26.0	Isolation Bedroom	B1401-01	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-B1-017		Single Bed Isolation Cubicle	1	26.0	Isolation Bedroom	B1401-01	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-B1-018		Gowning Lobby	1	6.0	Isolation Lobby	G0510	28	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	in line w/ SHPN 04	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-019		Single Bed Cubicle	1	26.0	Bedroom	B1401	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-B1-020		Single Bed Cubicle	1	26.0	Bedroom	B1401	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-B1-021		Single Bed Cubicle	1	26.0	Bedroom	B1401	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-B1-023		Staff Base	1	4.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-B1-024		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-B1-025		Gowning Lobby	1	6.0	Isolation Lobby	G0510	28	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	in line w/ SHPN 04	0	Positive	F7	43										



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
1-B1-039	B1	Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-041		Clean Utility	1	8.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a	
1-B1-042		Multidisciplinary Work Area HDU	1	15.0	Multi Disciplinary Work Areas	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
1-B1-043		Laboratory	1	10.0	Laboratory	L1804	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60	500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
1-B1-044		IPS Room	1	2.0	IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-045		Quiet / Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
1-B1-046		Store - Equipment	1	40.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-047		Family Interview Room	1	12.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
1-B1-048		On call consultant	1	10.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
1-B1-049		Retrieval Team	1	12.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
1-B1-050		Bulk Supplies Store	1	55.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-051		Data Manager & Secretarial Office (3 person)	1	22.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
1-B1-055		Waiting Area (Visitors)	1	18.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
1-B1-056		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-057		X-Ray Processing	1	8.0	Diagnostic room	L1804	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1	
1-B1-058		Mobile X-Ray / Ultrasound Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-059		Cardiac Echo/ECG Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-060		Seminar Room	1	34.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
1-B1-061		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-062		WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-063		Open Plan Bay (4 beds)	1	80.0	Multi-bed Wards	B1609-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41	100	5	300	A	80	swtch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a	
1-B1-064		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-065		Open Plan Bay (3 cots)	1	45.0	Multi-bed Wards	B1407-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41	100	5	300	A	80	swtch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a	
1-B1-066		Clean Utility (Neo-Nata)	1	8.0	Clean Utility	0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a	
1-B1-067		Gas Cylinder Store	1	2.0	Storage Area Med Gas	W1585-??	28	16	Frost protection	Room Thermostat	No	None	Natural ventilation	0	0	n/a	None	n/a	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-068		Baby Infant / Feeding Room	1	5.0	Baby Feeding	S0012	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	5	0	Positive	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-069		Staff Base	1	6.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
1-B1-071		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-072		Play Specialist Base & Store	1	8.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-073		Pantry / Milk Store	1	10.0	Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
1-B1-074		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-075		Single Cot Cubicle	1	26.0	Bedroom	B1421	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
1-B1-077		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-078		Relative Overnight Stay Room	1	10.0	Relatives Overnight Stay	D1311	28	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41	100	n/a	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
1-B1-079		En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-080		WC - Relatives	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-082		Relative Overnight Stay Room	1	10.0	Relatives Overnight Stay	D1311	28	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41	100	n/a	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
1-B1-083		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
1-B1-084		Relatives' Sitting Room	1	18.5	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
1-B1-090		Equipment Cleaning	1	DSR	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.1-002		IPS Room	1	1.8	IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.1-003		Ward Management Office	1	9.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
3-C1.1-004		Single Isolation Bedroom (RHSC)	1	19.0	Isolation Bedroom	B0308	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
3-C1.1-005		En-suite trolley shower	1	8.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	To match total bedroom air volume	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.1-006		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	28	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	in line with SHPN 04	0	0	Positive	F7	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-007		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
3-C1.1-008		Sitting Room / Lounge	1	16.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
3-C1.1-009		Single Bedroom (RHSC)	1	19.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
3-C1.1-010		En-suite trolley shower	1	8.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a								

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
3-C1.1-023		Ward Kitchen	1	12.0	Ward Kitchen	R0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
3-C1.1-024		Linen Bay (1 Trolley)	1	3.0	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-025		Store - General	1	18.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-026		WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-027		WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-028		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-029		Mobile X-Ray/Ultrasound Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-030		Multi-disciplinary Office	1	18.0	Multi Disciplinary Work Areas	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-C1.1-031		Reception / Staff Base	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-C1.1-032		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	28	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	in line w th SHPN 04	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-033		Single Isolation Bedroom	1	17.0	Isolation Bedroom	B0308	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-C1.1-034		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-035		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	28	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	in line w th SHPN 04	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-036		Single Isolation Bedroom	1	17.0	Isolation Bedroom	B0308	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-C1.1-037		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-038		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-C1.1-039		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	28	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	in line w th SHPN 04	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-040		Single Isolation Bedroom	1	17.0	Isolation Bedroom	B0308	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-C1.1-041		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-042		Clean Utility	1	12.0	Clean Utility	0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
3-C1.1-043		Treatment Room	1	16.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
3-C1.1-044		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-045		Treatment Room	1	2.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
3-C1.1-046		4 Bed Room	1	58.5	Multi-bed Wards	B0405	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
3-C1.1-047		WC Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-048		En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-049		Patients' Assisted Bathroom	1	6.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-050		Patent Interview Room	1	14.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-C1.1-051		Touchdown Base	1	2.0	staff base	0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-C1.1-052		Single Bedroom	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-C1.1-053		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-054		Single Bedroom	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-C1.1-055		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-056		Single Bedroom	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-C1.1-057		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-058		Single Bedroom	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-C1.1-059		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-060		Single Bedroom	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-C1.1-061		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-062		Touchdown Base	1	2.0	staff base	0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-C1.1-063		Single Bedroom	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-C1.1-064		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-065		Single Bedroom	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-C1.1-066		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-067		Single Bedroom	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-C1.1-068		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C1.1-070		WC - Visitors	1	3.0	Toilet																								

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location		
3-C1.2-016	C1.2	Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C1.2-017		Patients' Assisted Bathroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C1.2-018		Single Bedroom	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes		
3-C1.2-019		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C1.2-020		Single Bedroom	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes		
3-C1.2-021		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C1.2-022		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	
3-C1.2-023		4 Bed Room	1	58.5	Multi-bed Wards	B0405	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	sw tch / dimmer	Bed / Trolley 1.45m	See Guidance Notes		
3-C1.2-024		WC Accessible	1	4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C1.2-025		Wetroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C1.2-026		4 Bed Room	1	58.5	Multi-bed Wards	B0405	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	sw tch / dimmer	Bed / Trolley 1.45m	See Guidance Notes		
3-C1.2-027		WC Accessible	2	4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C1.2-028		Ward Management Office	1	9.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		
3-C1.2-029		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C1.2-030		Store - Equipment	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.2-031		Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes		
3-C1.2-032		Treatment Room	1	16.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes		
3-C1.2-033		Dining / Play Room	1	13.0	Eating/Drinking	D0608-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes		
3-C1.2-034		Ward kitchen	1	12.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes		
3-C1.2-035		Patient Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		
3-C1.2-036		Reception / Staff Base	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		
3-C1.2-037		Discharge Lounge	1	20.0	Common room/staff room/lounge	D1135	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes		
3-C1.2-038		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C1.2-039		Store - General	1	12.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.2-040		WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C1.2-041		WC - Visitors	1	3.0	Toilet	V1010-02	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C1.2-042		Touchdown Base	1	2.0	staff base	D151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	
3-C1.2-043		Multi-Disciplinary Office	1	18.0	Multi Disciplinary Work Areas	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		
3-C1.2-044		WC - Staff	1	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C1.3-002		C1.3	Waiting Area	1	10.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
3-C1.3-003			Reception / Staff Base	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
3-C1.3-004			WC Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.3-005			Store - Equipment	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.3-006			Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.3-007			Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	28	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	0	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.3-008			Single Isolation Bedroom (RHSC)	1	17.0	Isolation Bedroom	B0308	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	
3-C1.3-009			En-suite wheelchair-accessible WC, Shower & wash stool	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	To match total bedroom air volume	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.3-010			En-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.3-011			4 Bed Room	1	58.5	Multi-bed Wards	B0405	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	sw tch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	
3-C1.3-012			Wetroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.3-013			4 Bed Room	1	58.5	Multi-bed Wards	B0405	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	sw tch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	
3-C1.3-014			En-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.3-015	Resuscitation Trolley Bay		1	1.0	Resus Trolley bay	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C1.3-016	Linen Bay		1	1.5	Linen Bay	W1584-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes		
3-C1.3-017	Store - General		1	16.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.3-018	Multi-Disciplinary Office		1	18.0	Multi Disciplinary Work Areas	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		
3-C1.3-019	Patient Interview Room		1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		
3-C1.3-020	Ward Management Office		1	9.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		
3-C1.3-021	WC - Staff		1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10															



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
3-C1.3-034		Ward Kitchen	1	12.0	Ward Kitchen	R0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
3-C1.3-035		Patients' Assisted Bathroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.3-036		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.3-037		Treatment Room	1	16.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	
3-C1.3-038		Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	
3-C1.3-039		Dining / Play Room	1	16.0	Eating/Drinking	D0608-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
3-C1.3-040		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.3-041		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-002		Quiet Study Room	1	10.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
3-C1.4-004		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-005		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-006		Store - General	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-007		Patient Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
3-C1.4-008		Complementary Therapy Room	1	10.0	Consulting Room	X0613	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	
3-C1.4-009		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-010		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	
3-C1.4-011		Patients' Assisted Bathroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-012		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	
3-C1.4-013		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	
3-C1.4-014		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-015		Kitchen/ Lounge/Social Space	1	25.0	Common room/staff room/lounge	D1120-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
3-C1.4-016		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	
3-C1.4-017		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-018		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	
3-C1.4-019		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-021		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-022		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-023		Pharmacy Base	1	9.0	Consulting Room	T0151	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	
3-C1.4-024		Multi-Disciplinary Office	1	18.0	Multi Disciplinary Work Areas	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
3-C1.4-025		Medical Staff Office	1	20.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
3-C1.4-026		Consultant Office (5 person)	1	24.6	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
3-C1.4-027		Store - Equipment	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-028		Research Staff Office	1	19.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
3-C1.4-029		Nursing Staff Office	1	15.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
3-C1.4-030		Ward Management Office	1	10.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
3-C1.4-032		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	
3-C1.4-033		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-034		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	
3-C1.4-035		Linen Bay (1 Trolley)	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-036		WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-037		WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-038		Treatment / Clean Utility	1	18.0	Treatment Room	X0105-77	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	
3-C1.4-039		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	28	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	in line with SHPN 04	0	Positive	F7	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-040		Single Isolation Bedroom (RHSC)	1	17.0	Isolation Bedroom	B0308	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	
3-C1.4-041		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	To match total bedroom air volume	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-042		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	To match total bedroom air volume	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-043		Single Isolation Bedroom (RHSC)	1	17.0	Isolation Bedroom	B0308	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	
3-C1.4-044		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	28	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	in line with SHPN 04	0	Positive	F7	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-C1.4-045		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10													

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
3-C1.4-058		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-059		Single Bedroom	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-060		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-061		Multi Bed Room - day care, 4 beds & 2 chairs	1	72.5	Multi-bed Wards	B0405-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	sw tch / dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-062		En-Suite Multi Bedroom	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-063		Play Room	1	25.0	Common room/staff room/lounge	H1322-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
3-C1.4-064		Ward Kitchen	1	12.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
3-C1.4-065		Treatment Room	1	12.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
3-C1.4-066		Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
3-C1.4-067		WC - Visitors	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.4-068		Waiting Area	1	12.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
3-C1.4-069		Reception / Staff Base	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.5-002		Store - back up clothing	1	4.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.5-003		Family Sitting Room	1	27.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
3-C1.5-004		Baby Infant / Feeding Room	1	4.0	Baby Feeding	S0012	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.5-005	C1.5	Nappy Change	1	4.0	Nappy Change	V1131	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.5-006		Breast Pump Room	1	4.0	Baby Feeding	S0012	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.5-007		WC-Wheelchair Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.5-008		WC-Wheelchair Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.6-001	C1.6	Dining / Recreation Room	1	26.0	Common room/staff room/lounge	D0608-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
3-C1.6-002		Quiet Room / Study	1	10.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.7-002	C1.7	EEG Review Room	1	15.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.7-003		EEG Recording Room	1	16.0	Diagnostic room	X0125	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
3-C1.7-004		EEG Recording Room	1	16.0	Diagnostic room	X0125	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
3-C1.7-005		Evoked Potential Recording Room	1	16.0	Diagnostic room	C0800	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
3-C1.8-002	C1.8	Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-003		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-005		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.8-006		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-007		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-008		WC - Visitors	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-009		Dining / Play Room	1	15.0	Eating/Drinking	D0608-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
3-C1.8-010		Ward Kitchen	1	12.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
3-C1.8-011		Reception Desk/Staff Base	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.8-012		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-013		Store - General	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-014		Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
3-C1.8-015		Treatment Room	1	16.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
3-C1.8-016		4 Bed Room	1	58.5	Multi-bed Wards	B0405	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	sw tch / dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.8-017		En-suite Shower / WC / WHB	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-018		WC Wheelchair Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-019		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
3-C1.8-020		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-021		Single Bedroom (RHSC)	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.8-022		En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-023		Single Bedroom	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.8-024		En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-C1.8-025		Single Bedroom	1	17.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
3-C1.8-026		En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	2																					

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location				
3-C2-002	C2	Wards Support Areas	Grab & Go	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-C2-003			DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-C2-004			Seminar Room	1	25.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
3-C2-005			Staff Room	1	48.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
3-C3-002			C3	Special Feeds Unit	Food Prep Area	1	24.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
3-C3-003	Wash Room	1			5.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-C3-004	Office Ante Room	1			9.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
3-C3-005	Store - Feeds	1			8.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-C4-002	C4	Sleep Lab			Store	1	6.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-C4-003			En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
3-C4-005			Sleep Room	1	15.0	Bedroom	B0704	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
3-C4-006			Parents Room	1	10.0	Bedroom	D1311	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Positive to ensuite	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
3-C4-007			Control Room	1	15.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
3-C4-008			Sleep Room	1	15.0	Bedroom	B0704	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
3-C4-009			Parents Room	1	10.0	Bedroom	D1311	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Positive to ensuite	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
3-C4-010			En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
4-C5-002			C5	Classrooms	WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-C5-003					Store	1	3.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-C5-004	Primary Classroom	1			18.0	Classroom	H1313-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
4-C5-005	Upper Primary Classroom	1			18.0	Classroom	H1313-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
4-C5-006	Secondary Classroom	1			18.0	Classroom	H1313-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
4-C5-007	Administration Area	1			15.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
4-C5-008	Resource Storage	1			10.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
4-C5-009	WC Ambulant	1			3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
1-D1-001	D1	D1			DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D1-002					Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-D1-003			Treatment Room (with prep area)	1	16.0	Treatment Room	X0105-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
1-D1-004			Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
1-D1-005			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
1-D1-008			Treatment Room (with prep area)	1	16.0	Treatment Room	X0105-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
1-D1-009			Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		200	n/a	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a		
1-D1-010			Dirty Utility	1	11.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
1-D1-011			WC wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
1-D1-012			Shower Room	1	5.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
1-D1-013			Clean Utility	1	8.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a	
1-D1-014			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
1-D1-015			Play Therapy (inc messy play) Room	1	18.0	Common room/staff room/lounge	H1322-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	3	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
1-D1-016			Consult/Multi-Disciplinary	1	24.0	Consulting Room	C0217	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
1-D1-017			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
1-D1-018			Consult/Examination (Ophthalmology)	1	15.5	Consulting Room	C0224-7	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
1-D1-019			Consult/Examination (ENT)	1	17.0	Consulting Room	C0224-7	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
1-D1-020			Consult/Examination (Cleft)	1	18.0	Consulting Room	C0224-7	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
1-D1-021			Consult/Examination (Cleft)	1	18.0	Consulting Room	C0224-7	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
1-D1-022			Consult/Examination (ENT)	1	17.0	Consulting Room	C0224-7	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
1-D1-023			Consult/Examination (ENT)	1	17.0	Consulting Room	C0224-7	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
1-D1-025			Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
1-D1-026			Infant Measuring Room	1	6.0	Consulting Room	C0																									



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location			
G-D1-002	D1	RHSC Main Outpatients Department	Baby Infant / Feeding Room	1	4.0	Baby Feeding	S0012	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Positive	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D1-003			WC wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D1-004			Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D1-005			Store Room	1	8.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D1-006			Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D1-007			DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D1-008			Plaster Suite (3 bays)	1	40.0	Consulting Room	X0206	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-009			Store Plaster	1	6.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D1-010			Orthotics Workshop	1	16.0	Small Workshop	K0420	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
G-D1-011			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-012			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-013			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-014			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-015			Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-016			Consult/Examination (Child Protection)	1	15.5	Consulting Room	C0224-7	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-019			Equipment / General Store	1	6.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D1-020			Phlebotomy Room	1	8.0	Consulting Room	C0224-??	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-021			Child Protection Room	1	24.0	Consulting Room	C0224-??	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-022			Mobile Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D1-023			Dirty Utility	1	11.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D1-024			Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41	200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes	n/a		
G-D1-025			Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-026			Specimen/ Disabled WC	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D1-027			Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D1-028			Infant Measuring Room	1	6.0	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-029			Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D1-030			Linen Bay (1 Trolley)	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D1-031			Clean Utility	1	8.0	Clean Utility	O101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a		
G-D1-032			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-033			Treatment Room (with prep area)	1	16.0	Treatment Room	X0105-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a		
G-D1-034			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-035			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-036			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-037			Meeting Room	1	15.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
G-D1-038			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-039			Consult/Examination	1	15.5	Consulting Room	C0224-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-040			Consult/Multi-Disciplinary	1	24.0	Consulting Room	C0217	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D1-041			Outpatients Management Office	1	9.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
G-D1-042			Shower Room	1	5.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D2-001			D2	Cardiology & Respiratory	Waiting Area	1	9.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-D2-003					Admin Office	1	12.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-D2-004					WC Staff	1	4.5	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-D2-005	Exercise Room/Lung Function Laboratory	1			22.0	Treatment Room	C0715	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a		
G-D2-006	Echocardiography Room	1			20.0	Diagnostic room	C0712	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1		
G-D2-007	DSR	1			8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D2-008	Store/ Equipment	1			9.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
G-D2-009	ECG Procedure Room	1			12.0	Consulting Room	C0718-??	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
G-D2-010	Admin Office	1			15.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
G-D2-012	Domiciliary Sleep Studies	1			12.0	Consulting Room	C0224-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n									

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
1-D4-001	D4	Audiology	Waiting Area	1	13.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-D4-002			ABR Room	1	16.0	Treatment Room	C0517	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-D4-003			Test Room	1	16.0	Treatment Room	C0517-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-D4-004			Shared Staff Office	1	32.8	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-D4-005			Testing/Clinic Rooms	1	21.0	Consulting Room	C0515	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	9	Negative	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-D4-006			Obs/Control	1	8.0	Diagnostic room	C0516	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
1-D4-007			Testing/Clinic Rooms	1	21.0	Consulting Room	C0515	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	9	Negative	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-D4-008			Obs/Control	1	8.0	Diagnostic room	C0516	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
1-D4-009			Waiting Area	1	3.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-D4-010			Work Room	1	12.0	Small Workshop	L1804	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-D4-012			Store	1	15.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D4-013			Mould Room	1	9.0	Small Workshop	L1804	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-D5-002			D5	Paediatric Dentistry	Laboratory	1	10.0	Laboratory	L1804	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60	500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
G-D5-003	Clean Utility / Dental Store	1			23.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
G-D5-004	Surgery (multi-disciplinary)	1			20.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	F7	43	41	500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
G-D5-005	Dirty Utility	1			11.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-D5-006	Mobile Inter-oral Storage	1			6.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-D5-007	Recovery	1			10.0	Recovery Bay / Recovery Room	C0522-04	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41	500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-D5-008	Surgeries (standard)	1			18.0	Operating Theatre Suite	C0903	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	F7	43	41	500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
G-D5-009	Surgeries (standard)	1			18.0	Operating Theatre Suite	C0903	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	F7	43	41	500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
G-D5-010	Surgeries (standard)	1			18.0	Operating Theatre Suite	C0903	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	F7	43	41	500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
1-D6-001	D6	RHSC Therapies			Dictation/ 1 /Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
1-D6-002			Staff Office - All specialties (39 person)	1	159.0	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-D6-003			Meeting Room - 6 person	1	9.0	Meeting Room	H1313-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-D6-004			Dictation/ 1 /Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-D6-005			Meeting Room - 4 person	1	6.0	Meeting Room	H1313-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-D6-006			WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-007			WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-009			Dictation/ 1 /Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-D6-010			Dictation/ 1 /Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-D6-011			Store - TIP	1	4.5	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-013			Store - Dietetic	1	8.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-014			Store - Physio	1	32.5	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-015			Store - Physio	1	13.5	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-016			management office	1	20.5	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-D6-017			A&C Staff Office/Appliance Officer	1	36.9	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-D6-018			DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-019			Equipment Decontamination	1	10.0	Equipment Decontamination	Y0335	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	7	10	Negative	G4	43	41	200	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
1-D6-020			Dietetic Clinic Room	1	12.0	Diagnostic room	C0224-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-D6-021			Dietetic Clinic Room	1	12.0	Diagnostic room	C0224-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-D6-022			Waiting Play Area	1	33.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-D6-023			Reception	1	6.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-D6-024			WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-025			Infant Measuring Room	1	6.0	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
1-D6-026			Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-027			Standard Treatment Room	1	15.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-D6-028			Standard Treatment Room	1	15.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-D6-029			Standard Treatment Room	1	15.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41									



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
1-D6-045		Store - SALT	1	8.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-046		Rehabilitation Room	1	30.0	Treatment Room	X0208-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-D6-047		Store - OT	1	2.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-048		Rehabilitation Room	1	30.0	Treatment Room	X0208-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-D6-049		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-050		Store - Physio	1	3.5	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-052		Store - Physio	1	4.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-053		Rehabilitation Room	1	30.0	Treatment Room	X0208-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-D6-054		Rehabilitation Room (inc CV equip)	1	39.0	Treatment Room	X0208-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-D6-057		WC - assisted (large changing)	1	12.3	Toilet	V0922-01	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-060		Resus Bay	1	1.0	Resuscitation Bay	X0242-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D6-061		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D7-001		Assisted Bathroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D7-002		Dressings / Doppler/Store	1	4.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D7-003		Dressings Room (Burns)	1	16.0	Consulting Room	X0242	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
1-D7-004		Sluice	1	6.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-D7-005		Single Telephone Booth	1	4.0	Circulation Areas	G0710	28	18	Radiant Panels	Remote Sensor Adj.	No	None	to suit location	4	3	Balanced	G4	43	41		200	n/a	None	A	80	presence detection	Floor 0m	See Guidance Notes	n/a
1-D7-006		Dressings Room (Burns)	1	16.0	Consulting Room	X0242	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
1-D7-007		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-D8-001		Open Plan Area	1	45.1	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-D8-002		Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-D9-002		Waiting Area	1	12.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-D9-003		Reception 1 staff	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-D9-004		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-D9-005		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-D9-006		Interview, Counseling & Quiet Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-D9-007		Office and Storage 2 staff	1	12.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-D9-008		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-D9-009		Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
3-D9-010		Waiting Play Area	1	20.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-D9-011		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
3-D9-012		Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
3-D9-013		Treatment Room	1	16.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
3-D9-014		Pantry	1	8.0	Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-D9-015		Ward Management Office	1	9.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-D9-016		Patient Treatment Lounge	1	32.4	Treatment Room	X1504	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
3-D9-017		Dirty Utility	1	11.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-D9-018		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-D9-019		Single Bedroom	1	17.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-D9-020		En-suite WC / WHB	1	4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-D9-021		Parking Bay 1 patient trolley/whch	1	5.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-D9-022		Multi Bed Room day care, 3 beds	1	40.5	Multi-bed Wards	B0405-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	Positive to ensuite	G4	43	41		100	5	300	A	80	Switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
3-D9-023		En-suite wheelchair-accessible WC, Shower & wash Muti	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-D9-024		Single Bedroom	1	17.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
3-D9-025		En-suite WC / WHB	1	4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-D9-026		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-D9-027		Store - General	1	8.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-D9-028	</																												

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
G-E1-009		WC - Ambulant	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-E1-010		Wheelchair Accessible	1	4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-E1-011		RHSC OPD Main Waiting	1	15.0	Waiting Room	J1255	28	18	Underfloor Heating	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-002		Consultant Psychiatrist / Psychologist	1	20.5	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-003		Storage (testing)	1	6.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-004		Ward Manager Office	1	16.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-005		Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-006		Reception	1	6.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-007		Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-008		Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-009		Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-010		Dictation / 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-011		Waiting Area	1	3.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-013		Storage / Photocopy	1	10.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-014		Secretary/Filing Office	1	18	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-016		Multi-Disciplinary Office	1	28.7	Multi Disciplinary Work Areas	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-017		Shower / WC / WHB assisted	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-018		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-019		Play Room	1	24.0	Common room/staff room/lounge	H1322-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-020		Group Room	1	24.0	Meeting Room	H1107	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-021		Control / Viewing	1	10.0	Diagnostic room	E0604-06	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
G-F1-022		Time Out Room	1	6.0	Common room/staff room/lounge	H1107-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-023		Family Interview Room	1	12.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-024		Large Group Room	1	30.0	Meeting Room	H1107	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-026		Large Family Interview Room	1	14.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-027		Sitting Room	1	15.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-028		Multi-Disciplinary Office	1	24.6	Multi Disciplinary Work Areas	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-030		Multi-Disciplinary Office	1	28.7	Multi Disciplinary Work Areas	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-031		Sitting Room	1	15.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-032		Group Room	1	24.0	Common room/staff room/lounge	H1107	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-033		Art Room	1	24.0	Classroom	H1313-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-034		Therapy / Play Therapy Room	1	15.0	Common room/staff room/lounge	H0322-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-036		Dining Room (Inpatients & Day Prog)	1	62.0	Eating/Drinking	D0608-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-037		Therapeutic Kitchen	1	22.0	Ward Kitchen	Q0121	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
G-F1-038		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-039		Ward kitchen	1	12.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
G-F1-040		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-041		Waiting Area	1	15.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-042		DSR	1	8.0	DSR	V1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-043		WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-F1-044		Dictation / 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-045		Multidisciplinary Office - ITS	1	24.6	Multi Disciplinary Work Areas	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-047		Recreation Room	1	45.0	Common room/staff room/lounge	H0322-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-F1-048		Group Room	1	24.0	Meeting Room	H1107	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-049	F1	Dictation / 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-F1-050		Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-F1-051		Treatment Room	1	16.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
G-F1-052		Drug Room	1	6.0	Clean Utility	O101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air																

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
G-F1-070		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-071		Single Bed Room	1	10.0	Bedroom	B0510	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-F1-072		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-073		Single Bed Room	1	10.0	Bedroom	B0510	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-F1-074		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-075		Single Bed Room	1	10.0	Bedroom	B0510	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-F1-076		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-077		Single Bed Room	1	10.0	Bedroom	B0510	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-F1-078		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-079		Single Bed Room	1	10.0	Bedroom	B0510	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-F1-080		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-081		Single Bed Room	1	10.0	Bedroom	B0510	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-F1-082		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-083		Single Bed Room	1	10.0	Bedroom	B0510	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-F1-084		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-085		Single Bed Room	1	10.0	Bedroom	B0510	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-F1-086		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-087		Single Bed Room (large)	1	11.5	Bedroom	B0510	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-F1-088		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-089		Linen Bay	1	1.5	Linen Bay	W1594-01	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-090		Single Bed Room (large)	1	11.5	Bedroom	B0510	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
G-F1-091		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-092		Quiet Room	1	12	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-F1-096		Store	1		Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-F1-099		Store	1		Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-G2-002		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-G2-003	G2	Clean Equipment	1	50.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-G2-004		Dirty Equipment	1	10.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-G2-005		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
1-G3-002		On-Call Bedroom	1	10.0	Bedroom	D1311	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-G3-003		En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-G3-004		On-Call Bedroom	1	10.0	Bedroom	D1311	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-G3-005		En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-G3-006	G3	On-Call Suite	1	10.0	Bedroom	D1311	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-G3-007		En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-G3-008		Mini Kitchen	1	3.6	Eating/Drinking	D0608-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-G3-009		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-002		Conference / Meeting Room	1	25.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-003		Seminar / Tutorial Room	1	40.0	Classroom	H1313-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-004		Seminar / Tutorial Room	1	40.0	Classroom	H1313-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-005		WC - Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-006		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-007		Waiting Area	1	10.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
4-H1-008		Lockers	1	12.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-009		WC - Ambulant	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-010		WC - Ambulant	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-011		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0		



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
4-H1-027		Physiological Laboratory	1	45.0	Laboratory	L0102-02		18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-028		Senior Academic Staff	1	11	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-029		Head of Department	1	16	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-030		Senior Academic Staff	1	11	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-031		Senior Academic Staff	1	11	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-032		Senior Academic Staff	1	11	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-033		WC - Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-H1-035		Stationery / Photocopying	1	4.5	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
4-H1-036		Gas Store	1		Storage Area Med Gas	W1585-??	28	16	Frost protection	Room Thermostat	No	None	Natural ventilation	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-H2-001		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-H2-002		Waiting Play Area	1	9.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-H2-004		Reception	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-H2-005		WC Accessible Patients	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-H2-006		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-H2-007		Office - 4 person	1	20	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-H2-008		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-H2-009		Consult / Assessment	1	12.0	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
1-H2-010		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
1-H2-011		WC Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-H2-012		Pantry	1	6.0	Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-H2-013		Store - Equipment	1	24.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-H2-014		Clinical Study Room	1	63.0	Consulting Room	B0405-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
1-H2-015		En-suite Shower / WC / WHB	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-H2-016		Sample Processing	1	15.0	Diagnostic room	L1804	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	8	8	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
1-H2-017		Dirty Utility	1	6.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-H2-018		En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	To match total bedroom air volume	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-H2-020		Clean Utility	1	8.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
1-H2-021		Single Bed Room	1	15.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-H2-022		En-suite Shower / WC / WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-H2-023		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	28	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	In line with SHPN 04	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-H2-024		Single Bed Room	1	15.0	Bedroom	B0305-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-H2-028		Touch Down Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-H3-001		Workshop / Tutorial Room	1	20.0	Classroom	H0202-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-H3-002		Control Room	1	8.0	Diagnostic room	C0516	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
3-H3-003		Storage	1	15.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-H3-004		Workshop / Tutorial Room	1	20.0	Classroom	H0202-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-H3-005		Scenario Room	1	20.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-H3-006		WC / WHB disabled	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-H3-007		WC Ambulant	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-H3-008		WC Ambulant	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-H3-010		Workshop / Tutorial Room	1	20.0	Classroom	H0202-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-H3-011		Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes	n/a
3-H3-012		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-H3-013		Manual Handling, Health & Safety	1	15.0	Classroom	H1313-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	6	4	Positive	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-H3-014		Practice Based Educators Office	1	20	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-H3-015		Meeting Room	1	25.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-H3-016		Seminar Room	1	40.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a							

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
G-11-012		Assisted Change/Nappy Change	1	7.0	Nappy Change	V1131	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-11-013		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-11-014		Fire Control room	1	12.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
B-12-002	I2	DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-12-004		Store - Beds	1	96.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-12-005		Store - Toys	1	12.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-J1-001	J1	Lobby	1	3.0	Circulation Areas - Entrance Lobby	G0800	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-J1-002		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
1-J1-003		Body Viewing Room	1	18.0	Body View	S0027-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Coling Cassette - Chilled Water	Central Supply and Extract	4	8	Negative	G4	43	n/a		300	n/a	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	
1-J1-004		Sitting Room with Beverage Bay	1	20.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
G-J2-002	J2	Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Coling Cassette - Chilled Water	Central Supply and Extract	10 I/s per person	10 I/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-J2-003		Prayer / Meditation / Reflection Area	1	40.0	Common room/staff room/lounge	D0434-04	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Coling Cassette - Chilled Water	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
G-J2-004		WC wheelchair accessible / Ritual Washing Area	1	6.0	Toilet	V0922-02	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-J2-005		Store	1	6.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-J2-006		Office	1	12.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Coling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-K1-001	K1	Meeting Rooms (family size)	1	15.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Coling Cassette - Chilled Water	Central Supply and Extract	10 I/s per person	10 I/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-K1-002		Meeting Rooms (family size)	1	15.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Coling Cassette - Chilled Water	Central Supply and Extract	10 I/s per person	10 I/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-K1-003		Office 1	1	15.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-K1-004		Office 6	1	20.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-K1-005		Office 2	1	15.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-K1-006		Waiting	1	8.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
G-K1-007		Nappy Changing Room	1	4.0	Nappy Change	V1131	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-K1-008		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-K1-010		Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Coling Cassette - Chilled Water	Central Supply and Extract	10 I/s per person	10 I/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-K1-011		Office 3	1	10	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-K1-012		Office 5	1	19.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-K1-013		Store	1	24.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-K1-015		Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Coling Cassette - Chilled Water	Central Supply and Extract	10 I/s per person	10 I/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-K1-016		Drop-In Lounge / Beverage Bay	1	35.0	Common room/staff room/lounge	D1120-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
G-K1-017		Drop-In Multi-Purpose Room	1	39.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Coling Cassette - Chilled Water	Central Supply and Extract	10 I/s per person	10 I/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-K1-018		WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-K1-019		Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes	
G-K1-021		Complementary Therapy Room	1	15.0	Consulting Room	X0613	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	
G-K1-022		Radio Lollipop Broadcasting Studio, Lobby	1	20.0	Circulation Areas	C0516-01	28	18	Radiant Panels	Remote Sensor Adj.	No	None	to suit location	to suit location	to suit location	Balanced	G4	43	41		200	n/a	None	A	80	presence detection	Floor 0m	See Guidance Notes	
G-K1-023		Wheelchair Bay	1	6.0	Circulation Equipment Storage Bays	G0180-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-K1-024		Office 4	1	10.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-K1-025		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-K1-026		DSR	1	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-K1-029		Disposal Hold	1	4.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-K2-002			Reception/Waiting	1	6.0	Waiting Room	J0232-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
3-K2-003			Office - 1 person	1	8.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
3-K2-004			WC - Female	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-K2-005			WC - Male	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
3-K2-006			Lounge - non residents	1	30.0	Common room/staff room/lounge	D1120-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
3-K2-007	WC - Wheelchair accessible		1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-K2-008	Family Room for 4 persons inc ensuite		1	19.0	Bedroom	D1311-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	
3-K2-009	En-suite Shower / WC / WHB		1	6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-K2-010	Family Room for 4 persons inc ensuite		1	19.0	Bedroom	D1311-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	
3-K2-011	En-suite Shower / WC / WHB		1	6.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
3-K2-012	Family Room for 4 persons inc ensuite		1	19.0	Bed																								



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
1-L1-015		Single Bed Room	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-016		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-017		Single Bed Room	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-018		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-019		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-020		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-021		Single Bed Room	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-022		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-023		Staff Base	1	6.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-024		Single Bed Room	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-025		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-026		WC - Wheelchair accessible (Visitors)	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-027		Patient Waiting	1	20.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-L1-028		Multi-Disciplinary Office / Reception	1	18.0	Multi Disciplinary Work Areas	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-029		Consulting/Examination Room	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-030		Consulting/Examination Room	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-031		Consulting/Examination Room	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-032		Consulting/Examination Room	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-033		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-034		Single Bed Room	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-035		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-036		Touchdown Base	1	2.0	staff base	O151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10/s/per person	10/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-037		Interview/Relatives Quiet Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10/s per person	10/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-038		Single Bed Room	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-039		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-040		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-044		Single Bed Room	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-046		Ward Management Office	1	10.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-047		Clean Utility	1	12.0	Clean Utility	O101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
1-L1-052		Staff Room	1	9.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-L1-053		Multi-disciplinary Office	1	18.0	Multi Disciplinary Work Areas	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-054		Ward Kitchen	1	12.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
1-L1-055		Touchdown Base	1	2.0	staff base	O151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10/s/per person	10/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-060		Teaching Room	1	20.0	Classroom	H1313-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10/s per person	10/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-061		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-066		Single Bed Room	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-067		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-068		Single Bed Room	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
1-L1-069		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	to match total bedroom air volume	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-070		Interview/Relatives Quiet Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10/s per person	10/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-071		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-072		WC Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-073		WC Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-074		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-075		Staff Base	1	6.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-L1-076		Storage Consumables	1	18.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-L1-077		En-suite Accessible Shower/Wc/WHB	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41										



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
1-L1-092		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-L1-093		Single Bedroom (level 1)	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-L1-094		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-L1-095		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-L1-096		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-L1-097		4 Bed Room	1	64.0	Multi-bed Wards	B0405	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-L1-099		En-suite	1	6.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-L1-100		4 Bed Room	1	64.0	Multi-bed Wards	B0405	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-L1-101		En-suite	1	6.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-L1-103		Treatment Room	1	16	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-L1-104		Isolation Lobby	1	4.0	Isolation Lobby	G0510-02	28	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	In line with SHPN 04	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-L1-108		Physical Measure	1	2.0	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-L1-109		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10/s/per person	10/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-002		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-003		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-004		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-005		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-006		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-007		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-008		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-009		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10/s/per person	10/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-010		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-011		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-012		Store	1	12.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-013		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-014		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-015		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-016		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-017		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10/s/per person	10/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-018		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-019		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-020		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-021		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-022		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-023		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-024		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-025		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10/s/per person	10/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
2-L2-026		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-027		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-028		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-029		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-030		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-031		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-032		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-033		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-034		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-035		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-L2-036		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
2-L2-037		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0														



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location		
2-L2-050	L2 DCN Inpatients 43 Beds	Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
2-L2-051		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
2-L2-052		Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
2-L2-053		Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-L2-054		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
2-L2-055		Sitting Room	1	12.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-L2-056		Ward Management Office	1	9.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-L2-057		Multi-disciplinary Office	1	18.0	Multi Disciplinary Work Areas	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-L2-058		Store	1	12.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-059		Hoist Bay	3	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-060		WC Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-061		WC Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-062		Ward Kitchen	1	16.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
2-L2-063		Touchdown Base	7	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-L2-064		Mobile X-Ray Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-065		WC Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-066		WC Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-067		Clinical Supplies Store	1	16.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-068		WC Independent Wheelchair	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-069		Teaching Room	1	20.0	Classroom	H1313-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-L2-070		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-071		WC Ambulant	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-072		WC Ambulant	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-073		Reception	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-L2-074		Waiting Area	1	16.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-L2-075		Multi-disciplinary Office	1	18.0	Multi Disciplinary Work Areas	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-L2-076		Ward Management Office	1	9.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-L2-077		Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-L2-078		Ward Kitchen	1	16.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
2-L2-079		Clean Utility	1	12.0	Clean Utility	0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
2-L2-080		Assisted Bathroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-081		Sitting Room	1	12.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-L2-082		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-083		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-084		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-085		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-086		Touchdown Base	6	2.0	staff base	0151	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-L2-087		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-088		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-089		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-090		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-091		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-092		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-093		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-094		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-095		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-096		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m</		

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
2-L2-111		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-112		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-113		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-114		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-115		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10/s/per person	10/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-L2-117		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-118		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-119		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-120		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-121		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-122		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-123		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-124		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-125		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-126		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-127		Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-128		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-129		Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10/s/per person	10/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-L2-130		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-131		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-132		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-133		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-134		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510-02	28	18	Warm Air - Reheat Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	In line with SHPN 04	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-135		Single Isolation Bedroom	1	19.0	Isolation Bedroom	B0308-77	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-136		Isolation Shower Room	1	4.5	Isolation Shower Room Ensuite		28	20	Adjacent Space Transfer Air	None	No	None	Dirty Extract	0	to match total bedroom air volume	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-137		Touchdown Base	1	2.0	staff base	0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10/s/per person	10/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-L2-138		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-139		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-140		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-141		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-142		Single Bedroom	1	19.0	Bedroom	B0305	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-143		Shower Room en-suite	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-144		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-L2-152		Physical Measure	1	3.0	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
2-L2-153		Touchdown Base	1	2.0	staff base	0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10/s/per person	10/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-M1-002		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
G-M1-003		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
G-M1-004		Nurse Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10/s/per person	10/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-M1-005		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-M1-006		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-M1-007		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
G-M1-008		Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
G-M1-009		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
G-M1-010		Pre Op Clinic Team Office (3 person)	1	3.5	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-M1-011		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
G-M1-012		Consult/Multi-Disciplinary	1	24.0	Consulting Room	C0207-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
G-M1-013		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41										

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
G-M1-029		Outpatients Management Office	1	9.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-M1-031		Nurse Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-M1-032		Main Waiting	1	59.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-M1-034		WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-M1-035		WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-M1-036		Staff Room	1	12.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-M1-037		Store Clinical Supplies, Equipment & Stationery	1	15.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-M1-038		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-M1-039		WC Fully Accessible Changing Room	1	7.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-M1-040		Physical Measurement	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
G-M1-041		Store - Equipment / General	1	6.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-M1-042		Phlebotomy Room	1	8.0	Consulting Room	C0224-??	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
G-M1-043		Public Telephone Booth	1	1.5	Circulation Phone Booth	G0710	28	18	Adjacent Space Transfer Air	None	No	None	n/a	0	0	n/a	n/a	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-M1-045		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-M1-046		Medical Records Store	1	8.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-M1-047		Enquiry / Information Desk 2 staff	1	12.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-M1-049		Patient Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-M1-050		DSR	1	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-M1-051		Sub Waiting Area	1	16.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-M2-002		Staff Office	1	65.6	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-M2-003		Reception	1	8.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-M2-004		Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-M2-005		Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
2-M2-006		Waiting	1	18.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-M2-007		ADL Bathroom, Shower, WC with hoists	1	13.0	Toilet	V1736-01	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-M2-008		Physio Treatment Room	1	15.0	Physiotherapy Studio	X0105-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	6	Negative	G4	43	41		300	n/a	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	n/a
2-M2-009		ADL Kitchen	1	22.0	Pantry	Q0120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-M2-010		Consult/Examination	1	15.5	Consulting Room	C0224	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
2-M2-011		Distraction Free Treatment Room	1	15.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
2-M2-012		Distraction Free Treatment Room	1	15.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
2-M2-013		Staff Lockers	1	4.5	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-M2-014		WC Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-M2-015		Staff Toilet	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-M2-016		Staff Toilet	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-M2-017		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-M2-018		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-M2-019		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-M2-020		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-M2-021		Store General/Equipment	1	25.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-M2-022		Patient Toilet	1	5.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-M2-023		Multi-Purpose Rehabilitation Room	1	80.0	Physiotherapy Studio	X0318	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	6	Negative	G4	43	41		300	n/a	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	n/a
2-M2-024		Store General/Equipment	1	5.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-M2-025		Store General/Equipment	1	20.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
2-M3-002		Treatment Room	1	16.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
2-M3-003		Treatment Area	1	45.0	Treatment Room	X0111	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
2-M3-004		Waiting area; 4 & 2 wheelchairs	1	17.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-M4-002		Waiting Area (DCN)	1	15.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-M4-003		Secretarial Office	1	9																									



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
2-M4-019		EEG Recording Room	1	16.0	Diagnostic room	X0125	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	8	8	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes
G-N1-001		Reception / Information Desk	1	6.0	Reception	J0132-01	28	18	Radiant Panels Warm Air Door Curtain	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-N1-002		Draught Lobby	1	9.0	Circulation Areas - Entrance Lobby	G0800-01	28	Not Controlled		BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-N1-003		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-N1-004		WC - Visitors	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-N1-005		Wheelchair Bay	1	6.0	Circulation Equipment Storage Bays	G0180-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-N1-006		Vending Machine	1	3.0	Circulation Areas	P0808	28	18	underfloor heating / none to suit location	BMS Adjustable Sensor	No	None	to suit location	to suit location	to suit location	Balanced	G4	43	41		200	n/a	None	A	80	presence detection	Floor 0m	See Guidance Notes
G-N1-007		Waiting Area	1	8.0	Waiting Room	J1155	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
2-N2-002		Staff Room	1	34.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
2-N2-003		Grab & Go	1	20.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-N2-004		Disposal Hold (small)	1	4.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-N2-005		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-002		Physical Measurement Bay	1	3.5	Consulting Room	C0522-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-003		Single Rooms ensuite	1	15.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-004		En-suite WC / WHB	1	4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-005		Single Rooms ensuite	1	15.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-006		En-suite WC / WHB	1	4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-007		Clinic Room	1	12.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-008		Clinic Room	1	12.0	Treatment Room	X0105	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-009		Interview Room - DCU	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-P1-010		Single Rooms ensuite	1	15.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-011		En-suite WC / WHB	1	4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-012		SDCU Discharge Lounge	1	40.0	Common room/staff room/lounge	D1135	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
1-P1-013		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-014		Interview Room - DCU	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-P1-015		SDCU Dispensary	1	8.0	Clean Utility	T0526-7	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
1-P1-016		Pantry (DCU)	1	8.0	Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
1-P1-017		Wheelchair Parking Bay	1	1.5	Circulation Equipment Storage Bays	G0180-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-018		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-020		WC - Patients	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-021		SDCU Post Op Staff Base/Utility	1	10.0	staff base	T0151-??	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes
1-P1-022		Recovery Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
1-P1-023		Recovery Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-024		SDCU Recovery	1	88.0	Recovery Bay / Recovery Room	B2517	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-P1-025		SDCU Recovery Room	1	11	Recovery Bay / Recovery Room	B2517	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-P1-026		SDCU Recovery Room	1	11	Recovery Bay / Recovery Room	B2417	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-P1-027		Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-028		Recovery Staff Base	1	12.0	Cellular / Ward Offices	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-P1-029		Post Anaesthetic Recovery	1	93.8	Recovery Bay / Recovery Room	B2417	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-P1-030		Recovery room post anaesthetic, 1 place	1	26.0	Recovery Bay / Recovery Room	B2417-01	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-P1-031		Recovery room post anaesthetic, 1 place	1	26.0	Recovery Bay / Recovery Room	B2417-01	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-P1-032		Operating Theatre	1	55.0	Operating Theatre Suite	N0106-01	25	18	Radiant Panels warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes
1-P1-033		Anaesthetic Room	1	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	Balanced	G4	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-034		Scrub-up (single)	1	11.0	Operating Theatre Suite	N0224	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	Balanced	G4	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes
1-P1-035		Dictation / 1 / Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
1-P1-036		Image Intensifier Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
1-P1-038		Satellite Pharmacy Store	1	6.0	Clean Utility	T0526-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes
1-P1-039		Preparation Room	1	12.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	Balanced	G4	4										

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
1-P1-053		Staff Room	1	60.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-P1-054		Sub-Wait Area	1	4.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-P1-055		Inpatient Holding Bays	1	8.0	Circulation Equipment Storage Bays	J0132-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-056		Inpatient Holding Bays	1	8.0	Circulation Equipment Storage Bays	J0132-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-057		Trolley Bay	1	4.0	Circulation Equipment Storage Bays	J1264	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-058		Angiography Procedures Machine Room	1	16.0	Operating Theatre Suite	E0311	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-059		Preparation Room	1	12.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-060		Trolley Bay	1	4.0	Circulation Equipment Storage Bays	J1264	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-061		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-063		Preparation Room	1	14.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-064		MRI Room	1	45.0	Diagnostic room	E0801-02	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
1-P1-065		Control Room - MRI	1	16.0	Cellular / Ward Offices	E0604-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-P1-066		Anaesthetic Room	1	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-067		Exit Bay	1	12.0	Operating Theatre Suite	G0407	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-068		Equipment Room - MRI	1	14.5	Storage Area Equipment	E0311	28	16	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-069		Anaesthetic Room	1	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-070		Operating Theatre	1	55.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-071		Scrub-up (single)	1	11.0	Operating Theatre Suite	N0224	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-072		Preparation Room	1	12.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-073		Scrub-up (single)	1	11.0	Operating Theatre Suite	N0224	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-074		Anaesthetic Room	1	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-075		Preparation Room	1	12.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-076		Exit Bay	1	12.0	Operating Theatre Suite	G0407	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-077		Utility Room	1	14.0	Operating Theatre Suite	Y0431-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-078		Preparation Theatre	1	55.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-079		Preparation Room	1	12.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-080		Scrub-up (single)	1	11.0	Operating Theatre Suite	N0224	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-083		Dictation / 1 /Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-P1-084		Image Intensifier Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-085		Dictation / 1 /Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-P1-086		Medical Gas Cylinder Store	1	4.0	Storage Area Med Gas	W1585-??	28	16	Frost protection	Room Thermostat	No	None	Natural ventilation	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-087		Clinical Equipment Store	1	60.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-088		IPS Room	1	1.5	IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-089		DCN Nurse Management Office	1	9.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-P1-090		Dirty Utility bedpan disposal & urine test	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-091		Operating Theatre	1	55.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-092		Utility Room	1	14.0	Operating Theatre Suite	Y0431-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-093		Angiography Procedures Room	1	55.0	Operating Theatre Suite	E0311	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-094		Angiography Procedures Control Room	1	16.0	Operating Theatre Suite	X0216	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-095		Sterile Supplies Store	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
1-P1-097		Image Intensifier Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-098		WC-Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-099		Sterile Supplies Store	1	89.0	Clean Utility	T0526-??	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
1-P1-100		Female Staff Changing and Lockers	1	70.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
1-P1-123		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-124		Duty Room 2 porters	1	5.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-P1-127		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-128		Admissions Lounge	1	36.0	Common room/staff room/lounge	D2155	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-P1-129		Operating Theatre	1	55.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-130		Utility Room	1	14.0	Operating Theatre Suite	Y0431-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-131		Operating Theatre	1	55.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-132		Anaesthetic Room	1	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-133		Scrub-up (single)	1	11.0	Operating Theatre Suite	N0224	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-134		Preparation Room	1	12.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-135		Exit Bay	1	12.0	Operating Theatre Suite	G0407	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-136		Preparation Room	1	12.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-137		Scrub-up (single)	1	11.0	Operating Theatre Suite	N0224	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-138		Anaesthetic Room	1	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-140		Operating Theatre	1	55.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-141		Anaesthetic Room	1	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-143		Image Senior Nurse Theatres	1	9.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-P1-144		Image Inters fier Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-145		Dictation / 1 /Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-P1-146		Clinical Equipment Store	1	28.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-147		Office Staff	1	16.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-P1-148		Scrub-up (single)	1	11.0	Operating Theatre Suite	N0224	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-149		Preparation Room	1	12.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-151		Exit Bay	1	12.0	Operating Theatre Suite	G0407	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-152		Utility Room	1	14.0	Operating Theatre Suite	Y0431-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-153		Preparation Room	1	12.0	Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-154		Scrub-up (single)	1	11.0	Operating Theatre Suite	N0224	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-155		Operating Theatre	1	55.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-156		Anaesthetic Room	1	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01	-	F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
1-P1-158		Dirty Scopes Store	1	6.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-159		Store - Plaster	1	6.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-161		Disposal Hold	1	15.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-162		Staff Reception / Office / Control Base	1	20.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-P1-163		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-164		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-165		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-167		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-168		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-169		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-170		Immediate Pre Theatre Wait	1	51.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-P1-171		WC-Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-172		Charge Nurse Office	1	9.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-P1-173		Locker Bay	1	13.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1-P1-174		General Office	1	14.5	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
1-P1-175		Reception																											



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
G-Q1-003		Nappy Change Room with handwash	1	4.0	Toilet	V1131	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-004		General X-Ray Room	1	33.0	Diagnostic room	E0128	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	
G-Q1-005		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-006		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-007		Trolley Bay	1	4.0	Circulation Equipment Storage Bays	J1624	28	16	Radiant Panels	Remote Sensor Adj.	No	Comfort Cooled Fresh Air	Supply Only	to suit location	0		Positive	G4	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-008		Processing Area	1	30.0	Diagnostic room	M0251	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	
G-Q1-009		Acute Reporting	1	10.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-Q1-010		Ultrasound Room	1	16.0	Diagnostic room	E0115	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	
G-Q1-011		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-012		General X-Ray Room	1	33.0	Diagnostic room	E0128	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	
G-Q1-013		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-014		Ultrasound Room	1	16.0	Diagnostic room	E0115	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	
G-Q1-015		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-016		Screening Room (fluoroscopy)	1	39.0	Diagnostic room	E0218-01	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	
G-Q1-017		Preparation Room	1	10.0	Consulting Room	0526-7	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	
G-Q1-018		Ultrasound Sub Wait	1	10.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
G-Q1-019		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-020		Patient Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 i/s per person	10 i/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-Q1-021		Baby Infant / Feeding Room	1	4.0	Baby Feeding	S0012	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-022		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-023		Registrars Office (5 desks)	1	20.5	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-Q1-024		Dirty Utility	1	9.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-025		Radioactive Waste Store	1	2.0	Storage Area Equipment	W1585-77	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-027		Cold Waiting Area	1	10.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
G-Q1-028		Preparation Room	1	14.0	Consulting Room	0526-7	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	
G-Q1-029		WC - Wheelchair accessible (hot)	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-030		Gamma Camera Admin Office	1	10.0	Cellular / Ward Offices	M0254	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-Q1-031		Medical Physics Office	1	10.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-Q1-032		Gamma Camera Reporting	1	10.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-Q1-033		Emergency Shower	1	2.5	Bathroom	V1643-01	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-034		Hot Waiting Area	1	10.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
G-Q1-035		Injection Room	1	8.0	Consulting Room	E0715	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	
G-Q1-036		Recovery Area	1	15.0	Recovery Bay / Recovery Room	C0522-04	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	
G-Q1-037		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-039		Gamma Camera	1	40.0	Diagnostic room	E0176	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	
G-Q1-041		Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes	
G-Q1-042		Gamma Camera Control Area	1	17.0	Consulting Room	E0604-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	
G-Q1-043		Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-044		Gamma Camera	1	40.0	Diagnostic room	E0176	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	
G-Q1-045		Injection Room	1	8.0	Consulting Room	E0715	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	
G-Q1-046		Stress Room (myocardial work)	1	14.0	Consulting Room	C0224-04	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	
G-Q1-047		Hot Waiting Area	1	10.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
G-Q1-048		WC - Wheelchair accessible (hot)	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-049		WC - Wheelchair accessible (cold)	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-050		Cold Waiting Area	1	10.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
G-Q1-052		Counting Laboratory	1	14.0	Laboratory	1804	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-Q1-053		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-Q1-054		Meeting Room - 4 person	1	6.0	Meeting Room	H1313-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 i/s per person	10 i/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
G-Q1-071	Q1	Radiology	Control Room - CT	1	16.0	Cellular / Ward Offices	E0604-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-Q1-072			Teleradiology Reporting	1	12.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-Q1-073			Quiet Reporting	1	20.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-Q1-074			Consultant Office (5 person)	1	20.5	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-Q1-075			Consultant Office (5 person)	1	20.5	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-Q1-076			Ultrasound Admin Office	1	15.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-Q1-077			Admin Office	1	28.7	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-Q1-078			Waiting Area - Main Dept	1	40.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-Q1-079			Reception	1	8.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-Q1-080			Waiting Area	1	35.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-Q1-081			Doppler Ultrasound	1	16.0	Diagnostic room	E0113	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
G-Q1-082			Meeting Room - 4 person	1	6.0	Meeting Room	H1313-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 I/s per person	10 I/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-Q1-083			Photocopy Room	1	6	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-Q1-084			Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-086			Control Room - MRI	1	24.0	Cellular / Ward Offices	E0604-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-Q1-089			Inpatient Holding Bays	1	43.2	Circulation Equipment Storage Bays	J0132-02	28	16	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10	6	Positive	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-092			MRI Room	1	45.0	Diagnostic room	E0801	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
G-Q1-094			Sub Wait	1	6.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-Q1-095			Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-096			Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-097			WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-098			Recovery Bays	1	8.0	Circulation Equipment Storage Bays	B2417-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-099			Equipment Room	1	16.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-100			Equipment Room	1	16.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-102			DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-103			Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-104			Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-105			Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-106			Changing Cubicles	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-108			Injection Room	1	12.0	Treatment Room	E0715	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-Q1-109			Toilets	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-110			MRI Room	1	45.0	Diagnostic room	E0801-01	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
G-Q1-111			Control Room - MRI	1	24.0	Cellular / Ward Offices	E0604-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-Q1-112			Clean Utility	1	10.0	Clean Utility	O101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
G-Q1-113			Dirty Utility	1	9.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-114			Store Room	1	20.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-115			Adult Waiting Area	1	8.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-Q1-119			Waiting Area	1	12.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-Q1-120			MRI Reporting	1	10.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
G-Q1-121			Baby Infant / Feeding Room	1	4.0	Baby Feeding	S0012	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Positive	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-123			MRI Room	1	45.0	Diagnostic room	E0801-01	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
G-Q1-124			Equipment Room	1	16.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-125			Recovery Area - 1 place	1	16.0	Treatment Room	B2417-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-Q1-126			WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-127			WC - Wheelchair accessible & change	1	7.0	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-128			Accessible Changing Cubicles	1	6.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-129			Accessible Changing Cubicles	1	6.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Q1-130			Induction Area - 1 place	1	16.0	Treatment Room	X0145-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
G-Q1-131			Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200</								



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
G-Q1-144		Female Staff Changing and Lockers	1	65.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-145		Trolley Bay	1	4.0	Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-146		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-148		Store Room	1	20.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-149		Resource Room / Library	1	39.0	Open Plan Office	H1313-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-150		Male Staff Changing and Lockers	1	27.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
G-Q1-151		Consultant Office (5 person)	1	20.5	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-152		Admin Office	1	20	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-153		Reception Area	1	8.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
G-Q1-154		Waiting Play Area	1	10.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-Q1-160		Shelved Space	1	28.0			28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	3	3	Balanced	None	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
G-Q1-161		Trolley Bay	1	4.0	Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Supply	10 l/s per person	0	Positive	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-R1-001		Staff Room	1	24.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
2-R1-002		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-003		Meeting Room - 4 person	1	6.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-004		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-005		Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes
2-R1-006		Meeting Room - 6 person	1	9.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-007		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-R1-008		Store Clinical	1	6.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-R1-009		Printer/Photocopier Room	1	6.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-010		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-011		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-012		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-013		WC - Staff (Female)	1	18.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-R1-014		WC - Staff (Male)	1	17.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-R1-015		Meeting Room - 6 person	1	9.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-016		WC - Wheelchair Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-R1-017		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-018		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-019		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-020		Printer/Photocopier Room	1	6.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-021		Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes
2-R1-022		Disposal Hold (small)	1	4.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-R1-023		Meeting Room - 4 person	1	6.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-024		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-025		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-026		Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes
2-R1-027		Meeting Room - 4 person	1	6.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-028		Meeting Room - 4 person	1	6.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-029		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-030		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-031		Dictation/ 1 1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-032		WC - Wheelchair Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-R1-033		WC - Staff (Male)	1	11.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-R1-034		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-R1-035		Printer/Photocopier Room	1	6.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-036		Meeting Room - 4 person	1	6.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.	

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location
2-R1-049B		2nd Floor Desks	1	76.7	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-050		2nd Floor Desks	1	147.6	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-051A		2nd Floor Desks	1	87.3	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-051B		2nd Floor Desks	1	55.1	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-051C		2nd Floor Desks	1	38.0	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-052A		2nd Floor Desks	1	59.5	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-052B		2nd Floor Desks	1	41.3	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-052C		2nd Floor Desks	1	79.6	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-053		2nd Floor Desks	1	69.7	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-054		2nd Floor Desks	1	143.5	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-055A		2nd Floor Desks	1	29.0	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-055B		2nd Floor Desks	1	92.4	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-055C		2nd Floor Desks	1	40.0	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
2-R1-055D		2nd Floor Desks	1	60.0	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R1-001		Management Conference Room	1	26.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R1-002		Management Conference Room	1	26.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R1-003		Meeting Room - 6 person	1	9.0	Meeting Room	H1313-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R1-004		Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes
4-R1-005		WC - Staff (Male)	1	8.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
4-R1-006		WC - Wheelchair Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
4-R1-007		Meeting Room - 4 person	1	6.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R1-008		WC - Staff (Female)	1	11.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
4-R1-009		Staff Room	1	12.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
4-R1-010		4th Floor Desks	1	213.0	Open Plan Office	M0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R1-011		Dictation/ 1 /Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R1-012		Dictation/ 1 /Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R1-013		Dictation/ 1 /Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R1-014		Dictation/ 1 /Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R1-015		Store Management	1	6.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R1-016		Store Management	1	10.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R1-017		DSR	1	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
4-R1-018		Disposal Hold (small)	1	4.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
4-R1-019		Printer/Photocopier Room	1	6.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R2-002		RHSC Office	1	12.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R2-003		Assistant Health Records Manager / Supervisors	1	16.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R2-004		RHSC / DCN Office 17 Person	1	69.7	Open Plan Office	M0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	4	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R2-005		WC Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
4-R2-006		Receipt / Dispatch Counter	1	6.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
4-R2-007		Trolley Area	1	6.0	Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
4-R2-008		RHSC & DCN Records Library (160,000 records)	1	368.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
4-R2-010		Accessible WC	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
4-R2-011		Dictation/ 1 /Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes
B-S1-001		Preparation/Cooking Area	1	94.0	CDS	cds	28	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	DW172 Dependant	DW172 Dependant	Negative	G4	43	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
B-S1-002		Preparation/Cooking Area	1	16.0	CDS	cds	28	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	DW172 Dependant	DW172 Dependant	Negative	G4	43	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
B-S1-003		Diet Prep Area	1	12.0	CDS	cds	28	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	DW172 Dependant	DW172 Dependant	Negative	G4	43	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
B-S1-004		Diet Store	1	5.0	CDS	W1585-??	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S1-005		Temperature Controlled Sandwich Prep	1	18.0	CDS	cds	12	10	None	None	Yes	Ceiling Cassette - Chilled Water	General Supply and Extract	4	4	Balanced	G4	43	41		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes
B-S1-006		Bakery Preparation	1	13.0	CDS	cds	12	10	None																			

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
B-S1-020		Veg Store	1	6.0	CDS	cds	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S1-021		Freezer	1	5.0	CDS	cds	-18	-20	None	None	Yes	By Specialist	None	0	0	n/a	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
B-S1-022		Freezer	1	5.0	CDS	cds	-18	-20	None	None	Yes	By Specialist	None	0	0	n/a	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
B-S1-023		Receipt Bay	1	3.0	Circulation Areas	cds	28	18	Radiant Panels	Remote Sensor Adj.	No	None	General Extract	6	6	Negative	G4	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S1-025		Dairy Store	1	9.0	CDS	cds	5	2	None	None	Yes	By Specialist	None	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S1-026		Weighing	1	7.0	CDS	cds	28	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	DW172 Dependant	DW172 Dependant	Negative	G4	43	60		300	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	
B-S1-027		Dry Goods	1	9.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S1-031		Pick and Pack	1		Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
2-S2-001	S2	Health Infrastructure	Core Server Room	1	40.0	IT equipment (comms server)	Engineering	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes
B-S3-002		Linen Pool (Clean)	1	80.0	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S3-003		Supplies Store	1	20.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S3-004		Laundry (microfibre)	1	15.0	Laundry	Y0521	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	10	Negative	G4	43	60		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
B-S3-005		Linen Pool (Dirty)	1	32.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S3-007		Cleaning Equipment Store	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S3-008	S3	Domestic Services	Sanitary Bins Store	1	6.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S3-009		DSR	1	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S3-010		Bulk Equipment Store	1	10.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S3-011		Cellular / Ward Offices	1	4.2	Cellular / Ward Offices	M0251-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
B-S3-012		Domestic Service Office	1	20.5	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
B-S3-013		Curtain Store	1	7.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S4-001		Storage/Holding Area	1	100.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S4-003		Mailroom	1	20.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
B-S4-004	S4	Materials Management	Office	1	10.0	Cellular / Ward Offices	P0625	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	3	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes
B-S4-005		Porters Office	1	12.0	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
B-S4-050		Clocking In	1		Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
2-S5-002		Bay for Token Machine	1	5.0	Circulation Equipment Storage Bays	P0808	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
2-S5-003		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
2-S5-004	S5	Central Staff Changing	Male Staff Changing, Shower, WC & Lockers	1	100.0	Changing Facilities	V0554-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
2-S5-005		Female Staff Changing, Shower, WC & Lockers	1	240.0	Changing Facilities	V0554	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S6-003		BMS Room	1	10.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	
B-S6-004		Workshop (NPD)	1	45.0	Small Workshop	K0421	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
B-S6-006		Staff Change	1	15.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S6-007		Shower	1	2.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S6-008		Shower	1	2.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S6-009		Workshop (NHSL)	1	30.0	Small Workshop	K0421	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
B-S6-010		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S6-011		Supervisors	1		Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
B-S6-012		Estates Library	1		Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
B-S6-013		Office	1		Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
B-S6-014	S6	Estates	Store	1	25.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes
B-S6-015		Contract Manager	1		Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
G-S6-016		Office/Reception	1		Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	
B-S6-019		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-S6-020		Atrium Cleaning Equipment	1		Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S6-021		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-S6-022		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-S6-023		Chemical Store	1		Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
G-S6-024		Trolley Holding Bay	1		Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S6-025		Trolley Holding Bay	1		Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	
B-S6-050		Staff Welfare	1		Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract																



Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
4-S9-004A	S9	Helipad Support	RFFS Medical Equipment Store	1	6	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-S9-005			Trolley Bay Equip St	1	3.4	Trolley bay	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
4-S9-006			Cleaner	1		DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
B-T1-001			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
B-T1-002			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
B-T1-003			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-T1-003			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-T1-004			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-T1-005			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-T1-006			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
G-T1-007			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-T1-001			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-T1-002			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-T1-003			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-T1-004			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
1-T1-005			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-T1-001	T1	Plant	IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-T1-002			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-T1-003			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-T1-004			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-T1-005			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
2-T1-006			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-T1-001			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-T1-002			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-T1-003			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-T1-004			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-T1-005			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
4-T1-001			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
4-T1-002			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
4-T1-003			IT Node Rooms	1	9.0	IT equipment (comms server)	query	25	18	None	None	Yes	Ceiling Cassette - Ch led Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
3-U1-001			Main Lab	1	120.0	Laboratory	L1804	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	6	6	Balanced	F7	43	60	500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-U1-002			Utility Area Wash Up	1	12.0	Laboratory	L1804	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	6	6	Balanced	F7	43	60	500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-U1-003			Temp Controlled Store	1	15.2	Laboratory	L1804	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	6	6	Balanced	F7	43	60	500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-U1-004			DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-U1-005			Record Store	1	15.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-U1-006			Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-U1-007			Meeting/Staff	1	16.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Ch led Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-U1-008			Male Change	2	6.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-U1-009			Female Change	1	6.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-U1-010			Office	1	29.7	Cellular / Ward Offices	M0251	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
3-U1-012			Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
3-U1-013			Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
B-V1-001			Confidential Waste	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
B-V1-002			WEEE / Furniture / Waste Goods	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-X1-001			EC Plant Room 1	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-X1-002			EC Plant Room 2	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-X1-003			HV Gen Control Room	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-X1-004			HV Generator	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G-X1-005			HV Plant	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
G																													

Room NO	Dept	Room Name	Qty	SOA	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
G-Y1-004		Kitchen Waste	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
G-Y1-005		Clinical Waste - Clean	1		Storage Area Equipment	W1585	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
-Y1-006		Wash Area	1		Storage Area Equipment	W15 5	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/	n		20	n/	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a

RHSC and DCN

Mott MacDonald Ltd (Head Office UK)

MAIL TYPE

MAIL NUMBER

REFERENCE NUMBER

General Correspondence

MM-GC-001184

Unknown

**Re: G1547 RDD Review Environmental Matrix****From:** Mr Kamil Kolodziejczyk - Mott MacDonald Ltd (Head Office UK)**To:** BMEinburgh DocControl - Multiplex Construction Europe**Cc (11):** Mr Darren Pike - Multiplex Construction Europe (+10 more...)**Sent:** Tuesday, February 9, 2016 10:29:49 +0000**Status:** N/A**FILE ATTACHMENTS (2)**

File Name



Environmental Matrix NHS comments track changes.pdf



Environmental Matrix NHS comments.docx

**ATTRIBUTES**

Attribute 2 33. M&amp;E Building Services

**MESSAGE**

All,

The Environmental Matrix shall be updated to reflect updated SoA, attached Board's comments (also discussed on 26<sup>th</sup> January and 2<sup>nd</sup> February), comments made during PGs reviews, and shall also include any changes resulting from Changes between the Board and Project Co. Including the following, but not limited to:

- Bio-chemistry Lab;
- Intra Operative MRI;
- Ebola change;
- Seclusion Room.

Due to the extent of Board's comments, which relate to both Financial Close and Design Development post Financial Close, the Matrix is given Status C.

Regards

Kamil

**From:** B DocControl**Sent:** 04/12/2015 3:25:41 PM GMT (GMT +00:00)**To:** Maureen Brown, Kelly Gordon, Kamil Kolodziejczyk, NHSL RHSC + DCN

A47206723

Cc: Didier Blanchet, Richard Hair, Clive Hall, Donna Dougal, Liene Edwards-Scott, Alison Gordon, Ken Hall, Robert Nethery, Darren Pike, John Wales, Wallace

Weir

**Mail Number:** BMCE-TRANSMIT-003186

**Subject:** Fwd: G1547 RDD Review Environmental Matrix

Please find attached RDD documents issued electronically for information.

Documents have now been put into a workflow and a hard copy will be issued for your review.

Should you have any queries please do not hesitate to contact me.

Kind Regards,

Kara

BM Edinburgh Document Control

RHSC and DCN

Little France

Edinburgh

Scotland

**From:** L Johnston

**Sent:** 04/12/2015 2:59:58 PM GMT (GMT +00:00)

**To:** BMEinburgh DocControl

**Mail Number:** WWHT-TRANSMIT-000475

**Subject:** G1547 RDD Review Environmental Matrix

Please find attached for review.

Regards

Lyndsey Johnston

Document Controller

TUV SUD Limited  
The Verlaw Building  
349 Bath Street  
Glasgow  
G2 4AA  
United Kingdom

[Redacted]

[Redacted]

[www.tuv-sud.co.uk/wallacewhittle](http://www.tuv-sud.co.uk/wallacewhittle)



## Royal Hospital for Sick Children and Department for Clinical Neurosciences - Edinburgh

### RHSC / DCN RDS Environmental Matrix

Dept Code	Index
-	Cover
-	Guidance Notes
-	Room Function Reference Sheet
-	Occupancy & Equipment Load Allowances
A1 - A4	Front Door - A&E / Assessment Ward
B1	Critical Care / HDU / Neonatal Surgery
C1 - C5	RHSC In Patient Pathway / Ward Care
D1 - D10	RHSC Ambulatory Care
E1	Pod
F1	Child and Adolescent Mental Health
G2 - G3	Clinical Support
H1 - H3	Academic
I1 - I2	Facilities / Infrastructure Support Services
J1 - J2	Patient / Family Support
K1 - K2	Family Facilities
L1 - L2	DCN In Patient Pathway / Ward Care
M1 - M4	DCN Support Space
N1	DCN Out Patient Departments
P1	Combined Theatres
Q1	Combined Radiology
R1 - R2	Office / Admin Support Services
S1 - S7	Combined Facilities / Infrastructure Support Services
T1	Plant
U1	Shelled Space

Document highlighted  
items amended inline  
with NHS comments.

26th November 2015 &  
11th February 2016

26th November  
comments in red and the  
11th February  
comments in amber

WW XX-XX-DC-XXX-001  
Rev 05

**Brockhoff Page 007**  
MULTIPLEX  
Built for outdoor use.

Estimated Quantity: 1 x  
KING'S CROSS Edinburgh

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20/11/15

RDU

Responsible Design Data  
Revision 5 of Schedule Part 6

Board

Name: B. CURRIE

Date: 15/4/16

Sign: [Redacted]

Level: B

Comments:

FOR 20420'S  
COMMENTS REFER  
TO MH-CC-001398

It is intended that the work shall be carried out in accordance with the relevant standards and specifications.

Legal & Regulatory  
Approved by: [Redacted]  
Date: 15/4/16

The following table indicates Board Comments, initial response together with the Environmental Matrix to reflect the following Board comments

	Item	Initial Response	Feed back	Reconciliation
1	Update the Environmental Matrix shall be updated by Project Co to reflect all the rooms and room types in the proposed Facility, this should be based on an updated Schedule of Accommodation that has been commented on separately by the Board. This also needs to reflect the names and room numbers in the GSU table.	Individual room numbering being applied.	OK	Agreed
2	Include the requirements contained in the Clinical Output Specification including but not limited to the requirement that theatre temperatures are to be able to be raised to 31°C for certain operations.'	We have made reference to the figure of 31°C in the Guidance Notes. 'Theatre temperatures are to be able to be raised to 31°C for certain operations.'	Temperature control in theatres is covered in the Operational Design Notes V5 14th Oct2014 for RHSC Theatres 1 & 2. Operating theatres 1-P1-032 and 1-P1-044 shall operate normally as detailed in the Environmental Matrix. These rooms shall be provided with a manual control to raise the temperature to 31°C within a period of 2 hours. This manual control function shall be logged in the BMS and the temperature requirements of the Environmental Matrix shall not apply for the duration of the elevated temperature operation. THIS HOWEVER IS NOT NOTED ANYWHERE	This statement is now incorporated within the guidance notes of the matrix
3	Measures shall be assessed, modelled and implemented to demonstrate that the internal air temperature of the following room types to reduce the temperature control from 28°C to 25°C- Treatment Rooms, Consulting Rooms; Laboratory; Physiotherapy Studio, Recovery.  These room shall not exceed the maximum acceptable level of 25°C for more than 50 hours per annum	The Temp (max) column within the table has been updated to 25°C for the agreed rooms 3.1- 3.5 above.	OK	Agreed
4	Detailed proposal awaited on bedroom ventilation to achieve balanced/ negative pressure relative to corridor.,	The single bedrooms have had their ensuite extract increased to achieve a balance within the room, this has been noted within the matrix.	NOTE 26 AND VENTILATION TYPE HAVE NOT BEEN ALTERED.	Refer to Matrix
5	Colour rendering all stated as 80 where certain areas should be 90	Amended.	NEEDS TO BE CHECKED FOR ALL	Refer to Matrix
6	There also need to have a consistent approach e.g. guidance notes and ED body view room stated as 28-8, bereavement suite body view room stated as 25 -8.	The figure of 25-8 is now reflected within the matrix.	OK	Matrix now amended. See item 7 below.
7	Further discussion is required on the minimum temperate requirement for the Body View Room.	Awaiting confirmation on this one from the client, however discussion at the meeting on the 11/11/14 was that rather than take the room temperature down to 8°C which would require specialist cooling they would look at providing a cold blanket for the body and room temperatures would be retained as a normal room.	NHSL confirm following discussion with users that the use of a cooling blanket or cooling cot for the body is appropriate and therefore there is no requirement to have the room at 8 degrees and 25°C is acceptable	Matrix amended to minimum temperature of 18°C in place of 8°C.

NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
1	Technical Submittal MER-XX-02- TS-015 appears to contradict environmental req 13 by way of radiant panel controls.	Req 13 has been deleted from the matrix and Mercury's local submittal takes precedent.	Now updated.	X	X	✓
2	1-B1-010 medical gas cylinder store. SHPM 02-01 states medical cylinders stored fully require mechanical ventilation, please confirm no ventilation provided.	Extract ventilation has been provided. Matrix updated and drawings where appropriate.	Now updated.	X	X	✓
3	ITS room maximum temperatures stated as "Manufacturer Dependent", this is not acceptable, temperatures to be stated. Room has 300h mechanical extract, therefore heating type should be Adjacent space transfer air and temperatures accordingly.	The manufacturer maximum temperature guidelines are higher than 20°C. It does not appear reasonable to indicate heating to a cupboard. <small>Refer to the design drawings for details. Generally, the extract is via the en-suite which is in line with SHPN 04. Where no ensuite is present, extract is via the room.</small>	No action required	X	X	✓
4a	Business cubicles and technicians not shown with any extract ventilation.	Refer to the design drawings for details. Generally, the extract is via the en-suite which is in line with SHPN 04. Where no ensuite is present, extract is via the room. <small>Refer to the design drawings for details. Generally, the extract is via the en-suite which is in line with SHPN 04. Where no ensuite is present, extract is via the room.</small>	No action required	X	X	✓
4b	Drawing title, supply stated as "in line with SHPN 04" and extract stated as "To match total bedroom air volume", design development review required.	Actual figures will be noted and the note relating to the SHPN will be removed. <small>Refer to the design drawings for details. Generally, the extract is via the en-suite which is in line with SHPN 04. Where no ensuite is present, extract is via the room.</small>	Now updated.	X	X	✓
5	Technical Submittal MER-XX-02- TS-015 shows room 1-B1-057 with a radiant panel which contradicts Environmental Matrix room 1-B1-057 warm air radiat battery.	The air is heated by a heater battery which is BMS controlled as per the matrix.	No action required	X	X	✓
6	Where ventilation rates 10ls per person are stated, room occupancy to be detailed and ventilation rates calculated.	These particular areas have been designed based on occupancies, occupancy figures and ventilation rates have been added to these areas to provide clarity.	Now updated	X	X	✓
7	1-B1-063 Stated as supply air 400h, extract via en-suite, this room does not have en-suite facilities.	Refer to the design drawings for details. Generally, the extract is via the en-suite which is in line with SHPN 04. Where no ensuite is present, extract is via the room. <small>Refer to the design drawings for details. Generally, the extract is via the en-suite which is in line with SHPN 04. Where no ensuite is present, extract is via the room.</small>	No action required	X	X	✓
8	1-B1-080 has an area of 8m <sup>2</sup> which is not noted in the matrix. FCA is populated area.	A review will be carried out and any blank GFA rates will be noted - Updated schedule of accommodation required for this item.	Now updated	X	X	✓
9	3-C1-2-001 review ventilation type, only showing supply when 400h supply and extract.	The matrix shows 4 air changes supply and extract. <small>Refer to the design drawings for details. Generally, the extract is via the en-suite which is in line with SHPN 04. Where no ensuite is present, extract is via the room.</small>	No action required	X	X	✓



NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
10	Room 1-G3-003/025/001 bathroom temperatures stated as 26 / 20 with adjacent space transfer air from area with temperatures of 28 / 18.	These bathrooms have their own radiant panel.	Now updated	X	X	✓
11	Similarly isolation bedroom 3-C1.4-040, temperatures stated as 28 / 21 with adjacent space transfer air from area with temperatures of 28 / 18, ventilation described as "balanced".	The adjacent area lobby 3-C1.4-039 is heated via heater battery and will be at least 21°C. Matrix has been updated.	Now updated	X	X	✓
12	3-C1.7-093, 094, 095 supply and extract "to suit location" not acceptable.	Air change rates will be noted and the "to suit location" will be removed.	Now updated	X	X	✓
13	G-02-036 supply and extract "to suit location", statement "to suit location" is not acceptable.	Air change rates will be noted and the "to suit location" will be removed.	Now updated	X	X	✓
14	Theatre ventilation stated as "in line with SHTM 03-01", correct, this is a BCR requirement. However detail surplines are not mentioned in SHTM 03-01, I would suggest SHPN 35 part 2. The required ventilation to be designed and detailed.	In line with the SHTM 03-01 removed and air change rates added.	Now updated	X	X	✓
15	1-HQ-021 is currently labelled a single bedroom but it is an isolation room, review ventilation.	This room function was RPH and has been designed as an isolation room (matrix has been updated).	Now updated	X	X	✓
16	1-P1-003 and 005 are bedrooms, not bathrooms.	Bathroom changed to bedroom.	Now updated	X	X	✓
17	Kitchen states DW172 dependant, actual design detail to be added.	Design details will be noted and "DW172" will be removed.	Now updated	X	X	✓
18	Complex Estate SOA areas.	A review will be carried out and any blank GFA rates will be noted.	Now updated	X	X	✓
19	Room B-S3-002 and 005 stated in Environmental Matrix as Adjacent Space Transfer Air, however shown with radiant panel on drawing.	Matrix will be updated with radiant panel notes.	Now updated	X	X	✓





NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
20	ADB code reference should be confirmed.	ADB code reference is an unnecessary column for the use of this matrix as the column will be deleted from the environmental matrix.	Now updated	K	X	✓
21	Last column not filled. What does it refer to?	This column is for IET prep work but this column has now been superseded by the registration document. Column will be deleted from the environmental matrix.	Now updated	K	X	✓
22	B-53-002 & B-54-001 can this temp be increased to 18°C	Temperature will be altered to 18°C	Now updated	K	X	✓
23	Disposal hold - can minimum be reduced to 15.	Sensor could be set to 14°C rather than 18°C but the reduction in the maximum temperature from 28°C to 25°C is problematic though so if required, cooling will be need to be added - Confirmed at meeting that 28°C is to be retained.	Now updated	K	X	✓
24	During a recent PO it was made clear that due to the nature of the research being carried out in the Clinical Research Department in rooms HQ-013, 014, 016 and 020 the temperature cannot at any time exceed 25°C.	Cooling has been provided in HQ-014, HQ-016 and HQ-020. HQ-013 requires cooling. Matrix has been updated to reflect this but drawing requires updating.	Environmental Matrix updated awaiting instruction to update drawing.		X	✓
25	Further to the recent discussion regarding HEPA filters in the isolation rooms the matrix should have been updated to reflect this.	The matrix doesn't state HEPA filter requirements but all isolation rooms have the capability of HEPA filters being installed.	No action required	K	X	✓
26	G-11 bedrooms with back where most bedrooms are taken as back	This is a CAHMS bedroom so 5 ACH has been utilized, reference to natural ventilation will be removed.	Now updated	K	X	✓
27	G-54-004, no supply air	Supply air reference will be added.	Now updated	K	X	✓
28	G-55-016, Cooling - Yes, Cooling Type - None.	Control cooled fresh air is now noted.	Now updated	K	X	✓
29	G-01-007, Cooling - No, Cooling Type - Comfort cooled fresh air.	Cooling note removed.	Now updated	K	X	✓

THIS IS SCR/ LG2 COMPLIANCE. NO INSTRUCTION FROM THE BOARD REQUIRED



NHSC Reference	NHSC Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
30	G-Q1-151, Heating type - Adjacent space transfer air, supply at 10 fhp positive pressure. Diagnostic rooms. "To suit location"	This room is part of corridor and shares heating and ventilation with corridor.	No action required	X	X	✓
31	G-A1-004, supply 4 ach extract 3 ach positive, different to other diagnostic rooms.	We have treated this room like an office.	No action required	X	X	✓
32	Confirm where natural ventilation, i.e. 1-B1-063065567	Event of ventilation disabled on schedule	Now updated	X	X	✓
33	3-C1-3-018, supply 4 ach extract 3 ach positive, different to other offices.	Air change rates utilised are in line with cellular offices	No action required	X	X	✓
34	14-1-005 Restur area 30m2 with extract at 3 ach.	This room has been updated on the matrix.	Now updated	X	X	✓
35	3-A1-028029, fitness area with central general extract with supply at 10 ach extract at 6 ach.	Ventilation type for these rooms has been updated in line with design.	Now updated	X	X	✓
36	Consider absence detection to all offices, meeting rooms and node rooms.	The lighting control has generally been described in the matrix as either presence or switched. If this is causing confusion the reference to presence could be renamed automatic. As a general note, automatic detection has been used in all suitable areas.	No action required	X	X	✓
37	1-03-002 Circulation Equipment Storage Bays, all others are presence detection.	Automatic controls added.	To be updated	X	X	✓
38	Disposal hold, L32 recommends 200 lux.	100 lux will be changed to 200 lux.	To be updated	X	X	✓
39	IPS room normal lux stated as n/a.	200 lux will be added to the matrix.	To be updated	X	X	✓

NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
40	GF1-028, 030, 033, 040 and 1-11-028 are described as offices but have local lux of 1000	Local lux fixtures to be removed.	To be updated	X	X	X
41	Anaesthetic rooms, LG2 recommends local lux 1000 and Ra 80	Ra 80 has been noted in the environmental matrix and 1000 lux is for local lighting but 500 lux is for general, also noted in the environmental matrix.	No action required	X	X	X
42	Theatre exit signs (transoms), LG2 recommends normal lux 300 local lux not required and Ra 80	500 lux will be dropped to 300 lux, Ra 90 will be reduced to Ra 80 and local lux will be removed.	Environmental Matrix updated awaiting instruction to update drawings.	X	X	X
43	Preparation rooms and scrub up, LG2 does not require local lux 10,000 – 100,000, or Ra 90	Ra 90 will be reduced to Ra 80 and local lux will be removed.	Environmental Matrix updated awaiting instruction to update drawings.	X	X	X
44	Theatre utility rooms, LG2 recommends local lux 100 – 150 and does not require local lux 10,000 – 100,000, or Ra 90	500 lux will be dropped to 150 lux, Ra 90 will be reduced to Ra 80 and local lux will be removed.	Environmental Matrix updated awaiting instruction to update drawings.	X	X	X
45	Recovery Ward, LG2 does not require local lux 1000 but does recommend Ra80	Ra 80 will be increased to Ra 90 and local lux will be removed.	Environmental Matrix updated awaiting instruction to update drawings.	X	X	X
46	Nurses/oncall bases not shown to have night lighting, confirm this achieved by dimming.	All night lighting is achieved by dimmable fittings.	No action required	X	X	X
47	Reception lobby 1-01-009 to be as other lobby bays, Ra 80 and presence detection.	1-01-009 will be updated to reflect other lobby bays.	To be updated	X	X	X
48	Review colour rendering, e.g. theatre suite, prep, anaesthetic, scrub utility, exit bay at Ra 80. Review consultant examination rooms to have the higher colour rendering of Ra 90. All to be as CBSE LG2.	RA 90 is currently shown in theatres, preparation rooms, scrubrooms, utility rooms and exit bay. Anaesthetic room will be changed to Ra90 from Ra80. We feel that the consultant room as general frame of rooms should remain as Ra80 where Ra80 is required, it will be achieved via the examination luminaires.	Environmental Matrix updated awaiting instruction to update drawings.	X	X	X
49	No absence detection or daylight control detailed included from drawings.	The lighting control has generally been described in the matrix as either presence or switched, if this is causing confusion the reference to presence could be renamed automatic. As a general note, automatic detection has been used in all suitable areas.	No action required	X	X	X

THIS IS BOB'S / LG2 COMPLIANCE, NO

INSTRUCTION FROM THE BOARD REQUIRED

HRSG & OGN  
 Environmental Matrix Comments  
 Second Batch



NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
50	Medical location column states "See Guidance Notes" for every entry and not mentioned in those guidance notes.	This has been superseded by the risk profile document which sets out the medical grouping and classification. Column has been removed.	Now updated	x	x	✓





















































































































































Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (min)	Temp (max)	Heating Type	Heating Control	Cooling (gasoline)	Cooling (water)	Ventilation (type)	Supply (airflow)	Exhaust (airflow)	Relative pressure	Min. Radiation	Surface Temp	Flame Temp	Safety Notes	Normal ILL	High ILL	Local ILL	Stability grade	Color (wall)	Control	Phase
S-01-002	21	Lab	1	33.0	Storage Area Equipment	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-01-003			1	33.4	Storage Area Equipment	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-01-002			1	33.7	Storage Area Equipment	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-01-003			1	33.2	Storage Area Equipment	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-01-004			1	33.3	Storage Area Equipment	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-01-002			1	33.5	Storage Area Equipment	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-01-004			1	33.7	Storage Area Equipment	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-01-001			1	34.7	Storage Area Equipment	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-04-014			3	11.2	Walk-in/Refr Chills	20	18	Electric Heater	Remote Sensor Adj.	Yes	None	Supply and Exhaust	0	0	Positive	GA	6.6	6.6	400	6.6	None	A	60	Automatic Control	Dark 2.75 to 0.25m	
S-04-022			1	11.8	Tank	20	18	Electric Heater	Remote Sensor Adj.	No	None	Dry Exhaust	0	10	Negative	None	40	41	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-04-023			3	11.7	Storage Area Equipment	20	18	Electric Heater	Remote Sensor Adj.	No	None	Dry Exhaust	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-04-024			1	11.8	Calculator Equipment Storage Bay	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-04-025			1	11.8	Calculator Equipment Storage Bay	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-11-0014			1	34.4	Dry Utility	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-11-0018			1	34.6	Dry Utility	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-11-0010			1	34.6	Dry Utility	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-11-002			1	10.1	Storage Area Equipment	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-11-003			1	10.1	Storage Area Equipment	40	30	Electric Heater	Remote Sensor Adj.	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-11-004			1	10.3	Storage Area Equipment	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-11-005			1	10.3	Storage Area Equipment	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	
S-11-006			1	10.3	Storage Area Equipment	6.6	6.6	None	None	No	None	Natural	0	0	0.0	None	6.6	6.6	200	6.6	None	A	60	Automatic Control	Fluo 3m	

**CONFIDENTIAL****Meeting:** Project Management Group Meeting**Location:** Brookfield Conference Room**Date and time:** 6<sup>th</sup> of April 2016 at 10:00am**Subject:** Project Management**Meeting Chair:** David Martin**Attendees:**

Brian Currie	NHSL	(BC)
Janice MacKenzie	NHSL	(JM)
Kamil Kolodziejczyk	Mott MacDonald	(KK)
Graeme Greer	Mott MacDonald	(GG)
Kelly Gordon	Mott MacDonald	(KG)
Hayley Prowse	IHSL	(HP)
David Martin	IHSL	(DM)
Liane Edwards-Scott	BMCE	(LE)
Stuart Jackson	BMCE	(SJ)
Didier Blanchet	BYES	(DB)

**Apologies:**

Stuart Davidson	NHSL	(SD)
Jackie Sansbury	NHSL	(JS)
Sorrel Cosens	NHSL	(SC)
Wallace Weir	IHSL	(WW)
Darren Pike	BMCE	(DP)
Richard Hair	BYES	(RH)

**Distribution (over and above attendees):**

Graham Coupe	BMCE	(GC)
Brian Saunders	IHSL	(BS)
Andy Clapp	IHSL	(AC)

Number	Action	Owner	Date
<b>1.0 Matters Arising</b>			
1.1	1.1 "Service Yard" –Board responded to the BMCE submission. LE to discuss with DP as BMCE have difficulties with some of the Board responses. A joint review may be required.	LE	13/04/16
1.2	1.2 Works outside the "orange area." BMCE have issued all available documents to the Board for review. Costs and details still to be agreed. BMCE waiting on landscaping response from the Board.	Board	ASAP

Number	Action	Owner	Date
	Vehicle tracking will be sent imminently to the Board. Layouts to be done asap for the Chiller Compound area to prove the updated layout works. LE to issue to BC details of the U of E works	BMCE BMCE LE	12/04/16 12/04/16 08/04/16
1.3	1.3 RDD 3/12 look ahead programme to be issued by 08/04/16. BMCE plan to issue CDS information w/c 18/04/16.	LE BMCE	08/04/16 20/04/16
1.4	1.4 Balustrades. Internal & external drawings issued to the Board.	Board	15/04/16
1.5	1.5 The draft "Deed of Servitude:" Some minor changes being made to the drawings then IHSL will resubmit to Scottish Water. Waiting for land title document from solicitors.	WW	Update 20/04/16
1.6	1.6 "Bio Quarter Model" request – Michael Hoare (MH) working on 3D model with JM. Likely issue by 08/04/16. MH to also meet with JM/FH to review model options for the internal departments.	MH/LE MH	08/04/16 08/06/16
1.7	1.7 MRI Quench Pipes: Quench pipe routes returned as Status C. IHSL requested that the drawings are re issued as Status B with comments and that the potential Emergency ventilation issues are dealt with under the ventilation packages at the appropriate time. GG to review and action. RIE meeting held – Colin Grindlay / Graeme Greer to review and agree outstanding actions. The pipe routes & 2D drawings are to be written into the Board tender documents.	GG/CG	Update 20/04/16
1.8	1.8 & 1.22 Commissioning Plan: BMCE and Board are reviewing and sharing information on their individual programmes to tie in with departmental handover dates. Full BMCE Programme issued and being reviewed by Board. Joint commissioning meeting held. John White (Board) and David Wilson (BMCE) to meet to discuss programme when both available end of April.	BMCE / Board	Update 20/04/16
1.9	1.11 RIE PTS. BC previously advised work start date pushed back to end-April 2016. BMCE working on method statements.	Board	Update 20/04/16
1.10	1.11 RM Hotel: BMCE issued package. Board reviewing M&E submission. Board meeting with RM 07/04/16.	Board	07/04/16
1.11	1.12 Charities Works: BMCE has received instructions from Board and are progressing.	-	-
1.12	1.13 Review of: Courtyards: package with the Board/MM for review.  Patient Entertainment – TV's: Board drafting specifications for issue of instruction.  Patient Environment: Meeting held 05/04/16 with Mercury re temperature control valves. Ongoing queries following meeting. RDD submission	Board  Board  DP	13/04/16  13/04/16  11/04/16

Number	Action	Owner	Date
	due w/c 11/04/16.		
1.13	<p>1.14 Environmental Matrix: BMCE reissued to the Board for review and issue as Status B. Due back 12/04/16.</p> <p>LE previously noted that the Room Data Sheets cannot be started until the Matrix is finalised. Detail will be incorporated into the Room Data Sheets once the schedule of accommodation is available following the completion of PGs.</p>	Board / GG  BMCE	12/04/16  Update 20/04/16
1.14	<p>1.15 Utility connections programme: Cast water pipe to be installed followed by the telecom ducting. As installed photographs are being taken for record purposes. Flood wall penetration and gas meter housing are awaiting Consort approval.</p>	SJ	Update 20/04/16
1.15	<p>1.17 Foul Water connection: Water pipes to be moved on 11 or 12/04/16. Method statements returned from Consort with some comments. Surface water. Alternative design / route agreed. Installation date to be agreed date with all parties.</p>	SJ	Update 20/04/16
1.16	<p>1.18 Final Fire Strategy issued to the Board for review / approval. Natural Ventilation RFI response received from the Board. Board requested calculation for Atrium. (note: design will advise on the size of real Christmas Trees allowed in the atrium)</p>	Board	Update 20/04/16
1.17	<p>1.19 Mock up: BMCE to action Board comments list issued on 01/04/16. Board to also issue a further list of comments today 06/04/16.</p>	SJ	Update 20/04/16
1.18	<p>1.20 Room review meeting held with Arcadis 23/03/16. DM chasing John Edwards (Arcadis) for their formal response.</p>	DM	13/04/16
1.19	<p>1.21 BIM model for use of NHS Staff: Michael Hoare (MH) has been working through and will meet with Board w/c 11/04/16.</p>	MH	11/04/16
1.20	<p>1.23 BMCE Commissioning Completion Criteria have been made available in draft for review. Some comments received. Board initial comments issued. DM, John Wales &amp; RH review is ongoing. Workshop to be arranged for early May. All to issue any further comments to John Wales. BMCE (JW) to co-ordinate actions up to PC. Board (GG?) to co-ordinate actions remaining post PC. Further detail to be added to both lists as appropriate.</p>	All  DM/JW	20/04/16  20/04/16
1.21	<p>1.24 Board specified group 1 list of equipment: Hoists: BMCE received status A from BYES. Board to respond. Autoclave details expected imminently.</p>	Board/ BMCE	Update 20/04/16
1.22	<p>1.26 Little France Mills Residents: Sunday working continues to go well. 3/5 of last Sunday's have been worked. No negative feedback.</p>	SJ	Update 20/04/16

Number	Action	Owner	Date
	Residents' windows and gutters have be cleaned.		
1.23	1.27 BYES FM: Composite services drawings identifying potential clashes to be reviewed in conjunction with BIM to identify any potential points of concern. The exercise is too complex in 2D. BIM must be the most up to date version. DP to clarify latest version of BIM. RH to discuss with Colin Grindlay (CG). Closed.	-	-
1.24	1.28 Access & Maintenance Strategy: BMCE / BYES review continues as information is available, David Webster is awaiting option dates from the Board for a joint review.	All	Update 20/04/16
1.25	1.29 Ongoing Energy Document: RH Will review and update. Energy Strategy Document (Schedule 4 Part 12): GG previously requested an update on Energy Strategy document. RH will review as FM meetings progress.	RH	Update 20/04/16
1.26	1.30 Board/BMCE holding next workshop 07/04/16 to review signage (internal / external) and landscaping.	Board/ BMCE	07/04/16
1.27	1.31 University Chancellors Building design: HLM have issued the pack and BMCE issued to the Board. LE to resend. Board to forward to the University.	LE/Board	08/04/16
1.28	6.3 RM Hotel and Biolab design packs issued. BMCE keen to have M&E information returned. Schedule of dates required for early M&E reviews / approvals.	Board / BMCE	Update 20/04/16
<b>2.0 Programme Update</b>			
2.1	<p>Current areas of activity;</p> <p><u>Zone A:</u></p> <ul style="list-style-type: none"> <li>• Slab pours completed.</li> <li>• Steel trees progressing.</li> <li>• Ground, 1<sup>st</sup> &amp; 2<sup>nd</sup> floors M&amp;E fit out works ongoing.</li> <li>• Envelope ongoing at Level 3.</li> <li>• Head-track to 2<sup>nd</sup> &amp; 3<sup>rd</sup> floors</li> </ul> <p><u>Zone B &amp; C:</u></p> <ul style="list-style-type: none"> <li>• Frame tables continue.</li> <li>• Pile caps progressing to completion.</li> <li>• Drainage and GF slabs continue.</li> <li>• Velfac windows to be installed at 2<sup>nd</sup> floor next week.</li> <li>• Head-track commenced.</li> <li>• Envelope commenced.</li> </ul> <p><u>Energy Centre:</u></p> <ul style="list-style-type: none"> <li>• Last slab pour today (06/04/16)</li> <li>• Steel work due w/c 18/4/16</li> </ul>	SJ	Update 20/04/16
<b>3.0 FM Update</b>			
3.1	BYES (RH) continue to review design information (RDD). LE reported that BIM review now ongoing.	RH	Update 20/04/16
3.2	BYES updated risk register and monthly report issued 29/03/16. LE confirmed that BMCE have taken action on the BYES risk register comments.	RH	Update 20/04/16



Number	Action	Owner	Date
<b>4.0 Commissioning Update</b>			
4.1	Joint commission meetings continue. Next scheduled for 13/04/16.	-	Ongoing
4.2	M&E commissioning is being co-ordinated in line with the appropriate construction zones.	BMCE	Ongoing
<b>5.0 Equipment Update</b>			
5.1	Equipment meetings have commenced and are progressing well. Meeting dates to be scheduled.	BMCE	13/04/16
<b>6.0 RDD &amp; Design</b>			
6.1	<p>Board tabled their current top 10 issues (and others previously noted) which were noted and issued on the RFI tracker. Key action points are:</p> <ul style="list-style-type: none"> <li>• MRI Chiller Compound.</li> <li>• Lightning protection-to connect to RIE. All agreed this will not happen. Both buildings to be stand alone.</li> <li>• CDS kitchen design, slow progress. BMCE to chase CDS.</li> <li>• Staff attack, alternative proposal to be reviewed – Board require information to be issued from BMCE prior to meeting on 19/04/16.</li> <li>• Conflict on drawings for Video Entry systems to be resolved.</li> <li>• Child Health – Gas bottle store, issues to be resolved</li> <li>• Barrier matting – BMCE to respond, 2 possible options for consideration.</li> <li>• Phone connections (100 direct line) – Need to know where they will be located.</li> <li>• ATD equipment meeting – to have own meeting (Board to arrange)</li> <li>• Kitchen gas supply – DP to issue WSP Fire report.</li> </ul>	BMCE	Update 20/04/16
6.2	<p>BMCE noted that their top 10 issues. Some noted throughout notes and below:</p> <ul style="list-style-type: none"> <li>- Flood defence detail. Consort approval.</li> <li>- RDD returns – need to stick to timescales</li> <li>- Brickwork Bond (Flemish or Stretcher) to Zone A</li> <li>- Helipad- approval awaited.</li> <li>- Presence protection- LE requested a copy of the David Stillie location schedule and that any mark ups of this or a similar nature are made on the M&amp;E drawings rather than the HLM drawings. The M&amp;E drawings are current and being used for manufacture, whereas the HLM drawings can be changed at a later date as record drawings.</li> </ul>	LE  Board	  08/04/16
<b>7.0 RFI</b>			
7.1	Latest RFI tracker issued on 06/04/16. LE to arrange for the latest available "Topography Survey" that was taken for change 002.	LE	11/04/16

Number	Action	Owner	Date
<b>8.0 Change</b>			
8.1	None by exception.		
<b>9.0 Charities</b>			
9.1	Meeting with TCT scheduled for 12 April 2016.	SC/LE/JM	12/04/16
9.2	GC discussed ATD fees with SC. LE reported that Rod Shaw noted fees seem high. LE would like further details of reasons.	Board	08/04/16
9.3	SC reported that another ATD project has been approved to enhance the Child Protection Unit. Note; To be issued by the Board.	Board	Update 20/04/16
<b>10.0 Interface Activities</b>			
10.1	BC previously requested early sight of the Construction (temporary and permanent) details for the Link Connection. BMCE created list of all drawings. Dave Webster (DW) will follow up.	LE/DW	13/04/16
<b>11.0 Communications</b>			
11.1	Dates to be agreed for the Topping Out Ceremony. Likely to be end-June 16.	DP/BC	Ongoing
11.2	Next Communications scheduled for 26/04/16.	-	-
<b>12.0 Health and Safety</b>			
12.1	1 red card and 2 yellow cards issued. Further details to be released in Construction Report. Closed.	-	-
<b>13.0 AOB</b>			
	None.		
The Next meeting will take place on 20/04/16 at 10:00 In MacKinlay			



**From:** Kolodziejczyk, Kamil K  
**Sent:** 15 April 2016 14:02  
**To:** Currie, Brian  
**Cc:** Greer, Graeme; Macrae, Colin; Bain, Kelly J  
**Subject:** Environmental Matrix  
**Attachments:** Environmental Matrix Board Changes rev 05.pdf

Hi Brian,

We now have reviewed and commented on the Environmental Matrix. The comments we made previously were incorporated within this revision, with few minor issues, however please note the Matrix wasn't updated to reflect any comments made during PGs, resulting from Change process and SoA.

We propose status B based on the Financial Close comments.

The following is a draft response to PCo. The section in red requires PCo to re-submit the matrix once the remaining known changes are incorporated however PCo is keen to start production of Room Data Sheets now so can you please confirm you are happy for them to progress without re-submitting the matrix or you would prefer to see updated matrix before RDSs?

"All,

*Please note that the Board reviewed the Environmental Matrix and provided comments within the attached. Relative to the Financial Close comments, the Environmental Matrix is given status B.*

*The Board require the Environmental Matrix is re-submitted for the Board's review, including the following comments (as per MM-GC-001184):*

- *Updated Schedule of Accommodation,*
- *Changes resulting from Change process,*
- *Changes resulting from Production Groups comments,*
- *Design Development,*
- *Plus any other subsequent changes.*

*Project Co shall also review all related drawings against the Environmental Matrix with respect to anomalies between the detail on the drawing and the detail within the Environmental Matrix. Particular note to be given to the method of cooling provision e.g. Comfort Cooled Fresh Air or Ceiling Cassette Chilled Water. It is also noted that there are areas of over and under provision of both heating and cooling.*

*IHSL are also reminded that the reference design has no relevance to the current contract, and IHSL are to comply with the Project Agreement and in particular the BCR's and PCP's. Any non-compliance with the BCR's or PCP's should be highlighted to the Board."*

Regards  
Kamil

**Kamil Kolodziejczyk**  
MSc, BSc (Hons)



---

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## Royal Hospital for Sick Children and Department for Clinical Neurosciences - Edinburgh

### RHSC / DCN RDS Environmental Matrix

Dept Code	Index
~	Cover
~	Guidance Notes
~	Room Function Reference Sheet
~	Occupancy & Equipment Load Allowances
A1 - A4	Front Door - A&E / Assessment Ward
B1	Critical Care / HDU / Neonatal Surgery
C1- C5	RHSC In Patient Pathway / Ward Care
D1 - D10	RHSC Ambulatory Care
E1	Pod
F1	Child and Adolescent Mental Health
G2 - G3	Clinical Support
H1 - H3	Academic
I1 - I2	Facilities / Infrastructure Support Services
J1 - J2	Patient / Family Support
K1 - K2	Family Facilities
L1 - L2	DCN In Patient Pathway / Ward Care
M1- M4	DCN Support Space
N1	DCN Out Patient Departments
P1	Combined Theatres
Q1	Combined Radiology
R1 - R2	Office / Admin Support Services
S1 - S7	Combined Facilities / Infrastructure Support Services
T1	Plant
U1	Shelled Space

Document highlighted items amended inline with NHS comments.

26th November 2015 & 11th February 2016

26th November comments in red and the 11th February comments in amber

WW-XX-XX-DC-XXX-001  
Rev 05

The following table indicates Board Comments, initial response together with the Environmental Matrix to reflect the following Board comments

	Item	Initial Response	Feed back	Reconciliation
1	Update the Environmental Matrix shall be updated by Project Co to reflect all the rooms and room types in the proposed Facility, this should be based on an updated Schedule of Accommodation that has been commented on separately by the Board. This also needs to reflect the names and room numbers in the GSU table.	Individual room numbering being applied.	OK	Agreed
2	Include the requirements contained in the Clinical Output Specification including but not limited to the requirement that theatre temperatures are to be able to be raised to 31°C for certain operations.'	We have made reference to the figure of 31°C in the Guidance Notes. 'Theatre temperatures are to be able to be raised to 31°C for certain operations.'	Temperature control in theatres is covered in the Operational Design Notes V5 14th Oct2014 for RHSC Theatres 1 & 2. Operating theatres 1-P1-032 and 1-P1-044 shall operate normally as detailed in the Environmental Matrix. These rooms shall be provided with a manual control to raise the temperature to 31°C within a period of 2 hours. This manual control function shall be logged in the BMS and the temperature requirements of the Environmental Matrix shall not apply for the duration of the elevated temperature operation. THIS HOWEVER IS NOT NOTED ANYWHERE	This statement is now incorporated within the guidance notes of the matrix
3	Measures shall be assessed, modelled and implemented to demonstrate that the internal air temperature of the following room types to reduce the temperature control from 28°C to 25°C- Treatment Rooms, Consulting Rooms; Laboratory; Physiotherapy Studio, Recovery.  These room shall not exceed the maximum acceptable level of 25°C for more than 50 hours per annum	The Temp (max) column within the table has been updated to 25°C for the agreed rooms 3.1- 3.5 above.	OK	Agreed
4	Detailed proposal awaited on bedroom ventilation to achieve balanced/ negative pressure relative to corridor.,	The single bedrooms have had their ensuite extract increased to achieve a balance within the room, this has been noted within the matrix.	NOTE 26 AND VENTILATION TYPE HAVE NOT BEEN ALTERED.	Refer to Matrix
5	Colour rendering all stated as 80 where certain areas should be 90	Amended.	NEEDS TO BE CHECKED FOR ALL	Refer to Matrix
6	There also need to have a consistent approach e.g. guidance notes and ED body view room stated as 28 - 8, bereavement suite body view room stated as 25 -8.	The figure of 25-8 is now reflected within the matrix.	OK	Matrix now amended. See item 7 below.
7	Further discussion is required on the minimum temperate requirement for the Body View Room.	Awaiting confirmation on this one from the client, however discussion at the meeting on the 11/11/14 was that rather than take the room temperature down to 8°C which would require specialist cooling they would look at providing a cold blanket for the body and room temperatures would be retained as a normal room.	NHSL confirm following discussion with users that the use of a cooling blanket or cooling cot for the body is appropriate and therefore there is no requirement to have the room at 8 degrees and 25°C is acceptable	Matrix amended to minimum temperature of 18°C in place of 8°C.



NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
1	Technical Submittal MER-XX-SL-TS-015 appears to contradict environmental note 13 by way of radiant panel controls.	Note 13 has been deleted from the matrix and Mercury's technical submittal takes precedent.	Now updated.	✗	✗	✓
2	1-B1-010 medical gas cylinder store, SHTM 02-01 states internal cylinders stores may require mechanical ventilation, please confirm no ventilation provided.	Extract ventilation has been provided. Matrix updated and drawings where appropriate.	Now updated.	✓	✗	✓
3	IPS room max/min temperatures stated as "Manufacturer Dependant", this is not acceptable, temperatures to be stated. Room has 3ac/h mechanical extract therefore heating type should be Adjacent space transfer air and temperatures accordingly.	The manufactures maximum temperature guidelines are higher than 30°C. It does not appear reasonable to indicate heating to a cupboard.	No action required	✗	✗	✓
4A	Isolation cubicles and bedrooms are not shown with any extract ventilation.	Refer to the design drawings for details. Generally, the extract is via the en-suite which is in line with SHPN 04. Where no ensuite is present, extract is via the room.	No action required	✗	✗	✓
4B	Gowning lobby, supply stated as "in line with SHPN 04" and extract stated as "To match total bedroom air volume", design development review required.	Actual figures will be noted and the note referring to the SHPN will be removed.	Now updated	✗	✗	✓
5	Technical Submittal MER-XX-SL-TS-015 shows room 1-B1-057 with a radiant panel which contradicts Environmental Matrix room 1-B1-057 warm air reheat battery.	The air is heated by a heater battery which is BMS controlled as per the matrix.	No action required	✗	✗	✓
6	Where ventilation rates 10l/s per person are stated, room occupancy to be detailed and ventilation rates calculated.	These particular areas have been designed based on occupancies; occupancy figures and ventilation rates have been added to these areas to provide clarity.	Now updated	✗	✗	✓
7	1-B1-063 Stated as supply air 4ac/h, extract via en-suite, this room does not have en-suite facilities.	Refer to the design drawings for details. Generally, the extract is via the en-suite which is in line with SHPN 04. Where no ensuite is present, extract is via the room.	No action required	✗	✗	✓
8	1-B1-090 has an area of 8m2 which is not stated in the matrix. PCo to populate areas.	A review will be carried out and any blank GIFA rates will be noted - Updated schedule of accommodation required for this item.	Now updated	✗	✗	✓
9	3-C1.2-036 review ventilation type, only showing supply when 4ac/h supply and extract.	The matrix shows 4 air changes supply and extract.	No action required	✗	✗	✓



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NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
10	Room 1-G3-003/005/007 bathroom temperatures stated as 28 / 20 with adjacent space transfer air from area with temperatures of 28 / 18.	These bathrooms have their own radiant panel.	Now updated	✗	✗	✓
11	Similarly isolation bedroom 3-C1.4-040, temperatures stated as 28 / 21 with adjacent space transfer air from area with temperatures of 28 / 18, ventilation described as "balanced".	The adjacent area; Lobby 3-C1.4-039 is heated via heater battery and will be at least 21°C. Matrix has been updated.	Now updated	✗	✗	✓
12	3-C1.7-003, 004, 005 supply and extract "to suit location" not acceptable.	Air change rates will be noted and the "to suit location" will be removed.	Now updated	✗	✗	✓
13	G-D2-006 supply and extract "to suit location", statement "to suit location" is not acceptable.	Air change rates will be noted and the "to suit location" will be removed.	Now updated	✗	✗	✓
14	require ventilation stated as in the matrix, correct, and is a B01 requirement. However dental surgeries are not mentioned in SHTM 03-01, I would suggest SHPN 36 part 2. The required ventilation to be designed and detailed.	In line with the SHTM 03-01 removed and air change rates added.	Now updated	✗	✗	✓
15	1-H2-021 is currently labelled a single bedroom but it is an isolation room, review ventilation.	This room function was RFI'd and has been designed as an isolation room (matrix has been updated).	Now updated	✗	✗	✓
16	1-P1-003 and 005 are bedrooms, not bathrooms.	Bathroom changed to bedroom.	Now updated	✗	✗	✓
17	Kitchen states DW172 dependant, actual design detail to be added.	Design details will be noted and "DW172" will be removed.	Now updated	✗	✗	✓
18	Complete Estates SOA areas.	A review will be carried out and any blank GIFA rates will be noted.	Now updated	✗	✗	✓
19	Room B-S3-002 and 005 stated in Environmental Matrix as Adjacent Space Transfer Air, however shown with radiant panel on drawing.	Matrix will be updated with radiant panel noted.	Now updated	✗	✗	✓



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NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
20	ADB code reference should be confirmed.	ADB code reference is an unnecessary column for the use of this matrix so the column will be deleted from the environmental matrix.	Now updated	✗	✗	✓
21	Last column not titled. What does it refer to?	This column to the IET grouping but this column has now been superseded by the categorisation document. Column will be deleted from the environmental matrix.	Now updated	✗	✗	✓
22	B-S3-002 & B-S4-001 can min temp be increased to 18?	Temperature will be altered to 18°C	Now updated	✗	✗	✓
23	Disposal hold – can min temp be reduced to 16.	Sensor could be set to 16°C rather than 18°C but the reduction to the maximum temperature from 28°C to 25°C is problematic though so if required, cooling will be need to be added - Confirmed at meeting that 28°C is to be retained.	Now updated	✗	✗	✓
24	carried out in the Clinical Research Department in rooms H2-013, 014, 016 and 020 the temperature cannot at any time exceed 25°C.	Cooling has been provided in H2-014, H2-016 and H2-020. H2-013 requires cooling. Matrix has been updated to reflect this but drawing requires updating.	Environmental Matrix updated awaiting instruction to update drawing.	✓	✗	✓
25	Further to the recent discussion regarding hepa filtration in the isolation rooms the matrix should have been updated to reflect this.	The matrix doesn't note HEPA filter requirements but all isolation rooms have the capability of HEPA filters being installed.	No action required	✗	✗	✓
26	G-F1 Bedrooms with 6ac/h where most bedrooms are taken as 4ac/h.	This is a CAHMS bedroom so 6 AC/H has been utilised, reference to natural ventilation will be removed.	Now updated	✗	✗	✓
27	B-S4-004, no supply air.	Supply air reference will be added.	Now updated	✗	✗	✓
28	G-S6-016, Cooling - Yes, Cooling Type – None.	Comfort cooled fresh air is now noted.	Now updated	✗	✗	✓
29	G-Q1-007, Cooling – No, Cooling Type - Comfort cooled fresh air.	Cooling note removed.	Now updated	✗	✗	✓





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NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
30	G-Q1-161, Heating type – Adjacent space transfer air, supply at 10 l/s/p positive pressure. Diagnostic rooms, "To suit location"	This room is part of corridor and shares heating and ventilation with corridor.	No action required	✗	✗	✓
31	G-A1-004, supply 4 ac/h extract 3 ac/h positive, different to other diagnostic rooms.	We have treated this room like an office.	No action required	✗	✗	✓
32	Confirm where natural ventilation, i.e. 1-B1-063/065/067.	Extent of ventilation clarified on schedule.	Now updated	✗	✗	✓
33	3-C1.3-018, supply 4 ac/h extract 3 ac/h positive , different to other offices.	Air change rates utilised are in line with cellular offices	No action required	✗	✗	✓
34	1-L1-005 Resus area 30m2 with extract at 3 ac/h.	This room has been updated on the matrix.	Now updated	✗	✗	✓
35	G-A1-028/029, Resus area with central general extract with supply at 10 ac/h extract at 6 ac/h.	Ventilation type for these rooms has been updated in line with design.	Now updated	✗	✗	✓
36	Consider absence detection to all offices, meeting rooms and node rooms.	The lighting control has generally been described in the matrix as either presence or switched. If this is causing confusion the reference to presence could be renamed automatic. As a a general note, automatic detection has been used in all suitable areas.	No action required	✗	✗	✓
37	1-D3-002 Circulation Equipment Storage Bays, all others are presence detection.	Automatic controls added.	To be updated	✗	✗	✓
38	Disposal hold, LG2 recommends 200 lux.	100 lux will be changed to 200 lux.	To be updated	✗	✗	✓
39	IPS rooms normal lux stated as n/a.	200 lux will be added to the matrix.	To be updated	✗	✗	✓



NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
40	G-F1-028, 030, 053, 045 and 1-L1-028 are described as offices but have local lux of 1000.	Local lux figures to be removed.	To be updated	✗	✗	✓
41	Anaesthetic rooms, LG2 recommends local lux 1000 and Ra 80.	Ra 80 has been noted in the environmental matrix and 1000 lux is for local lighting but 500 lux is for general; all as noted in the environmental matrix.	No action required	✗	✗	✓
42	Theatre exit bays (transfers), LG2 recommends normal lux 300 local lux not required and Ra 80.	500 lux will be dropped to 300 lux, Ra 90 will be reduced to Ra 80 and local lux will be removed.	Environmental Matrix updated awaiting instruction to update drawings.	✓	✗	✓
43	Preparation rooms and scrub up, LG2 does not require local lux 10,000 – 100,000, or Ra 90.	Ra 90 will be reduced to Ra 80 and local lux will be removed.	Environmental Matrix updated awaiting instruction to update drawings.	✓	✗	✓
44	Theatre utility rooms, LG2 recommends local lux 100 – 150 and does not require local lux 10,000 – 100,000, or Ra 90.	500 lux will be dropped to 150 lux, RA 90 will be reduced to Ra 80 and local lux will be removed.	Environmental Matrix updated awaiting instruction to update drawings.	✓	✗	✓
45	Recovery areas, LG2 does not require local lux 1000 but does recommend Ra90.	RA 80 will be increased to Ra 90 and local lux will be removed.	Environmental Matrix updated awaiting instruction to update drawings.	✓	✗	✓
46	Nurse/touchdown bases not shown to have night lighting, confirm this achieved by dimming.	All night lighting is achieved by dimmable fittings.	No action required	✗	✗	✓
47	Resus trolley bay 1-D1-009 to be as other trolley bays, Ra 80 and presence detection.	1-D1-009 will be updated to reflect other trolley bays.	To be updated	✗	✗	✓
48	Review colour rendering, e.g. theatre suite, prep, anaesthetic, scrub utility, exit bay all Ra 80. Review consult/ examination rooms to have the higher colour rendering of Ra 90. All to be as CIBSE LG2.	RA 90 is currently shown in theatres, preparation rooms, scrub rooms, utility rooms and exit bay. Anaesthetic room will be changed to Ra90 from Ra80. We feel that the consultant room are general treatment rooms so should remain as Ra80; where Ra90 is required, it will be achieved via the examination luminaire.	Environmental Matrix updated awaiting instruction to update drawings.	✓	✗	✓
49	No absence detection or daylight control detailed included from drawings.	The lighting control has generally been described in the matrix as either presence or switched. If this is causing confusion the reference to presence could be renamed automatic. As a a general note, automatic detection has been used in all suitable areas.	No action required	✗	✗	✓

RHSC & DCN  
 Environmental Matrix Comments  
 Second Batch



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NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
50	Medical location column states "See Guidance Notes" for every entry and not mentioned in those guidance notes.	This has been superseded by the risk profile document which sets out the medical grouping and classification. Column has been removed.	Now updated	x	x	✓

**Environmental Matrix - Guidance Notes**

- 1 This workbook is prepared for the Financial Close Stage as an easier reference tool to replace ADB RDS M&E Sheets for the Environmental Criteria elements as described on these sheets.
- 2 The services matrices are produced from the Schedule of Accommodation Sheets.
- 3 The design of the HVAC systems to the theatres shall be in accordance with SHTM 03-01.
- 4 Where radiant panels are indicated in any room in these matrices, detailed design development may remove the need for these without detriment to environmental temperature. This design development is dependant on actual room layout - i.e. whether a room is located adjacent to an external wall, ground bearing floor, roof surface or is internal.
- 5 Ventilation air change rates and the use of natural ventilation in Patient Areas shall be reviewed throughout the detail design process to ensure a maximum internal temperature of 25°C (dry bulb) is not exceeded during normal occupancy. This criteria shall also apply to cellular and open plan office spaces.
- 6 Maximum internal temperatures listed relate to normal occupancy and Summer Design Conditions ; External Summer Conditions for Cooling Plant Selection as per SHTM2025, Enthalpy 54kJ/kgda 26deg°Cdb, 19deg°C wb. External Winter Conditions as per C BSE Guide A Table A 2.2 for locality = - 6°C for Heat Losses, and as SHTM 2025 for locality = -10°C for AHU Ventilation Plant design.
- 7 Examination lamp notes where listed are provisional. Detailed requirements (fixed, mobile, illumination) will be detailed on C sheets as agreed from signed off 1:50 RDS, which shall take precedence over this schedule.
- 8 All lighting levels are derived from CIBSE Lighting Guide LG2.
- 9 Colour rendering refers to C BSE Lighting Design Guide and will be applied throughout.  
"80" : Normal  
"90" - Enhanced to provide close as possible match to natural light for clinical purposes
- 10 Thermostatic Mixing Devices - SHTM 04-01 Guidance shall be employed for specific TRV Type versus listed Area/Activity.
- 11 Standby Lighting to be Grade A throughout .
- 12 The internal temperature in naturally or mechanically ventilated rooms shall not exceed the maximum temperature as listed on these Environmental Matrices provided external summer design criteria is not exceeded .
- 13 **Note Deleted**
- 14 Local Control BMS Temperature Sensors for ducted reheat zones and chilled water cassettes for hotspots shall be provided with local range adjustment to +/- 2°C of BMS Set Point. BMS set point shall be adjustable via operator/user dialogue through formal FM
- 15 **Typical bedroom** - Design Criteria - SHTM 03-01 Clause 2.11 - internal temperatures in patient areas should not exceed 28°C db for more than 50 hrs per year. Appendix 1 SHTM 03-01 gives 18°C to 28°C float range. NHSL however require that the maximum internal design temperature should not exceed 25°C for more than 50 hrs per year.  
**HDU bed areas** - Design Criteria - HBN 57 gives specific guidance as well as SHTM 03-01 - Appendix 1 for air change rates - 10ac/hr Supply, 18°C to 25°C control range. ( Capability shall be provided but not at the summer and winter external ambient design extremes against the internal maximum and minimum range conditions ).  
The department will be comfort cooled and controlled on a zonal basis.  
Central AHU to be provided with blank section for future provision of humidification.  
**Post theatre recovery areas** - Design Criteria - SHTM 03-01 - Appendix 1 for air change rates - 15ac/hr S&E , 18°C to 25°C control range ( Capability shall be provided but not at the summer and winter external ambient design extremes against the maximum and minimum range conditions ).  
**Critical Care areas** - Design Criteria - SHTM 03-01 - Appendix 1 for air change rates - 10ac/hr Supply for isolation cubicles , 18°C to 25°C control range.( Capability shall be provided but not at the summer and winter external ambient design extremes against the maximum and minimum range conditions). NHSL may require specific rooms to have a control range up to 28°C.  
Central AHU to be provided with blank section for future provision of humidification.
- 16 **Corridor** ventilation may be either mechanical or where the opportunity exists natural. To be determined during detailed design with due regard to clinical functionality.
- 17 **Single Room WC** - SHTM 03-01 Appendix 1 suggests 3ac/hr extract air change rate only. We have applied 10ac/hr extract rate to provide a more robust rate of extract.
- 18 **Diagnostic Rooms** - ( X Ray, CT Scanner, MRI Scanners, Gamma Camera ) - air change rates listed at 8ac/hr. Actual air change rate must be derived through room heat gain analysis and actual equipment guidance.
- 19 **Operating Theatre Laminar Flow/UCV Requirements** - Refer to Operational Policy Documents for specific theatres which require Laminar Flow/UCV canopy style ventilation solution.  
Central AHU to be provided with blank section for future provision of humidification.  
**Operating Theatres 1-P1-032 and 1-P1-044 shall operate normally as detailed in the Environmental Matrix. These rooms shall be provided with a manual control to raise the temperature to 31°C within a period of 2 hours. This manual control function shall be logged on the BMS and the temperature requirements of the Environmental Matrix shall not apply for the duration of the elevated temperature operation.**
- 20 **Small workshop Areas** - Local Extract Ventilation (LEV) unit requirement to be determined from room equipment schedules.
- 21 **Note that Isolation Suite ventilation solutions for this project shall follow HBN 4 Supplement 1 Section 4 Item 4.8 Guidance i.e.**  
A common departmental AHU shall be employed to provide supply air ventilation ( and shall therefore employ duty & standby fans).  
Isolation Rooms En Suite Extracts shall be provided with an independent Isolation Room toilet extract ventilation system.  
Isolation Rooms En Suite Extracts shall be provided with either externally located 3 mtr high discharge stack in a safe location or with extract filters ( H14 ) within a safe change housing outside the building on the suction side of the fan.  
Heating & Cooling the Isolation Suites shall be provided via the ventilation system.
- 22 **Retail Provision** - Service provisions listed are Infrastructure only for future fit-out by retailer. ( Fire detection shall be provided to assist completion).
- 23 **Comfort Cooled Fresh Air** - Where noted as such on the matrix, these are provided via departmental air handling plant via chilled water cooling coils.
- 24 **Body View Room** - A cooling blanket or cooling cot shall be used in this room.
- 25 Anti ligature rooms (17no. off ) will be treated as sealed rooms with Supply at 6ac/hr and Extract to match to achieve a balanced pressure.  
**Single Bedroom** - The design philosophy for ventilation is for a mixed mode operation where natural vent is encouraged which has benefits both physiological with users being partly in control, and from an energy stand point where mechanical vent loading is partly reduced (2/3rds). This strategy results in zero pressure differential regime within the room where supply and extract is balanced.  
**En suite dirty extract volume flow rate has been increased to achieve a balanced ventilation system.**

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	
G-A1-002	A1 Emergency Department	Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A1-003		Store - Medical Gas Cylinders	1	3.0	Storage Area Med Gas	28	16	Frost protection	Room Thermostat	No	None	Central General Extract	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A1-004		Processing Room	1	10.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-A1-005		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-006		General X-Ray Room	1	33.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-A1-007		Dirty Utility	1	11.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-008		Washdown Room	1	16.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-009		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-010		Laboratory - Near Patient Testing / Status	1	8.0	Laboratory	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
G-A1-011		Linen Bay (1 Trolley)	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-012		Treatment Room 5: Dual Access	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-A1-013		Treatment Room 10: Dual Access	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-A1-014		Treatment Room 6: Dual Access	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-A1-015		Treatment Room 11: Dual Access (Mental Health)	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-A1-016		Staff & Communication Base	1	16.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-A1-017		Store - Dispensing Drugs	1	8.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-018		Treatment Room 7: Dual Access	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-A1-019		Treatment Room 12: Dual Access	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-A1-020		Treatment Room 8: Dual Access	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-A1-021		Treatment Room 13: Dual Access	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-A1-022		Treatment Room 9: Dual Access	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-A1-023		Supplies Base	1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-025		Treatment Room 14: Dual Access	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-A1-026		Main Entrance Draught Lobby	1	10.0	Circulation Areas - Entrance Lobby	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	No	None	None	0	0	Balanced	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-028		Resuscitation Room: 2 places	1	50.0	Resuscitation Bay	25	18	Radiant Panels	None	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and General Extract	10	6	Positive	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-029		Resuscitation Room: 2 places	1	50.0	Resuscitation Bay	25	18	Radiant Panels	None	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and General Extract	10	6	Positive	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-030		IPS Room	1	1.1	IPS Room	Manufacturer Dependant	Manufacturer Dependant	None	None	No	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-031		Body Viewing Room	1	10.0	Body View	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	6	Negative	G4	43	n/a		300	n/a	None	A	80	Switch / Dimmer	Floor 0m
G-A1-032		Sitting Room	1	16.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
G-A1-033		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-034		Store - Major Incident / Ambulance Equipment	1	6.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-035		Triage Room	1	16.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-A1-036		Reception 2 staff	1	16.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-A1-037		Parking Bay: 6 wheelchairs	1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-038		Main Entrance Draught Lobby	1	10.0	Circulation Areas - Entrance Lobby	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	No	None	None	0	0	Balanced	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-039		Parking Bay: 3 accident trolleys & 3 wheelchairs	1	12.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-040		Store - Equipment & Supplies	1	18.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-041		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-042		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-043		Female Staff Changing and Lockers: 30 places	1	16.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-044		Staff Shower: ambulant	1	2.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-045		Waiting Area inc Play Area	1	63.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-A1-046		Baby Infant / Feeding Room	1	4.0	baby Feeding	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-047		Nappy Change	1	4.0	Nappy Change	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-048		Male Staff Changing Room and Lockers: 20 places	1	11.5	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-049		Staff Shower: ambulant	1	2.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-050		Consultant Office (6 person)	1	24.6	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-A1-052		Ward Manager's Office	1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-A1-053		Interview/Meeting Room: 6 persons	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6 people at 10 l/s per person (9ach)	6 people at 10 l/s per person (9ach)	Negative	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-A1-054		Beverage Bay	1	3.0	Tea Making	28	18	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m
G-A1-055		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-056		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
G-A1-057		Medical Staff / Audit / Secy Office (3 Person)	1	17.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-A1-058		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-059		Store - Stock & Sterile Supplies	1	18.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-060		Treatment Room 3: Single Access	1	14.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-A1-061		Treatment Room 4: Single Access	1	14.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-A1-062		Treatment Room 2: Single Access	1	14.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-A1-063		Pantry - Staff / Patient	1	5.0	Pantry	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
G-A1-064		Treatment Room: Single Access	1	14.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-A1-065		Store - Plaster	1	6.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A1-066		Plaster Suite (2 bays)	1	24.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-A1-067		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-002		Single Bedroom 15 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
G-A2-003		En-suite wheelchair-accessible WC, Shower & wash	14	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-004		Single Bedroom 19 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
G-A2-005		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-006		Single Bedroom 16 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
G-A2-007		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-008		Reception/Staff Base	1	6.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-A2-009		Single Bedroom 20 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
G-A2-010		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-011		Touchdown Base 4	4	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	2 people at 10l/s/per person (16ach)	2 people at 10l/s/per person (16ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
G-A2-012		Single Bedroom 17 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
G-A2-013		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-014		Single Bedroom 21 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
G-A2-015		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-016		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-017		Single Bedroom 18 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
G-A2-018		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-019		Single Bedroom 22 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
G-A2-020		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-021		Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
G-A2-022		Dirty Utility	1	14.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-023		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-024		WC - Visitors	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-025		Linen Bay (1 Trolley)	1	1.5	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-026		Touchdown Base 3	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	2 people at 10l/s/per person (11ach)	2 people at 10l/s/per person (11ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
G-A2-027		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-028		4 Bed Room	1	58.5	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m
G-A2-029		En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-030		WC Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-031		Single Bedroom 14 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
G-A2-032		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-033		Single Bedroom 13 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
G-A2-034		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-035		Single Bedroom 12 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
G-A2-036		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-037		Single Bedroom 11 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
G-A2-038		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-A2-039		Treatment Room	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-A2-040		Dining / Play Room	1	30.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
G-A2-041		Ward Kitchen	1	12.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m
G-A2-042	Paediatric Acute Resuscitation Unit - 34	Single Bedroom 10 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4										



Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	
G-A2-043	A2 Receiving Unit Beds	En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-044		Single Bedroom 9 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-A2-045		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-046		4 Bed Room	1	58.5	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	
G-A2-047		WC Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-048		En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-049		Touchdown Base 2	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	2 people at 10l/s/per person (15 ach)	2 people at 10l/s/per person (15 ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	
G-A2-050		Single Bedroom 8 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-A2-051		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-052		Single Bedroom 7 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-A2-053		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-054		4 Bed Room	1	58.5	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	
G-A2-055		En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-056		WC Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-058		Single Bedroom 6 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-A2-059		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-060		Single Bedroom 5 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-A2-061		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-062		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-063		Linen Bay (1 Trolley)	1	1.5	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-064		Store - Equipment	1	6.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-065		Single Bedroom 4 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-A2-066		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-067		Single Bedroom 3 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-A2-068		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-069		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	2 people at 10l/s/per person (8ach)	2 people at 10l/s/per person (8ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	
G-A2-070		Single Bedroom 2 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-A2-071		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-072		Single Bedroom 1 (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	10	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-A2-073		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	42	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-074		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply	46	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-075 A&B		Store - General	1	12.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-076		Patients' Assisted Bathroom	1	14.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-077		Multi-Disciplinary Office	1	26.0	Multi Disciplinary Work Areas	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-A2-078		Ward Management Office	1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-A2-079		On-Call Consultant Office (2 Person)	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-A2-080		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A2-081		Clinical Coordination Office (2 Person)	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-A2-082		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Switch / Dimmer	Floor 0m	
G-A2-083		Patient Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6 people at 10 l/s per person (9ach)	6 people at 10 l/s per person (9ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-A2-084		Dirty Utility	1	14.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-A3-001		A3 PARU / Emergency / Radiology Shared Support	Staff Room	1	80.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
G-A3-002			Seminar & Training Room	1	32.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	22 people at 10 l/s per person (9ach)	22 people at 10 l/s per person (9ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-A3-003			Meeting / Case Conference Room	1	32.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	25 people at 10 l/s per person (10ach)	25 people at 10 l/s per person (10ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-B1-002			Retrieval Equipment Store	1	14.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-003			Staff Room	1	32.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
1-B1-004			Senior Nursing Office	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-B1-005			WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-006	WC - Staff		1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-B1-007	Equipment Service Room		1	24.0	Small Workshop	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	
1-B1-008	IPS Room		1	3.0	IPS Room	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-B1-009	Open Plan Bay (4 beds)		1	104.0	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	



Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
1-B1-010	B1 PICU and HDU's - 24 Beds	Gas Cylinder Store	1	2.0	Storage Area Med Gas	28	16	Frost protection	Room Thermostat	No	None	Central General Extract	0	7	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-011		Multidisciplinary Work Area PICU	1	15.0	Multi Disciplinary Work Areas	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		400	n/a	1000	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-B1-012		Staff Base	1	12.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-B1-014		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-015		Gowning Lobby	1	6.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply	54	To match total bedroom air volume	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-016		Single Bed Isolation Cubicle	1	26.0	Isolation Bedroom	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-B1-017		Single Bed Isolation Cubicle	1	26.0	Isolation Bedroom	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-B1-018		Gowning Lobby	1	6.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply	55	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-019		Single Bed Cubicle	1	26.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-B1-020		Single Bed Cubicle	1	26.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-B1-021		Single Bed Cubicle	1	26.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-B1-023		Staff Base	1	4.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-B1-024		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-025		Gowning Lobby	1	6.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply	62	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-026		Single Bed Isolation Cubicle	1	26.0	Isolation Bedroom	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-B1-027		Clean Utility	1	18.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
1-B1-028		Bed/Patient Chair / Buggy Storage	1	8.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-029		Dirty Utility	1	19.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-030		Linen Bay (1 Trolley)	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-031		Open Plan Bay (4 beds)	1	104.0	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m
1-B1-032		Patients' Assisted Bathroom	1	8.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-033		Gowning Lobby	1	6.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply	45	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-034		Linen Bay (1 Trolley)	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-035		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-036		Single Bed Isolation Cubicle	1	26.0	Isolation Bedroom	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-B1-037		Single Bed Cubicle	1	26.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-B1-038		Staff Base	1	4.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-B1-039		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-041		Clean Utility	1	8.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
1-B1-042		Multidisciplinary Work Area HDU	1	15.0	Multi Disciplinary Work Areas	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		400	n/a	1000	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-B1-043		Laboratory	1	10.0	Laboratory	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
1-B1-044		IPS Room	1	2.0	IPS Room	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-045		Quiet / Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (7ach)	4 people at 10 l/s per person (7ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-B1-046		Store - Equipment	1	40.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-047		Family Interview Room	1	12.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5 people at 10 l/s per person (5ach)	5 people at 10 l/s per person (5ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-B1-048		On call consultant	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-B1-049		Retrieval Team	1	12.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-B1-050		Bulk Supplies Store	1	55.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-051		Data Manager & Secretarial Office (3 person)	1	22.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-B1-055		Waiting Area (Visitors)	1	18.5	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
1-B1-056		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-057		X-Ray Processing	1	8.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
1-B1-058		Mobile X-Ray / Ultrasound Bay	1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-059		Cardiac Echo/ECG Bay	1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-060		Seminar Room	1	34.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	19 people at 10 l/s per person (7ach)	19 people at 10 l/s per person (7ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-B1-061		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-062		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-063		Open Plan Bay (4 beds)	1	80.0	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m
1-B1-064		Dirty Utility	1	14.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-B1-065		Open Plan Bay (3 cots)	1	45.0	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m
1-B1-066		Clean Utility (Neo-Natal)	1	8.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
1-B1-067		Gas Cylinder Store	1	2.0	Storage Area Med Gas	28	16	Frost protection	Room Thermostat	No	None	General Central Extract	0	6	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	
1-B1-068		Baby Infant / Feeding Room	1	5.0	Baby Feeding	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m	
1-B1-069		Staff Base	1	6.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
1-B1-071		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-B1-072		Play Specialist Base & Store	1	8.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-B1-073		Pantry / Milk Store	1	10.0	Pantry	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
1-B1-074		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-B1-075		Single Cot Cubicle	1	26.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
1-B1-077		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m	
1-B1-078		Relative Overnight Stay Room	1	10.0	Relatives Overnight Stay	28	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41		100	n/a	None	A	80	Switch	Bed / Trolley 1.45m	
1-B1-079		En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-B1-080		WC - Relatives	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-B1-082		Relative Overnight Stay Room	1	10.0	Relatives Overnight Stay	28	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41		100	n/a	None	A	80	Switch	Bed / Trolley 1.45m	
1-B1-083		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-B1-084		Relatives' Sitting Room	1	18.5	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
1-B1-090		Equipment Cleaning	1	7.8	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-002		C1 Medical Inpatients - 23 Beds	IPS Room	1	1.8	IPS Room	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-003			Ward Management Office	1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C1.1-004			Single Isolation Bedroom (RHSC)	1	19.0	Isolation Bedroom	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.1-005			En-suite trolley shower	1	8.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	26	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-006	Isolation Bedroom Entrance Lobby		1	4.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply	48	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-007	Hoist Bay		1	3.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-008	Sitting Room / Lounge		1	16.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
3-C1.1-009	Single Bedroom (RHSC)		1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-C1.1-010	En-suite trolley shower		1	8.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-011	Touchdown Base		1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	1 person at 10l/s per person (8ach)	1 person at 10l/s per person (8ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	
3-C1.1-012	Resuscitation Trolley Bay		1	1.0	Resus Trolley bay	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-013	Single Bedroom (RHSC)		1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-C1.1-014	En-suite trolley shower		1	8.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-015	Single Bedroom (RHSC)		1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-C1.1-016	En-suite trolley shower		1	8.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-017	DSR		1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-018	4 Bed Room		1	58.5	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	
3-C1.1-019	En-suite wheelchair-accessible WC, Shower & wash		1	6.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-020	WC Accessible		1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-021	Dining / Play Room		1	20.0	Eating/Drinking	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8 people at 10 l/s per person (4ach)	8 people at 10 l/s per person (4ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
3-C1.1-022	Store - Equipment		1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-023	Ward kitchen		1	12.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	
3-C1.1-024	Linen Bay (1 Trolley)		1	3.0	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-025	Store - General		1	18.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-026	WC - Staff		1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-027	WC - Staff		1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-028	Disposal Hold		1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-029	Mobile X-Ray/Ultrasound Bay		1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-030	Multi-disciplinary Office		1	18.0	Multi Disciplinary Work Areas	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-C1.1-031	Reception / Staff Base		1	3.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-C1.1-032	Isolation Bedroom Entrance Lobby		1	4.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply	48	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-033	Single Isolation Bedroom		1	17.0	Isolation Bedroom	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	To match total bedroom air volume	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-C1.1-034	En-suite wheelchair-accessible WC, Shower & wash		1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	38	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.1-035	Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply	38	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m		
3-C1.1-036	Single Isolation Bedroom	1	17.0	Isolation Bedroom	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m		
3-C1.1-037	En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	41	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m		
3-C1.1-038	Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	1 person at 10l/s per person (8ach)	1 person at 10l/s per person (8ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m		

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
3-C1.1-039		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply	50	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-040		Single Isolation Bedroom	1	17.0	Isolation Bedroom	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.1-041		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	41	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-042		Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
3-C1.1-043		Treatment Room	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
3-C1.1-044		Dirty Utility	1	14.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-045		Treatment Room	1	2.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
3-C1.1-046		4 Bed Room	1	58.5	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m
3-C1.1-047		WC Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-048		En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-049		Patients' Assisted Bathroom	1	14.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-050		Patient Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (7ach)	4 people at 10 l/s per person (7ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C1.1-051		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	1 person at 10l/s/per person (8ach)	1 person at 10l/s/per person (8ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
3-C1.1-052		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.1-053		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-054		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.1-055		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-056		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.1-057		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-058		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.1-059		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-060		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.1-061		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-062		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	1 person at 10l/s/per person (8ach)	1 person at 10l/s/per person (8ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
3-C1.1-063		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.1-064		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-065		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.1-066		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-067		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.1-068		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.1-070		WC - Visitors	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-002		Single Bedroom (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.2-003		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-004		Linen Bay (1 Trolley)	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-005		Single Bedroom (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.2-006		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-007		Single Bedroom (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.2-008		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-009		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	1 person at 10l/s/per person (8ach)	1 person at 10l/s/per person (8ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
3-C1.2-010		Single Bedroom (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.2-011		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-012		Dirty Utility	1	14.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-013		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-014		Single Bedroom (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.2-015		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-016		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-017		Patients' Assisted Bathroom	1	14.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-018		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.2-019		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-020		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.2-021		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-022		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote																	



Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	
3-C1.2-023	C1.2 Surgical Long Stay Inpatients -15 Beds	4 Bed Room	1	58.5	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	
3-C1.2-024		WC Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-025		Wetroom	1	14.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-026		4 Bed Room	1	58.5	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	
3-C1.2-027		WC Accessible	2	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-028		Ward Management Office	1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-C1.2-029		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	28	16	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-030		Store - Equipment	1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-031		Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m	
3-C1.2-032		Treatment Room	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	
3-C1.2-033		Dining / Play Room	1	13.0	Eating/Drinking	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5 people at 10 l/s per person (5ach)	5 people at 10 l/s per person (5ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
3-C1.2-034		Ward kitchen	1	12.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	
3-C1.2-035		Patient Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5 people at 10 l/s per person (5ach)	5 people at 10 l/s per person (5ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-C1.2-036		Reception / Staff Base	1	3.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-C1.2-037		Discharge Lounge	1	20.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
3-C1.2-038		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-039		Store - General	1	12.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-040		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-041		WC - Visitors	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.2-042		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Supply and Extract	1 person at 10l/s/per person (5ach)	1 person at 10l/s/per person (5ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
3-C1.2-043		Multi-Disciplinary Office	1	18.0	Multi Disciplinary Work Areas	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-C1.2-044		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-002		C1.3 Neuroscience Inpatients - 12 Beds	Waiting Area	1	10.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
3-C1.3-003			Reception / Staff Base	1	3.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C1.3-004	WC Accessible		1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-005	Store - Equipment		1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-006	Touchdown Base		1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Supply and Extract	1 person at 10l/s/per person (7ach)	1 person at 10l/s/per person (7ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
3-C1.3-007	Isolation Bedroom Entrance Lobby		1	4.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply	64	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.3-008	Single Isolation Bedroom (RHSC)		1	17.0	Isolation Bedroom	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-C1.3-009	En-suite wheelchair-accessible WC, Shower & wash Isl		1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	43	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-010	En-suite		1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-011	4 Bed Room		1	58.5	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	
3-C1.3-012	Wetroom		1	14.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-013	4 Bed Room		1	58.5	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	
3-C1.3-014	En-suite		1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-015	Resuscitation Trolley Bay		1	1.0	Resus Trolley bay	28	18	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	3	negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-016	Linen Bay		1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-017	Store - General		1	16.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-018	Multi-Disciplinary Office		1	18.0	Multi Disciplinary Work Areas	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-C1.3-019	Patient Interview Room		1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (6ach)	4 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-C1.3-020	Ward Management Office		1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-C1.3-021	WC - Staff		1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-022	WC - Staff		1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-023	WC - Visitors		1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-024	Snoezelen Room		1	12.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
3-C1.3-025	Rehabilitation Room		1	30.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
3-C1.3-026	Hoist Bay		1	3.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-027	Touchdown Base		1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Supply and Extract	1 person at 10l/s/per person (7ach)	1 person at 10l/s/per person (7ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
3-C1.3-028	Single Bedroom (RHSC)		1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-C1.3-029	En-suite wheelchair-accessible WC, Shower & wash		1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-030	Single Bedroom (RHSC)		1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-C1.3-031	En-suite wheelchair-accessible WC, Shower & wash		1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80		

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
3-C1.3-032		Single Bedroom (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.3-033		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-034		Ward Kitchen	1	12.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m
3-C1.3-035		Patients' Assisted Bathroom	1	14.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-036		Dirty Utility	1	14.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-037		Treatment Room	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
3-C1.3-038		Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
3-C1.3-039		Dining / Play Room	1	16.0	Eating/Drinking	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6 people at 10 l/s per person (5ach)	6 people at 10 l/s per person (5ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
3-C1.3-040		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.3-041		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.4-002	C1.4 Haematology / Oncology Inpatients & Daycases - 17 Beds & 2 Chairs	Quiet Study Room	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C1.4-004		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.4-005		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.4-006		Store - General	1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.4-007		Patient Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (6ach)	4 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C1.4-008		Complementary Therapy Room	1	10.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
3-C1.4-009		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.4-010		Single Bedroom (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.4-011		Patients' Assisted Bathroom	1	14.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.4-012		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	1 person at 10l/s/per person (7ach)	1 person at 10l/s/per person (7ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
3-C1.4-013		Single Bedroom (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.4-014		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.4-015		Kitchen/ Lounge/Social Space	1	25.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
3-C1.4-016		Single Bedroom (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.4-017		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.4-018		Single Bedroom (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.4-019		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.4-021		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.4-022		Dirty Utility	1	14.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.4-023		Pharmacy Base	1	9.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
3-C1.4-024		Multi-Disciplinary Office	1	18.0	Multi Disciplinary Work Areas	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C1.4-025		Medical Staff Office	1	20.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C1.4-026		Consultant Office (5 person)	1	24.6	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C1.4-027		Store - Equipment	1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.4-028		Research Staff Office	1	19.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C1.4-029		Nursing Staff Office	1	15.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C1.4-030		Ward Management Office	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C1.4-032		Single Bedroom (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.4-033		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.4-034		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	1 person at 10l/s/per person (7ach)	1 person at 10l/s/per person (7ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
3-C1.4-035		Linen Bay (1 Trolley)	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.4-036		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.4-037	WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.4-038	Treatment / Clean Utility	1	18.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	
3-C1.4-039	Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	28	21	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply	61	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.4-040	Single Isolation Bedroom (RHSC)	1	17.0	Isolation Bedroom	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	via ensuite	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-C1.4-041	En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	44	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.4-042	En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	43	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.4-043	Single Isolation Bedroom (RHSC)	1	17.0	Isolation Bedroom	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-C1.4-044	Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply	64	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.4-045	Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	1 person at 10l/s/per person (7ach)	1 person at 10l/s/per person (7ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	
3-C1.4-046	Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane		
3-C1.4-047		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m		
3-C1.4-048		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply	63	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.4-049		Single Isolation Bedroom (RHSC)	1	17.0	Isolation Bedroom	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-C1.4-050		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	42	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.4-051		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	41	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.4-052		Single Isolation Bedroom (RHSC)	1	17.0	Isolation Bedroom	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-C1.4-053		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply	61	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.4-054		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.4-055		Single Bedroom (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-C1.4-056		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.4-057		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-C1.4-058		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.4-059		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-C1.4-060		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.4-061		Multi Bed Room: day care, 4 beds & 2 chairs	1	72.5	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	
3-C1.4-062		En-Suite Multi Bedroom	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.4-063		Play Room	1	25.0	Common room/staff room/lobby	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
3-C1.4-064		Ward Kitchen	1	12.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	
3-C1.4-065		Treatment Room	1	12.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	
3-C1.4-066		Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m	
3-C1.4-067	WC - Visitors	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m		
3-C1.4-068	Waiting Area	1	12.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m		
3-C1.4-069	Reception / Staff Base	1	3.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m		
3-C1.5-002	C1.5	Med / Surg / Neuro / Haemo Shared Support	Store - back up clothing	1	4.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.5-003			Family Sitting Room	1	27.0	Common room/staff room/lobby	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
3-C1.5-004			Baby Infant / Feeding Room	1	4.0	Baby Feeding	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.5-005			Nappy Change	1	4.0	Nappy Change	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.5-006			Breast Pump Room	1	4.0	Baby Feeding	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.5-007			WC-Wheelchair Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.5-008			WC-Wheelchair Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.6-001			C1.6	Adolescent Shared Accommodation	Dining / Recreation Room	1	26.0	Common room/staff room/lobby	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch
3-C1.6-002	Quiet Room / Study	1			10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C1.7-002	C1.7	Paediatric Neurophysiology	EEG Review Room	1	15.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-C1.7-003			EEG Recording Room	1	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	8	8	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
3-C1.7-004			EEG Recording Room	1	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	8	8	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
3-C1.7-005			Evoked Potential Recording Room	1	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	8	8	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
3-C1.8-002		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m		
3-C1.8-003		Dirty Utility	1	14.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.8-005		Single Bedroom (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-C1.8-006		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.8-007		Staff WC	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.8-008		WC - Visitors	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.8-009		Dining / Play Room	1	15.0	Eating/Drinking	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5 people at 10 l/s per person (4ach)	5 people at 10 l/s per person (4ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
3-C1.8-010		Ward Kitchen	1	12.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	
3-C1.8-011		Reception Desk/Staff Base	1	3.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-C1.8-012		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.8-013		Store - General	1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.8-014		Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m	
3-C1.8-015		Treatment Room	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	
3-C1.8-016		4 Bed Room	1	58.5	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	
3-C1.8-017		En-suite Shower / WC / WHB	1	6.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-C1.8-018		WC Wheelchair Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air																				



Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
3-C1.8-019	C1.8 Surgical Short Stay Inpatients - 14 Beds	Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	1 person at 10l/s/per person (7ach)	1 person at 10l/s/per person (7ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
3-C1.8-020		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.8-021		Single Bedroom (RHSC)	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.8-022		En-suite Shower / WC / WHB	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.8-023		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.8-024		En-suite Shower / WC / WHB	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.8-025		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.8-026		En-suite Shower / WC / WHB	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.8-027		4 Bed Room	1	58.5	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m
3-C1.8-028		WC Wheelchair Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.8-029		En-suite Shower / WC / WHB	1	6.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.8-030		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.8-031		En-suite Shower / WC / WHB	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.8-032		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C1.8-033		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.8-034		Linen Bay (1 Trolley)	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.8-035		Patient's Assisted Bathroom	1	14.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.8-036		Store - Equipment	1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C1.8-037		Ward Management Office	1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C1.8-040		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	1 person at 10l/s/per person (7ach)	1 person at 10l/s/per person (7ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
3-C2-002	C2 Wards Support Areas	Grab & Go	1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C2-003		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
3-C2-004		Seminar Room	1	25.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	18 people at 10 l/s per person (9ach)	18 people at 10 l/s per person (9ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C2-005		Staff Room	1	48.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
3-C3-002		C3 Special Feeds Unit	Food Prep Area	1	24.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch
3-C3-003	Wash Room		1	5.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C3-004	Office Ante Room		1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C3-005	Store - Feeds		1	8.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C4-002	C4 Sleep Lab	Store	1	6.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C4-003		En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-C4-005		Sleep Room	1	15.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C4-006		Parents Room	1	10.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C4-007		Control Room	1	15.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-C4-008		Sleep Room	1	15.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C4-009		Parents Room	1	10.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-C4-010		En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
4-C5-002	C5 Classrooms	WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
4-C5-003		Store	1	3.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
4-C5-004		Primary Classroom	1	18.0	Classroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	7 people at 10 l/s per person (5ach)	7 people at 10 l/s per person (5ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
4-C5-005		Upper Primary Classroom	1	18.0	Classroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	7 people at 10 l/s per person (5ach)	7 people at 10 l/s per person (5ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
4-C5-006		Secondary Classroom	1	18.0	Classroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	11 people at 10 l/s per person (8ach)	11 people at 10 l/s per person (8ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
4-C5-007		Administration Area	1	15.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
4-C5-008		Resource Storage	1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
4-C5-009		WC Ambulant	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-D1-001			DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls
1-D1-002	Consult/Examination		1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D1-003	Treatment Room (with prep area)		1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
1-D1-004	Linen Bay		1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-D1-005	Consult/Examination		1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D1-008	Treatment Room (with prep area)		1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
1-D1-009	Resuscitation Trolley Bay		1	1.0	Resus Trolley bay	28	18	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Bed / Trolley 1.45m
1-D1-010	Dirty Utility		1	11.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m



Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	
1-D1-011	D1 RHSC Main Outpatients Department	WC wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D1-012		Shower Room	1	5.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D1-013		Clean Utility	1	8.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
1-D1-014		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D1-015		Play Therapy (inc messy play) Room	1	18.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
1-D1-016		Consult/Multi-Disciplinary	1	24.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D1-017		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D1-018		Consult/Examination (Ophthalmology)	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D1-019		Consult/Examination (ENT)	1	17.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D1-020		Consult/Examination (Cleft)	1	18.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D1-021		Consult/Examination (Cleft)	1	18.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D1-022		Consult/Examination (ENT)	1	17.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D1-023		Consult/Examination (ENT)	1	17.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D1-025		Physical Measurement	1	3.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D1-026		Infant Measuring Room	1	6.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D1-027		Sub Waiting Area (incl supervised play) with Nurse Base	1	46	Waiting Room	28	18	Underfloor Heating	BMS Adjustable Sensor	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
1-D1-028		Sub Waiting Area	1	3.5	Waiting Room	28	18	Underfloor Heating	BMS Adjustable Sensor	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
1-D1-029		Baby Infant / Feeding Room	1	4.0	Baby Feeding	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
1-D1-030		Nappy Change	1	4.0	Nappy Change	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
1-D1-031		Equipment / General Store	1	9.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-D1-032		WC wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-D1-033		Phlebotomy Room	1	8.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D1-034		Mobile Hoist Bay	1	3.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-D1-035		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-D1-036		Physical Measurement	1	3.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D1-037		Reception	1	3.0	Reception	28	18	Underfloor Heating	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-D1-038		Staff WC	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-D1-001		Nappy Change	1	4.0	Nappy Change	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-D1-002		Baby Infant / Feeding Room	1	4.0	Baby Feeding	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-D1-003		WC wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-D1-004		Staff WC	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-D1-005		Store Room	1	8.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-D1-006		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-D1-007		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-D1-008		Plaster Suite (3 bays)	1	40.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-D1-009		Store: Plaster	1	6.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-D1-010		Orthotics Workshop	1	16.0	Small Workshop	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
G-D1-011		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-D1-012		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-D1-013		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-D1-014		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-D1-015		Physical Measurement	1	3.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-D1-016		Consult/Examination (Child Protection)	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-D1-019		Equipment / General Store	1	6.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-D1-020		Phlebotomy Room	1	8.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-D1-021		Child Protection Room	1	24.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-D1-022	Mobile Hoist Bay	1	3.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-D1-023	Dirty Utility	1	11.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-D1-024	Beverage Bay	1	3.0	Tea Making	28	18	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	
G-D1-025	Physical Measurement	1	3.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-D1-026	Specimen/ Disabled WC	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	
G-D1-027		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-D1-028		Infant Measuring Room	1	6.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-D1-029		Staff WC	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-D1-030		Linen Bay (1 Trolley)	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-D1-031		Clean Utility	1	8.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m	
G-D1-032		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-D1-033		Treatment Room (with prep area)	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	
G-D1-034		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-D1-035		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-D1-036		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-D1-037		Meeting Room	1	15.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 people at 10 l/s per person (9ach)	10 people at 10 l/s per person (9ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-D1-038		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-D1-039		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-D1-040		Consult/Multi-Disciplinary	1	24.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-D1-041		Outpatients Management Office	1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-D1-042		Shower Room	1	5.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-D2-001	D2	Waiting Area	1	9.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	
G-D2-003		Admin Office	1	12.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-D2-004		WC Staff	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-D2-005		Exercise Room/Lung Function Laboratory	1	22.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	
G-D2-006		Echocardiography Room	1	20.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	8	8	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	
G-D2-007		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m	
G-D2-008		Store/ Equipment	1	9.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-D2-009		ECG Procedure Room	1	12.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-D2-010		Admin Office	1	15.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-D2-012		Domiciliary Sleep Studies	1	12.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-D2-013		Lung Function Laboratory	1	28.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	
G-D2-014		Exercise Tolerance Test Room	1	20.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-D2-015		Physical Measurement	1	3.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
1-D3-001		D3	Staff Office	1	16.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-D3-002			Parking Bay: pushchairs	1	2.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-D3-003	WC & handwash: specimen; wheelchair		1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D3-004	DSR		1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D3-005	Examination Room: Fields test		1	12.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
1-D3-006	C/E Orthoptic (6 metre room)		1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
1-D3-007	C/E Orthoptic (6 metre room)		1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
1-D3-008	C/E Orthoptic (6 metre room)		1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
1-D3-009	C/E Orthoptic (6 metre room)		1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
1-D4-001	D4	Waiting Area	1	13.5	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	
1-D4-002		ABR Room	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	
1-D4-003		Test Room	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	
1-D4-004		Shared Staff Office	1	32.8	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
1-D4-005		Testing/Clinic Rooms	1	21.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	9	Negative	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	
1-D4-006		Obs/Control	1	8.0	Diagnostic room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	
1-D4-007		Testing/Clinic Rooms	1	21.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	9	Negative	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	
1-D4-008		Obs/Control	1	8.0	Diagnostic room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	
1-D4-009		Waiting Area	1	3.5	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	
1-D4-010		Work Room	1	12.0	Small Workshop	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	
1-D4-012		Store	1	15.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D4-013		Mould Room	1	9.0	Small Workshop	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	
G-D5-002		Laboratory	1	10.0	Laboratory	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	
G-D5-003	Clean Utility / Dental Store	1	23.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m		

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	
G-D5-004	D5 Paediatric Dentistry	Surgery (multi-disciplinary)	1	20.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	10	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	
G-D5-005		Dirty Utility	1	11.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-D5-006		Mobile Inter-oral Storage	1	6.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-D5-007		Recovery	1	10.0	Recovery Bay / Recovery Room	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	None	A	90	Switch / Dimmer	Bed / Trolley 1.45m
G-D5-008		Surgeries (standard)	1	18.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	10	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
G-D5-009		Surgeries (standard)	1	18.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	10	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
G-D5-010		Surgeries (standard)	1	18.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	10	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-D6-001	D6 RHSC Therapies	Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
1-D6-002		Staff Office - All specialities (39 person)	1	159.0	Open Plan Office	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-D6-003		Meeting Room - 6 person	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6 people at 10 l/s per person (9ach)	6 people at 10 l/s per person (9ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-D6-004		Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-D6-005		Meeting Room - 4 person	1	6.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (10ach)	4 people at 10 l/s per person (10ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-D6-006		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-007		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-009		Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-D6-010		Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-D6-011		Store - TIP	1	4.5	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-013		Store - Dietetic	1	8.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-014		Store - Physio	1	32.5	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-015		Store - Physio	1	13.5	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-016		management office	1	20.5	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-D6-017		A&C Staff Office/Appliance Officer	1	36.9	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-D6-018		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-019		Equipment Decontamination	1	10.0	Equipment Decontamination	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	7	10	Negative	G4	43	41		200	n/a	None	A	80	Automatic Controls	General working plane 1m
1-D6-020		Dietetic Clinic Room	1	12.0	Diagnostic room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
1-D6-021		Dietetic Clinic Room	1	12.0	Diagnostic room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
1-D6-022		Waiting Play Area	1	33.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
1-D6-023		Reception	1	6.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-D6-024		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-025		Infant Measuring Room	1	6.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D6-026		Linen Bay	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-027		Standard Treatment Room	1	15.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
1-D6-028		Standard Treatment Room	1	15.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
1-D6-029		Standard Treatment Room	1	15.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
1-D6-030		Standard Distraction Free Treatment Room	1	15.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D6-031		Store - Dietetic	1	2.5	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-032		Large Distraction Free Treatment Room	1	20.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D6-035		Standard Distraction Free Treatment Room	1	15.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D6-036		Treatment Room (OT equip)	1	20.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
1-D6-037		Store - Physio	1	8.5	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-038		Store - OT	1	4.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-039		Rehabilitation Room	1	30.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
1-D6-040		Splinting / Casting Room	1	18.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-D6-041		Store - OT	1	16.5	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-042		Pantry	1	8.0	Pantry	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
1-D6-043		Store - Physio	1	6.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-044		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-045		Store - SALT	1	8.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-046		Rehabilitation Room	1	30.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
1-D6-047		Store - OT	1	2.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-048		Rehabilitation Room	1	30.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
1-D6-049		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m



Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	
1-D6-050		Store - Physio	1	3.5	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-052		Store - Physio	1	4.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-053		Rehabilitation Room	1	30.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	
1-D6-054		Rehabilitation Room (inc CV equip)	1	39.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	
1-D6-057		WC - assisted (large+changing)	1	12.3	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-060		Resus Bay	1	1.0	Resuscitation Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D6-061		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D7-001	D7	Assisted Bathroom	1	14.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D7-002		Dressings / Doppler/Store	1	4.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D7-003		Dressings Room (Burns)	1	16.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
1-D7-004		Sluice	1	6.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D7-005		Single Telephone Booth	1	4.0	Circulation Areas	28	18	Radiant Panels	Remote Sensor Adj.	No	None	to suit location	4	3	Balanced	G4	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-D7-006		Dressings Room (Burns)	1	16.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
1-D7-007		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		100	n/a	None	A	80	Automatic Controls	Floor 0m	
G-D8-001	D8	Open Plan Area	1	45.1	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	
G-D8-002		Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-D9-002	D9	Waiting Area	1	12.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	
3-D9-003		Reception:1 staff	1	3.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-D9-004		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-D9-005		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-D9-006		Interview, Counselling & Quiet Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (6ach)	4 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-D9-007		Office and Storage 2 staff	1	12.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-D9-008		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	28	16	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-D9-009		Physical Measurement	1	3.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
3-D9-010		Waiting Play Area	1	20.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	
3-D9-011		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
3-D9-012		Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m	
3-D9-013		Treatment Room	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	
3-D9-014		Pantry	1	8.0	Pantry	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
3-D9-015		Ward Management Office	1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
3-D9-016		Patient Treatment Lounge	1	32.4	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	
3-D9-017		Dirty Utility	1	11.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-D9-018		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	1 person at 10l/s/per person (7ach)	1 person at 10l/s/per person (7ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	
3-D9-019		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-D9-020		En-suite WC / WHB	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-D9-021		Parking Bay: 1 patient trolley/whch	1	5.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-D9-022		Multi Bed Room: day care, 3 beds	1	40.5	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	
3-D9-023		En-suite wheelchair-accessible WC, Shower & wash Multi	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-D9-024		Single Bedroom	1	17.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-D9-025		En-suite WC / WHB	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-D9-026		Linen Bay	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-D9-027		Store - General	1	8.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-D9-028		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-D9-030		DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m	
G-D10-001		D10	Ambulatory Care Shared Support	1	48.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
G-E1-001		E1	Multi-Functional Activity Zone	1	297.0	Patient Accommodation Day	25	18	Underfloor Heating	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	41		100	n/a	None	A	80	Switch	Bed / Trolley 1.45m
G-E1-002	RHSC OPD Reception		1	10.0	Reception	28	18	Underfloor Heating	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-E1-003	RHSC OPD Suite A Sub Waiting		1	54.0	Waiting Room	28	18	Underfloor Heating	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	
G-E1-004	Wheelchair Accessible		1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-E1-005	Wheelchair Accessible		1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
G-E1-006		WC Fully Accessible changing room	4	7.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-E1-007		Wheelchair Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-E1-008		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-E1-009		WC - Ambulant	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-E1-010		Wheelchair Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-E1-011		RHSC OPD Main Waiting	1	15.0	Waiting Room	28	18	Underfloor Heating	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-F1-002		Consultant Psychiatrist / Psychologist Office	1	20.5	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-003		Storage (testing)	1	6.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-F1-004		Ward Manager Office	1	16.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-005		Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (6ach)	4 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-006		Reception	1	6.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-007		Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (6ach)	4 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-008		Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (6ach)	4 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-009		Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (6ach)	4 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-010		Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-011		Waiting Area	1	3.5	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-F1-013		Storage / Photocopy	1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-F1-014		Secretary/Filing Office	1	18	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-016		Multi-Disciplinary Office	1	28.7	Multi Disciplinary Work Areas	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-017		Shower / WC / WHB assisted	1	6.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-F1-018		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-F1-019		Play Room	1	24.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
G-F1-020		Group Room	1	24.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	13 people at 10 l/s per person (8ach)	13 people at 10 l/s per person (8ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-021		Control / Viewing	1	10.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5 people at 10 l/s per person (7ach)	5 people at 10 l/s per person (7ach)	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-F1-022		Time Out Room	1	6.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
G-F1-023		Family Interview Room	1	12.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	8 people at 10 l/s per person (10ach)	8 people at 10 l/s per person (10ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-024		Large Group Room	1	30.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	130 people at 10 l/s per person (6ach)	130 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-026		Large Family Interview Room	1	14.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	8 people at 10 l/s per person (6ach)	8 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-027		Sitting Room	1	15.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
G-F1-028		Multi-Disciplinary Office	1	24.6	Multi Disciplinary Work Areas	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-030		Multi-Disciplinary Office	1	28.7	Multi Disciplinary Work Areas	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-031		Sitting Room	1	15.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
G-F1-032		Group Room	1	24.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
G-F1-033		Art Room	1	24.0	Classroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	15 people at 10 l/s per person (9ach)	15 people at 10 l/s per person (9ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
G-F1-034		Therapy / Play Therapy Room	1	15.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
G-F1-036		Dining Room (Inpatients & Day Prog)	1	62.0	Eating/Drinking	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
G-F1-037		Therapeutic Kitchen	1	22.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m
G-F1-038		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-F1-039		Ward kitchen	1	12.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m
G-F1-040		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-F1-041		Waiting Area	1	15.5	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-F1-042		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-F1-043		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-F1-044		Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-045		Multidisciplinary Office - ITS	1	24.6	Multi Disciplinary Work Areas	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-047		Recreation Room	1	45.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
G-F1-048		Group Room	1	24.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	8	Negative	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-049	F1	Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-F1-050		Physical Measurement	1	3.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-F1-051		Treatment Room	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-F1-052		Drug Room	1	6.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
G-F1-053		Multi-Disciplinary Office	1	28.7	Multi Disciplinary Work																					

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane		
G-F1-054		Laundry Room	1	6.0	Laundry	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	10	Negative	G4	43	60		300	n/a	None	A	80	Switch	Floor 0m		
G-F1-056		Open Space	1	31.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	
G-F1-057		Pantry	1	8.0	Pantry	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
G-F1-058		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-F1-059		Dirty Utility	1	6.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-F1-061		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-F1-062		Clinical Base - Open Plan Area	1	10.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-F1-063		Therapy Room	1	15.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-F1-065		Quiet Zone	1	23.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
G-F1-067		Single Bed Room	1	10.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-F1-068		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-F1-069		Single Bed Room	1	10.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-F1-070		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-F1-071		Single Bed Room	1	10.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-F1-072		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-F1-073		Single Bed Room	1	10.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-F1-074		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-F1-075		Single Bed Room	1	10.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-F1-076		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-F1-077		Single Bed Room	1	10.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-F1-078		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-F1-079		Single Bed Room	1	10.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-F1-080		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-F1-081		Single Bed Room	1	10.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-F1-082		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-F1-083		Single Bed Room	1	10.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-F1-084		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-F1-085		Single Bed Room	1	10.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-F1-086		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-F1-087		Single Bed Room (large)	1	11.5	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-F1-088		En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-F1-089		Linen Bay	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-F1-090		Single Bed Room (large)	1	11.5	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	6	via bedroom & ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
G-F1-091	En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m		
G-F1-092	Quiet Room	1	12	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m		
G-F1-096	Store	1	3.8	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m		
G-F1-099	Store	1	2.2	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m		
2-G2-002	G2	Equipment Library	DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m	
2-G2-003			Clean Equipment	1	50.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-G2-004			Dirty Equipment	1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-G2-005			Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	90	Automatic Controls	Floor 0m
1-G3-002	G3	On-Call Suite	On-Call Bedroom	1	10.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
1-G3-003			En-suite Shower / WC / WHB	1	4.5	Bathroom	28	18	Radiant Panels	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-G3-004			On-Call Bedroom	1	10.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-G3-005			En-suite Shower / WC / WHB	1	4.5	Bathroom	28	18	Radiant Panels	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-G3-006			On-Call Bedroom	1	10.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-G3-007			En-suite Shower / WC / WHB	1	4.5	Bathroom	28	18	Radiant Panels	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-G3-008			Mini Kitchen	1	3.6	Eating/Drinking	28	18	Radiant Panels	Remote Sensor Adj.	Yes		Comfort Cooled Fresh Air	Central Supply and Extract	0	5	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
1-G3-009			DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
4-H1-002				Conference / Meeting Room	1	25.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	15 people at 10 l/s per person (8ach)	15 people at 10 l/s per person (8ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
4-H1-003		Seminar / Tutorial Room	1	40.0	Classroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	36 people at 10 l/s per person (12ach)	36 people at 10 l/s per person (12ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m		
4-H1-004		Seminar / Tutorial Room	1	40.0	Classroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	32 people at 10 l/s per person (10ach)	32 people at 10 l/s per person (10ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to		



Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	
4-H1-005	H1 Child Life & Health	WC - Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-H1-006		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-H1-007		Waiting Area	1	10.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	
4-H1-008		Lockers	1	12.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m	
4-H1-009		WC - Ambulant	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-H1-010		WC - Ambulant	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-H1-011		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m	
4-H1-012		16 Person Office	1	80	Open Plan Office	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-H1-013		Admin Office	1	20.5	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-H1-014		Beverage Bay	1	3.0	Tea Making	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	
4-H1-015		Stationery / Photocopying	1	6.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-H1-016		Tissue Culture Room	1	9.0	Laboratory	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	
4-H1-017		Meeting Room - 4 person	1	6.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (Bach)	4 people at 10 l/s per person (Bach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-H1-018		Molecular Biology Laboratory	1	45.0	Laboratory	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	
4-H1-019		WC - Ambulant	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-H1-020		WC - Ambulant	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-H1-021		Student Records Store	1	12.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-H1-022		Laboratory / Finance Manager's Office	1	11	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-H1-024		Senior Academic Staff	1	11	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-H1-025		Senior Academic Staff	1	11	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-H1-026		Freezer Store	1	6.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-H1-027		Physiological Laboratory	1	45.0	Laboratory	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	
4-H1-028		Senior Academic Staff	1	11	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-H1-029		Head of Department	1	16	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-H1-030		Senior Academic Staff	1	11	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-H1-031		Senior Academic Staff	1	11	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-H1-032		Senior Academic Staff	1	11	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-H1-033		WC - Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-H1-035		Stationery / Photocopying	1	5.6	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-H1-036		Gas Store	1	2.3	Storage Area Med Gas	28	16	Frost protection	Room Thermostat	No	None	Central General Extract	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-H2-001		H2 Clinical Research Facility	Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-H2-002			Waiting Play Area	1	9.5	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
1-H2-004			Reception	1	3.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-H2-005			WC Accessible Patients	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-H2-006			DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
1-H2-007			Office - 4 person	1	20	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-H2-008	Linen Bay		1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-H2-009	Consult / Assessment		1	12.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
1-H2-010	Consult/Examination		1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
1-H2-011	WC Staff		1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-H2-012	Pantry		1	6.0	Pantry	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
1-H2-013	Store - Equipment		1	24.0	Storage Area Equipment	25	16	Radiant Panels	Remote Sensor Adj.	No	Ceiling Cassette - Chilled Water	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-H2-014	Clinical Study Room		1	63.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
1-H2-015	En-suite Shower / WC / WHB		1	6.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-H2-016	Sample Processing		1	15.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	8	8	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	
1-H2-017	Dirty Utility		1	6.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-H2-018	En-suite Shower / WC / WHB		1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	39	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-H2-020	Clean Utility		1	8.0	Clean Utility	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m	
1-H2-021	Isolation Bedroom		1	15.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	10	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
1-H2-022	En-suite Shower / WC / WHB		1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-H2-023	Isolation Bedroom Entrance Lobby		1	4.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply	36	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-H2-024	Single Bed Room		1	15.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	



Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
1-H2-028		Touch Down Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	2 people at 10 l/s per person (12ach)	2 people at 10 l/s per person (12ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
3-H3-001		Workshop / Tutorial Room	1	20.0	Classroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 people at 10 l/s per person (7ach)	10 people at 10 l/s per person (7ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
3-H3-002		Control Room	1	8.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
3-H3-003		Storage	1	15.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-H3-004		Workshop / Tutorial Room	1	20.0	Classroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 people at 10 l/s per person (7ach)	10 people at 10 l/s per person (7ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
3-H3-005		Scenario Room	1	20.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 people at 10 l/s per person (7ach)	10 people at 10 l/s per person (7ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-H3-006		WC / WHB disabled	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-H3-007		WC Ambulant	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-H3-008		WC Ambulant	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-H3-010		Workshop / Tutorial Room	1	20.0	Classroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 people at 10 l/s per person (7ach)	10 people at 10 l/s per person (7ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
3-H3-011		Beverage Bay	1	3.0	Tea Making	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m
3-H3-012		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
3-H3-013		Manual Handling, Health & Safety	1	15.0	Classroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	4	Positive	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
3-H3-014		Practice Based Educators Office	1	20	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-H3-015		Meeting Room	1	25.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	14 people at 10 l/s per person (7ach)	14 people at 10 l/s per person (7ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-H3-016		Seminar Room	1	40.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	23 people at 10 l/s per person (8ach)	23 people at 10 l/s per person (8ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-H3-018		Management/ Admin Office	1	15	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-H3-019		Computer Carrels	1	12.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-H3-020		Lockers	1	8.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-I1-001		Draught Lobby	1	15.0	Circulation Areas - Entrance Lobby	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-I1-002		Wheelchair Bay	1	6.0	Circulation Areas	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-I1-003		Security Office	1	12.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-I1-004		Vending Machine	1	3.0	Waiting Room	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-I1-005		Reception / Information Desk	1	12.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-I1-006		Retail Shop	1	30.0	Retail Shop	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	3	3	Balanced	None	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-I1-007		Catering Shop	1	30.0	Catering Shop	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	3	3	Balanced	None	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-I1-008		Waiting Area	1	16.5	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-I1-009		Public Telephone Booth	1	2.0	Circulation Phone Booth	28	18	Adjacent Space Transfer Air	None	No	None	n/a	0	0	n/a	n/a	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-I1-010		WC - Visitors	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-I1-011		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-I1-012		Assisted Change/Nappy Change	1	7.0	Nappy Change	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-I1-013		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-I1-014		Fire Control room	1	12.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
B-I2-002		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
B-I2-004		Store - Beds	1	96.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-I2-005		Store - Toys	1	12.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-J1-001		Lobby	1	3.0	Circulation Areas - Entrance Lobby	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-J1-002		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-J1-003		Body Viewing Room	1	18.0	Body View	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	6	Negative	G4	43	n/a		300	n/a	None	A	80	Switch / Dimmer	Floor 0m
1-J1-004		Sitting Room with Beverage Bay	1	20.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
G-J2-002		Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6 people at 10 l/s per person (10ach)	6 people at 10 l/s per person (10ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-J2-003		Prayer / Meditation / Reflection Area	1	40.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
G-J2-004		WC wheelchair accessible / Ritual Washing Area	1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-J2-005		Store	1	6.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-J2-006		Office	1	12.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-K1-001		Meeting Rooms (family size)	1	15.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 people at 10 l/s per person (9ach)	10 people at 10 l/s per person (9ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-K1-002		Meeting Rooms (family size)	1	15.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 people at 10 l/s per person (9ach)	10 people at 10 l/s per person (9ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-K1-003		Office 1	1	15.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-K1-004		Office 6	1	20.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-K1-005		Office 2	1	15.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-K1-006		Waiting	1	8.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-K1-007		Nappy Changing Room	1	4.0	Nappy Change	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane		
G-K1-008	K1 Family Support	WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m		
G-K1-010		Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (6ach)	4 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-K1-011		Office 3	1	10	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-K1-012		Office 5	1	19.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-K1-013		Store	1	24.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-K1-015		Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (6ach)	4 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-K1-016		Drop-In Lounge / Beverage Bay	1	35.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
G-K1-017		Drop-In Multi-Purpose Room	1	39.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	8	Negative	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-K1-018		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-K1-019		Beverage Bay	1	3.0	Tea Making	28	18	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	
G-K1-021		Complementary Therapy Room	1	15.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-K1-022		Radio Lollipop Broadcasting Studio, Lobby	1	20.0	Circulation Areas	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	to suit location	to suit location	to suit location	Balanced	G4	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-K1-023		Wheelchair Bay	1	6.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-K1-024		Office 4	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-K1-025		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-K1-026		DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m	
G-K1-029		Disposal Hold	1	4.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-002		K2 Family Hotel	Reception/Waiting	1	6.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
3-K2-003			Office - 1 person	1	8.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
3-K2-004			WC - Female	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-005	WC - Male		1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-006	Lounge - non residents		1	30.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
3-K2-007	WC - Wheelchair accessible		1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-008	Family Room for 4 persons inc en-suite		1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-K2-009	En-suite Shower / WC / WHB		1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-010	Family Room for 4 persons inc en-suite		1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-K2-011	En-suite Shower / WC / WHB		1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-012	Family Room for 4 persons inc en-suite		1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-K2-013	En-suite Shower / WC / WHB		1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-014	Family Room for 4 persons inc en-suite		1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-K2-015	En-suite Shower / WC / WHB		1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-016	Family Room for 4 persons inc en-suite		1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-K2-017	En-suite Shower / WC / WHB		1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-019	Family Room accessible for 4 persons inc en-suite		1	24.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-K2-020	En-suite Shower / WC / WHB		1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-021	Family Room for 4 persons inc en-suite		1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-K2-022	En-suite Shower / WC / WHB		1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-023	Family Room for 4 persons inc en-suite		1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-K2-024	En-suite Shower / WC / WHB		1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-025	Family Room for 4 persons inc en-suite		1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-K2-026	En-suite Shower / WC / WHB		1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-027	Family Room for 4 persons inc en-suite		1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-K2-028	En-suite Shower / WC / WHB		1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-029	Family Room for 4 persons inc en-suite		1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-K2-030	En-suite Shower / WC / WHB		1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-032	Family Room for 4 persons inc en-suite		1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-K2-033	En-suite Shower / WC / WHB		1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-035	Family Room for 4 persons inc en-suite	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m		
3-K2-036	En-suite Shower / WC / WHB	1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m		
3-K2-037	Family Room for 4 persons inc en-suite	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m		
3-K2-038	En-suite Shower / WC / WHB	1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m		
3-K2-039	Store	1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None												

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	
3-K2-040	Family Room	Family Room for 4 persons inc en-suite	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
3-K2-041		En-suite Shower / WC / WHB	1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-042		Laundry	1	15.0	Laundry	28	18	Adjacent Space Transfer Air	None	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative	G4	43	60		300	n/a	None	A	80	Switch	Floor 0m
3-K2-043		En-suite Shower / WC / WHB	1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-044		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-K2-045		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-K2-046		En-suite Shower / WC / WHB	1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-047		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-048		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-050		Kitchen / Dining Rooms	1	116.0	Pantry	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
3-K2-051		Residents Day Room	1	18.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
3-K2-053		Residents Play Room	1	18.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
3-K2-054		Switch/Meter Cupboard	1	6.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-057		Store	1	12.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-058		En-suite Shower / WC / WHB	1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-059		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-K2-060		Family Room accessible for 4 persons inc en-suite	1	24.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-K2-061		En-suite Shower / WC / WHB	1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-062		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-K2-063		En-suite Shower / WC / WHB	1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-064		En-suite Shower / WC / WHB	1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-065		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-K2-066		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-K2-067		En-suite Shower / WC / WHB	1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-068		En-suite Shower / WC / WHB	1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-069		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-K2-071		En-suite Shower / WC / WHB	1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-072		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-K2-073		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-K2-074		En-suite Shower / WC / WHB	1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-075		Family Room for 4 persons inc en-suite	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
3-K2-076		En-suite Shower / WC / WHB	1	6.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-K2-078	Laundry	1	15.0	Laundry	28	18	Adjacent Space Transfer Air	None	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative	G4	43	60		300	n/a	None	A	80	Switch	Floor 0m	
3-K2-080	Storage - refuse	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
3-K2-085	Fundraisers	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
1-L1-002	Family Room	Single Bed Room	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
1-L1-003		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-004		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-005		Receiving/Resuscitation area	1	30.0	Resuscitation Bay	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Supply	10	0	Positive	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-006		Single Bed Room	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-L1-007		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-008		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	No	None	Central Supply and Extract	2 people at 10l/s/per person (13ach)	2 people at 10l/s/per person (13ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
1-L1-009		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	28	16	Adjacent Space Transfer Air	None	No	No	None	None	0	0	n/a	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-010		Single Bed Room	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-L1-011		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-012		Waiting Area, relatives	1	30.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
1-L1-013		Refreshment: Vending Machine	1	3.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
1-L1-014		WC - Wheelchair accessible (Visitors)	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-015		Single Bed Room	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-L1-016		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-017		Single Bed Room	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-L1-018		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a					



Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
1-L1-019	L1 DCN Acute Care - 24 Beds	Linen Bay	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-020		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-021		Single Bed Room	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-L1-022		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-023		Staff Base	1	6.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-L1-024		Single Bed Room	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-L1-025		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-026		WC - Wheelchair accessible (Visitors)	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-027		Patient Waiting	1	20.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
1-L1-028		Multi-Disciplinary Office / Reception	1	18.0	Multi Disciplinary Work Areas	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-L1-029		Consulting/Examination Room	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-L1-030		Consulting/Examination Room	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-L1-031		Consulting/Examination Room	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-L1-032		Consulting/Examination Room	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-L1-033		Dirty Utility	1	14.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-034		Single Bed Room	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-L1-035		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-036		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	2 people at 10l/s/per person (13ach)	2 people at 10l/s/per person (13ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
1-L1-037		Interview/Relatives Quiet Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (6ach)	4 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-L1-038		Single Bed Room	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-L1-039		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-040		En-suite Shower/ WC/ WHB	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-044		Single Bed Room	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-L1-046		Ward Management Office	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-L1-047		Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
1-L1-052		Staff Room	1	9.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
1-L1-053		Multi-disciplinary Office	1	18.0	Multi Disciplinary Work Areas	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-L1-054		Ward Kitchen	1	12.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m
1-L1-055		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	2 people at 10l/s/per person (5ach)	2 people at 10l/s/per person (5ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
1-L1-060		Teaching Room	1	20.0	Classroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 people at 10 l/s per person (6ach)	10 people at 10 l/s per person (6ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
1-L1-061		Dirty Utility	1	14.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-066		Single Bed Room	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-L1-067		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-068		Single Bed Room	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	10	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-L1-069		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	46	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-070		Interview/Relatives Quiet Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (6ach)	4 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-L1-071		Linen Bay	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-072		WC Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-073		WC Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-074		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	28	16	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-075	Staff Base	1	6.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
1-L1-076	Storage Consumables	1	18.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-L1-077	En-suite Accessible Shower/Wc/WHB	1	6.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-L1-078	Hoist Bay	1	3.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-L1-079	WC Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-L1-080	WC: Independent Wheelchair	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-L1-082	Relatives Overnight Stay Room	1	10.0	Relatives Overnight Stay	28	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41		100	n/a	None	A	80	Switch	Bed / Trolley 1.45m	
1-L1-083	Single Bedroom (level 1)	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
1-L1-084	Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-L1-085	Mobile X-Ray Bay	1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-L1-086A	Storage Equipment	1	5.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-L1-086B	Storage Equipment	1	5.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
1-L1-087		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-088		Single Bedroom (level 1)	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-L1-089		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	2 people at 10l/s/per person (5ach)	2 people at 10l/s/per person (5ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
1-L1-090		Storage Stationery	1	4.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-091		Single Bedroom (level 1)	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-L1-092		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-093		Single Bedroom (level 1)	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
1-L1-094		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-095		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-096		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-097		4 Bed Room	1	64.0	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m
1-L1-099		En-suite	1	6.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-100		4 Bed Room	1	64.0	Multi-bed Wards	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m
1-L1-101		En-suite	1	6.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-103		Treatment Room	1	16	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
1-L1-104		Isolation Lobby	1	4.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply	56	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-L1-108		Physical Measure	1	2.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-L1-109		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	2 people at 10l/s/per person (7ach)	2 people at 10l/s/per person (7ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
2-L2-002		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-003		Linen Bay	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-004		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-005		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-006		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-007		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-008		Hoist Bay	1	3.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-009		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	2 people at 10l/s/per person (13ach)	2 people at 10l/s/per person (13ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
2-L2-010		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-011		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-012		Store	1	12.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-013		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-014		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-015		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-016		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-017		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	2 people at 10l/s/per person (13ach)	2 people at 10l/s/per person (13ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
2-L2-018		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-019		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-020		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	28	16	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-021		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-022		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-023		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-024		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-025		Touchdown Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	2 people at 10l/s/per person (13ach)	2 people at 10l/s/per person (13ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
2-L2-026		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-027		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-028		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-029		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-030		Dirty Utility	1	14.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-031		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-032		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-033		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-034		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-035		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
2-L2-036	L2 DCN Inpatients - 43 Beds	Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-037		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-038		Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	28	18	Warm Air - Reheat Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply	49	0	Positive	F7	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-039		Single Isolation Bedroom	1	19.0	Isolation Bedroom	28	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-040		Isolation Shower Room	1	4.5	Isolation Shower Room Ensuite	28	20	Adjacent Space Transfer Air	None	No	None	Dirty Extract	0	42	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-041		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-042		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-043		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-044		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-045		Touchdown Base	8	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	2 people at 10l/s per person (13ach)	2 people at 10l/s per person (13ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
2-L2-046		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-047		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-048		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-049		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-050		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-051		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-052		Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
2-L2-053		Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (6ach)	4 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
2-L2-054		Dirty Utility	1	14.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-055		Sitting Room	1	12.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
2-L2-056		Ward Management Office	1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
2-L2-057		Multi-disciplinary Office	1	18.0	Multi Disciplinary Work Areas	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
2-L2-058		Store	1	12.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-059		Hoist Bay	3	3.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-060		WC: Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-061		WC: Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-062		Ward Kitchen	1	16.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m
2-L2-063		Touchdown Base	7	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	2 people at 10l/s per person (13ach)	2 people at 10l/s per person (13ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
2-L2-064		Mobile X-Ray Bay	1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-065		WC: Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-066		WC: Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-067		Clinical Supplies Store	1	16.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-068		WC: Independent Wheelchair	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-069		Teaching Room	1	20.0	Classroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	9 people at 10 l/s per person (6ach)	9 people at 10 l/s per person (6ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
2-L2-070		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-071		WC: Ambulant	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-072		WC: Ambulant	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-073		Reception	1	3.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
2-L2-074		Waiting Area	1	16.5	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
2-L2-075		Multi-disciplinary Office	1	18.0	Multi Disciplinary Work Areas	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
2-L2-076		Ward Management Office	1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
2-L2-077		Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (6ach)	4 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
2-L2-078		Ward Kitchen	1	16.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m
2-L2-079	Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m	
2-L2-080	Assisted Bathroom	1	14.0	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
2-L2-081	Sitting Room	1	12.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
2-L2-082	Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
2-L2-083	Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
2-L2-084	Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	
2-L2-085	Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
2-L2-086	Touchdown Base	6	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	2 people at 10l/s per person (13ach)	2 people at 10l/s per person (13ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	
2-L2-087	Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	







Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
2-L2-141		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-142		Single Bedroom	1	19.0	Bedroom	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m
2-L2-143		Shower Room:en-suite	1	4.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-144		Linen Bay	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-L2-152		Physical Measure	1	3.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
2-L2-153		Touchdown Base - no longer used	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s/per person	10l/s/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
G-M1-002	M1	Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-003		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-004		Nurse Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	1 person at 10l/s/per person (6ach)	1 person at 10l/s/per person (6ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
G-M1-005		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-M1-006		Linen Bay	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-M1-007		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-008		Physical Measurement	1	3.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-009		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-010		Pre Op Clinic Team Office (3 person)	1	3.5	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-M1-011		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-012		Consult/Multi-Disciplinary	1	24.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-013		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-014		Treatment Room (with prep area)	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-015		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-016		Clean Utility	1	8.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
G-M1-017		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-018		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-019		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-020		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-021		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-022		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-023		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-024		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-025		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-027		Consult/Multi-Disciplinary	1	24.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-M1-028		Dirty Utility: urine test	1	11.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-M1-029		Outpatients Management Office	1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-M1-031		Nurse Base	1	2.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	1 person at 10l/s/per person (7ach)	1 person at 10l/s/per person (7ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
G-M1-032		Main Waiting	1	59.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-M1-034		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-M1-035		WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-M1-036	Staff Room	1	12.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
G-M1-037	Store: Clinical Supplies, Equipment & Stationery	1	15.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-M1-038	Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-M1-039	WC Fully Accessible Changing Room	1	7.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m	
G-M1-040	Physical Measurement	1	3.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-M1-041	Store - Equipment / General	1	6.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-M1-042	Phlebotomy Room	1	8.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	
G-M1-043	Public Telephone Booth	1	1.5	Circulation Phone Booth	28	18	Adjacent Space Transfer Air	None	No	None	n/a	0	0	n/a	n/a	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-M1-045	WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
G-M1-046	Medical Records Store	1	8.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-M1-047	Enquiry / Information Desk: 2 staff	1	12.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-M1-049	Patient Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (7ach)	4 people at 10 l/s per person (7ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
G-M1-050	DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m	
G-M1-051	Sub Waiting Area	1	16.5	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	
2-M2-002		Staff Office	1	65.6	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane		
2-M2-003	M2	DCN Therapies	Reception	1	8.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m		
2-M2-004			Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (6ach)	4 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a	300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m		
2-M2-005			Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (6ach)	4 people at 10 l/s per person (6ach)	Balanced	G4	43	n/a	300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m		
2-M2-006			Waiting	1	18.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m		
2-M2-007			ADL Bathroom, Shower, WC with hoists	1	13.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M2-008			Physio Treatment Room	1	15.0	Physiotherapy Studio	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	6	Negative	G4	43	41	300	n/a	None	A	80	Switch / Dimmer	Floor 0m		
2-M2-009			ADL Kitchen	1	22.0	Pantry	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m		
2-M2-010			Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m		
2-M2-011			Distraction Free Treatment Room	1	15.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m		
2-M2-012			Distraction Free Treatment Room	1	15.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m		
2-M2-013			Staff Lockers	1	4.5	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M2-014			WC Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M2-015			Staff Toilet	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M2-016			Staff Toilet	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M2-017			Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M2-018			Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M2-019			Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M2-020			Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41	100	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M2-021			Store: General/Equipment	1	25.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M2-022			Patient Toilet	1	5.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M2-023			Multi-Purpose Rehabilitation Room	1	80.0	Physiotherapy Studio	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	6	Negative	G4	43	41	300	n/a	None	A	80	Switch / Dimmer	Floor 0m		
2-M2-024			Store: General/Equipment	1	5.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M2-025			Store: General/Equipment	1	20.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M3-002			M3	Programmed Investigations Unit	Treatment Room	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
2-M3-003					Treatment Area	1	45.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
2-M3-004	Waiting area: 4 & 2 wheelchairs	1			17.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m		
2-M4-002	M4	DCN Neurophysiology	Waiting Area (DCN)	1	15.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m		
2-M4-003			Secretarial Office	1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m		
2-M4-004			Reporting Room	1	20.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m		
2-M4-005			HOD Office	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m		
2-M4-006			WC - wheelchair accessible (DCN)	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M4-007			Quiet Room	1	10.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m		
2-M4-008			EMG/Nerve Conduction Room	1	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	8	8	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m		
2-M4-009			EMG/Nerve Conduction Room	1	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	8	8	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m		
2-M4-011			EMG/Nerve Conduction Room	1	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	8	8	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m		
2-M4-012			VTEM/Ambulatory Review Room	1	20.0	Diagnostic room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	8	8	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m		
2-M4-013			Clinical Physiologist Room	1	24.6	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a	400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m		
2-M4-014			WC - Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M4-016			Store / Records	1	32.5	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Automatic Controls	Floor 0m		
2-M4-017			EEG Recording Room	1	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	8	8	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m		
2-M4-018			EEG Recording Room	1	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	8	8	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m		
2-M4-019			EEG Recording Room	1	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	8	8	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m		
G-N1-001			N1	DCN Entrance	Reception / Information Desk	1	6.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-N1-002	Draught Lobby	1			9.0	Circulation Areas - Entrance Lobby	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a	200	n/a	None	A	80	Automatic Controls	Floor 0m		
G-N1-003	WC - Wheelchair accessible	1			4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Automatic Controls	Floor 0m		
G-N1-004	WC - Visitors	1			3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Automatic Controls	Floor 0m		
G-N1-005	Wheelchair Bay	1			6.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Automatic Controls	Floor 0m		
G-N1-006	Vending Machine	1			3.0	Circulation Areas	28	18	underfloor heating / none to suit location	BMS Adjustable Sensor	No	None	to suit location	to suit location	to suit location	Balanced	G4	43	41	200	n/a	None	A	80	Automatic Controls	Floor 0m		
G-N1-007	Waiting Area	1			8.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m		
2-N2-002	N2	DCN Wards / Health Records Support - (N2)	Staff Room	1	34.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m		
2-N2-003			Grab & Go	1	20.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Automatic Controls	Floor 0m		
2-N2-004			Disposal Hold (small)	1	4.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	200	n/a	None	A	80	Automatic Controls	Floor 0m		

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
2-N2-005		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-002		Physical Measurement Bay	1	3.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-P1-003		Single Bedroom	1	15.0	Bathroom	28	20	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-004		En-suite WC / WHB	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-005		Single Bedroom	1	15.0	Bathroom	28	20	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-006		En-suite WC / WHB	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-007		Clinic Room	1	12.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
1-P1-008		Clinic Room	1	12.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
1-P1-009		Interview Room - DCU	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (7ach)	4 people at 10 l/s per person (7ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-010		Single Rooms ensuite	1	15.0	Bathroom	28	20	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-011		En-suite WC / WHB	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-012		SDCU Discharge Lounge	1	40.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
1-P1-013		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-014		Interview Room - DCU	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (7ach)	4 people at 10 l/s per person (7ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-015		SDCU Dispensary	1	8.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
1-P1-016		Pantry (DCU)	1	8.0	Pantry	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
1-P1-017		Wheelchair Parking Bay	1	1.5	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-018		Linen Bay	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-020		WC - Patients	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-021		SDCU Post Op Staff Base/Utility	1	10.0	staff base	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	2 people at 10 l/s per person (7ach)	2 people at 10 l/s per person (7ach)	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m
1-P1-022		Recovery Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
1-P1-023		Recovery Dirty Utility	1	14.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-024		SDCU Recovery	1	88.0	Recovery Bay / Recovery Room	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	None	A	90	Switch / Dimmer	Bed / Trolley 1.45m
1-P1-025		SDCU Recovery Room	1	11	Recovery Bay / Recovery Room	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	None	A	90	Switch / Dimmer	Bed / Trolley 1.45m
1-P1-026		SDCU Recovery Room	1	11	Recovery Bay / Recovery Room	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	None	A	90	Switch / Dimmer	Bed / Trolley 1.45m
1-P1-027		Linen Bay	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-028		Recovery Staff Base	1	12.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-029		Post Anaesthetic Recovery	1	93.8	Recovery Bay / Recovery Room	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	None	A	90	Switch / Dimmer	Bed / Trolley 1.45m
1-P1-030		Recovery room: post anaesthetic, 1 place	1	26.0	Recovery Bay / Recovery Room	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	None	A	90	Switch / Dimmer	Bed / Trolley 1.45m
1-P1-031		Recovery room: post anaesthetic, 1 place	1	26.0	Recovery Bay / Recovery Room	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	None	A	90	Switch / Dimmer	Bed / Trolley 1.45m
1-P1-032		Operating Theatre	1	55.0	Operating Theatre Suite	31	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	25	7	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-033		Anaesthetic Room	1	19.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-034		Scrub-up (single)	1	11.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	12	Negative	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-035		Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-036		Image Intensifier Bay	1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-038		Satellite Pharmacy Store	1	6.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
1-P1-039		Preparation Room	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	0	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-040		Exit Bay	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	0	Balanced	F7	43	41		300	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m
1-P1-041		Utility Room	1	14.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	39	Negative	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-042		Parking bay: fibre optic bronchoscope light source trolley	1	1.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-043		X-Ray/Ultrasound Bay	1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-044		Operating Theatre	1	55.0	Operating Theatre Suite	31	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	25	7	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-045		Preparation Room	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	0	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-046		Scrub-up (single)	1	11.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	12	Negative	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-047		Anaesthetic Room	1	19.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-048		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-049		Clean Scopes Store	1	8.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-050		Day Case Theatre	1	40.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	25	7	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m
1-P1-051		MRI Reporting	1	15.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-052		WC-Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-053		Staff Room	1	60.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
1-P1-054		Sub-Wait Area	1	4.5</																						



Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	
1-P1-055	P1 Operating Theatres & RHSC Surgical Day Case Unit	Inpatient Holding Bays	1	8.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-P1-056		Inpatient Holding Bays	1	8.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-P1-057		Trolley Bay	1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-P1-058		Angiography Procedures Machine Room	1	16.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-059		Preparation Room	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	0	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-060		Trolley Bay	1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-P1-061		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-P1-063		Preparation Room	1	14.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	0	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-064		MRI Room	1	45.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	8 & 25 (Theatre Mode)	8	Positive	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
1-P1-065		Control Room - MRI	1	16.0	Cellular / Ward Offices	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-066		Anaesthetic Room	1	19.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-067		Exit Bay	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	0	Balanced	F7	43	41		300	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m
1-P1-068		Equipment Room - MRI	1	14.5	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-069		Anaesthetic Room	1	19.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-070		Operating Theatre	1	55.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	25	7	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-071		Scrub-up (single)	1	11.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	12	Negative	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-072		Preparation Room	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	0	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-073		Scrub-up (single)	1	11.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	12	Negative	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-074		Anaesthetic Room	1	19.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-075		Preparation Room	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	0	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-076		Exit Bay	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	0	Balanced	F7	43	41		300	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m
1-P1-077		Utility Room	1	14.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	39	Negative	F7	43	41		150	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m
1-P1-078		Operating Theatre	1	55.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	25	7	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-079		Preparation Room	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	0	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-080		Scrub-up (single)	1	11.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	12	Negative	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-083		Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-084		Image Intensifier Bay	1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-P1-085		Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-086		Medical Gas Cylinder Store	1	4.0	Storage Area Med Gas	28	16	Frost protection	Room Thermostat	No	No	None	Central General Extract	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-087		Clinical Equipment Store	1	60.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-088		IPS Room	1	1.5	IPS Room	Manufacturer Dependant	Manufacturer Dependant	None	None	No	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-089		DCN Nurse Management Office	1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-090		Dirty Utility: bedpan disposal & urine test	1	14.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-P1-091		Operating Theatre	1	55.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	25	7	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-092		Utility Room	1	14.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	39	Negative	F7	43	41		150	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m
1-P1-093		Angiography Procedures Room	1	55.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	25	7	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-094		Angiography Procedures Control Room	1	16.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-095		Sterile Supplies Store	1	12.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
1-P1-097		Image Intensifier Bay	1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-P1-098		WC-Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-P1-099		Sterile Supplies Store	1	89.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
1-P1-100		Female Staff Changing and Lockers	1	70.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-101		Clean Trays	1	12.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m	
1-P1-102		Male Staff Changing and Lockers	1	60.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-103		Footwear Machine Washing Area	1	4.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	Yes	Yes	Ceiling Cassette - Chilled Water	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-104		Dirty Trays	1	6.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-P1-105		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-P1-106		Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
1-P1-107		Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	28	16	Adjacent Space Transfer Air	None	No	None	None	None	0	0	n/a	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-108		Linen Bay	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
1-P1-109		Recovery bay: post anaesthetic, 1 place	1	108.0	Recovery Bay / Recovery Room	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	None	A	90	Switch / Dimmer	Bed / Trolley 1.45m
1-P1-113		Staff and communication base, enclosed 3 staff	1	12.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
1-P1-116		Consulting, examination & changing room	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-P1-117		IPS Room	1	1.8	IPS Room	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central Supply and Extract	0	3	Negative	None	43	n/a	0	200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-118		Consulting, examination & changing room	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-P1-119		Reception, administration office & communication base. 4 staff	1	24.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-120		Consulting, examination & changing room	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-P1-121		Interview, counselling & quiet room: 5 persons	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5 people at 10 l/s per person (8ach)	5 people at 10 l/s per person (8ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-122		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-123		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-124		Duty Room: 2 porters	1	5.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-127		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-128		Admissions Lounge	1	36.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
1-P1-129		Operating Theatre	1	55.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	25	7	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-130		Utility Room	1	14.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	39	Negative	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-131		Operating Theatre	1	55.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	25	7	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-132		Anaesthetic Room	1	19.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-133		Scrub-up (single)	1	11.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	12	Negative	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-134		Preparation Room	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	0	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-135		Exit Bay	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	0	Balanced	F7	43	41		300	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m
1-P1-136		Preparation Room	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	0	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-137		Scrub-up (single)	1	11.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	12	Negative	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-138		Anaesthetic Room	1	19.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-140		Operating Theatre	1	55.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	25	7	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-141		Anaesthetic Room	1	19.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-143		Office Senior Nurse Theatres	1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-144		Image Intensifier Bay	1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-145		Dictation / 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-146		Clinical Equipment Store	1	28.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-147		Office Staff	1	16.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-148		Scrub-up (single)	1	11.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	12	Negative	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-149		Preparation Room	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	0	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-151		Exit Bay	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	0	0	Balanced	F7	43	41		300	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m
1-P1-152		Utility Room	1	14.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	39	Negative	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-153		Preparation Room	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	0	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-154		Scrub-up (single)	1	11.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	12	Negative	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-155		Operating Theatre	1	55.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	25	7	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-156		Anaesthetic Room	1	19.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-158		Dirty Scopes Store	1	6.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-159		Store - Plaster	1	6.0	Storage Area Equipment	28	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-161		Disposal Hold	1	15.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-162		Staff Reception / Office / Control Base	1	20.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-163		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-164		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-165		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-167		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-168		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-169		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-170		Immediate Pre Theatre Wait	1	51.5	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
1-P1-171		WC-Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-172		Charge Nurse Office	1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
1-P1-173		Locker Bay	1	13.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-174		General Office	1	14.5	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.																	

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
1-P1-176		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-P1-177		Consult/Examination	1	15.5	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
1-P1-178		Main Waiting/Play Area	1	50.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
1-P1-179		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-180		WC Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-183		Anaesthetic Room	1	19.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-184		Anaesthetic Room	1	19.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-185		Scrub-up (single)	1	11.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	12	Negative	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-186		Exit Bay (interoperative)	1	6.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	0	Balanced	F7	43	41		300	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m
1-P1-187		Utility Room (interoperative)	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	39	Negative	F7	43	41		150	n/a	None	A	90	Switch	Bed / Trolley 1.45m
1-P1-193		Toy Wash Store	1	4.5	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-194		Cleaner Cupboard	1	1.5	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-195		Store (RHSC)	1	N/A	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
1-P1-196		Preparation Room	1	12.0	Operating Theatre Suite	25	18	warm air via AHU Battery	Local / BMS Adjustable	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	0	Positive	F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m
1-P1-197		IV Store	1	N/A	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-002		IPS Room	1	1.0	IPS Room	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-003		Nappy Change Room with handwash	1	4.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-004		General X-Ray Room	1	33.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-Q1-005		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-006		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-007		Trolley Bay	1	4.0	Circulation Equipment Storage Bays	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Supply Only	to suit location	0	Positive	G4	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-008		Processing Area	1	30.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-Q1-009		Acute Reporting	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-010		Ultrasound Room	1	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-Q1-011		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-012		General X-Ray Room	1	33.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-Q1-013		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-014		Ultrasound Room	1	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-Q1-015		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-016		Screening Room (fluoroscopy)	1	39.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-Q1-017		Preparation Room	1	10.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-Q1-018		Ultrasound Sub Wait	1	10.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-Q1-019		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-020		Patient Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-021		Baby Infant / Feeding Room	1	4.0	Baby Feeding	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-022		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-023		Registrars Office (5 desks)	1	20.5	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-024		Dirty Utility	1	9.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-025		Radioactive Waste Store	1	2.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-027		Cold Waiting Area	1	10.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-Q1-028		Preparation Room	1	14.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-Q1-029		WC - Wheelchair accessible (hot)	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-030		Gamma Camera Admin Office	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-031		Medical Physics Office	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-032		Gamma Camera Reporting	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-033		Emergency Shower	1	2.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-034		Hot Waiting Area	1	10.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-Q1-035		Injection Room	1	8.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-Q1-036		Recovery Area	1	15.0	Recovery Bay / Recovery Room	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	None	A	90	Switch / Dimmer	Bed / Trolley 1.45m
G-Q1-037		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-039		Gamma Camera	1	40.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-Q1-041		Beverage Bay	1	3.0	Tea Making	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m



Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
G-Q1-042	Q1 Radiology	Gamma Camera Control Area	1	17.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-Q1-043		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-044		Gamma Camera	1	40.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-Q1-045		Injection Room	1	8.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-Q1-046		Stress Room (myocardial work)	1	14.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-Q1-047		Hot Waiting Area	1	10.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-Q1-048		WC - Wheelchair accessible (hot)	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-049		WC - Wheelchair accessible (cold)	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-050		Cold Waiting Area	1	10.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-Q1-052		Counting Laboratory	1	14.0	Laboratory	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
G-Q1-053		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-054		Meeting Room - 4 person	1	6.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (10ach)	4 people at 10 l/s per person (10ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-055		Meeting Room - 6 person	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6 people at 10 l/s per person (9ach)	6 people at 10 l/s per person (9ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-057		Other Clinical Staff Office (7 Person)	1	28.7	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-058		Acute Reporting	1	25.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-059		CT Room	1	36.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-Q1-061		Disabled Toilet	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-062		WC - Patients	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-063		Linen Bay	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-064		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-066		Preparation Room	1	26.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-Q1-067		Disabled Toilet	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-068		Toilets	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-069		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-070		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-071		Control Room - CT	1	16.0	Cellular / Ward Offices	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-072		Teleradiology Reporting	1	12.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-073		Quiet Reporting	1	20.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-074		Consultant Office (5 person)	1	20.5	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-075		Consultant Office (5 person)	1	20.5	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-076		Ultrasound Admin Office	1	15.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-077		Admin Office	1	28.7	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-078		Waiting Area - Main Dept	1	40.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-Q1-079		Reception	1	8.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-080		Waiting Area	1	35.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-Q1-081		Doppler Ultrasound	1	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-Q1-082		Meeting Room - 4 person	1	6.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4 people at 10 l/s per person (9ach)	4 people at 10 l/s per person (9ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-083		Photocopy Room	1	6	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-084		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-086		Control Room - MRI	1	24.0	Cellular / Ward Offices	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-089		Inpatient Holding Bays	1	43.2	Circulation Equipment Storage Bays	28	16	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10	6	Positive	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-092		MRI Room	1	45.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	8	8	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-Q1-094		Sub Wait	1	6.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-Q1-095		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-096		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-097		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-098		Recovery Bays	1	8.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	90	Automatic Controls	Floor 0m
G-Q1-099		Equipment Room	1	16.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-100		Equipment Room	1	16.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-102		DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-103		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-104		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m



Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
G-Q1-105		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-106		Changing Cubicles	1	4.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-108		Injection Room	1	12.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-Q1-109		Toilets	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-110		MRI Room	1	45.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	8	8	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-Q1-111		Control Room - MRI	1	24.0	Cellular / Ward Offices	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-112		Clean Utility	1	10.0	Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Automatic Controls	General working plane 1m
G-Q1-113		Dirty Utility	1	9.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-114		Store Room	1	20.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-115		Adult Waiting Area	1	8.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-Q1-119		Waiting Area	1	12.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-Q1-120		MRI Reporting	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-121		Baby Infant / Feeding Room	1	4.0	Baby Feeding	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-123		MRI Room	1	45.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	8	8	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-Q1-124		Equipment Room	1	16.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-125		Recovery Area - 1 place	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	None	A	90	Switch	Bed / Trolley 1.45m
G-Q1-126		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-127		WC - Wheelchair accessible & change	1	7.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-128		Accessible Changing Cubicles	1	6.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-129		Accessible Changing Cubicles	1	6.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-130		Induction Area - 1 place	1	16.0	Treatment Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m
G-Q1-131		Staff WC	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-132		WC - Wheelchair accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-133		Equipment Room - MRI	1	16.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-Q1-134		MRI Room	1	45.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	8	8	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-Q1-135		Control Room - CT/MRI	1	24.0	Cellular / Ward Offices	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-136		CT Room	1	36.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m
G-Q1-137		Main Reporting	1	25.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-138		Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-139		Linen Bay	1	1.5	Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-140		IPS Room	1	3.0	IPS Room	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-141		Dental Room	1	20.0	Consulting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m
G-Q1-142		Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-143		Staff WC	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-144		Female Staff Changing and Lockers	1	65.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-145		Trolley Bay	1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-146		Staff WC	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-148		Store Room	1	20.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-149		Resource Room / Library	1	39.0	Open Plan Office	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	4	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-150		Male Staff Changing and Lockers	1	27.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
G-Q1-151		Consultant Office (5 person)	1	20.5	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-152		Admin Office	1	20	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-153		Reception Area	1	8.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-Q1-154		Waiting Play Area	1	10.0	Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-Q1-160		Shelved Space	1	28.0		28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	3	3	Balanced	None	43	n/a		300	n/a	None	A	80	Switch	Floor 0m
G-Q1-161		Trolley Bay	1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Supply	Part of corridor	0	Positive	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-R1-001		Staff Room	1	24.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
2-R1-002		Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
2-R1-003		Meeting Room - 4 person	1	6.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
2-R1-004		Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
2-R1-005		Beverage Bay	1	3.0	Tea Making	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m
2-R1-006		Meeting Room - 6 person	1	9.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m



Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	
2-R1-054	R1	2nd Floor Desks	1	143.5	Open Plan Office	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
2-R1-055A		2nd Floor Desks	1	29.0	Open Plan Office	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
2-R1-055B		2nd Floor Desks	1	92.4	Open Plan Office	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
2-R1-055C		2nd Floor Desks	1	40.0	Open Plan Office	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
2-R1-055D		2nd Floor Desks	1	60.0	Open Plan Office	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-R1-001		Management Conference Room	1	26.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	16 people at 10 l/s per person (7ach)	16 people at 10 l/s per person (7ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-R1-002		Management Conference Room	1	26.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	16 people at 10 l/s per person (8ach)	16 people at 10 l/s per person (8ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-R1-003		Meeting Room - 6 person	1	9.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6 people at 10 l/s per person (8ach)	6 people at 10 l/s per person (8ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-R1-004		Beverage Bay	1	3.0	Tea Making	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	
4-R1-005		WC - Staff (Male)	1	8.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-R1-006		WC - Wheelchair Accessible	1	4.5	toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-R1-007		Meeting Room - 4 person	1	6.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-R1-008		WC - Staff (Female)	1	11.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-R1-009		Staff Room	1	12.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
4-R1-010		4th Floor Desks	1	213.0	Open Plan Office	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	4	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-R1-011		Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-R1-012		Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-R1-013		Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-R1-014		Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-R1-015	Store Management	1	6.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m		
4-R1-016	Store Management	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m		
4-R1-017	DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m		
4-R1-018	Disposal Hold (small)	1	4.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m		
4-R1-019	Printer/Photocopier Room	1	6.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m		
4-R2-002	R2	RHSC Office	1	12.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-R2-003		Assistant Health Records Manager / Supervisors	1	16.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-R2-004		RHSC / DCN Office 17 Person	1	69.7	Open Plan Office	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	4	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-R2-005		WC Staff	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-R2-006		Receipt / Dispatch Counter	1	6.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
4-R2-007		Trolley Area	1	6.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-R2-008		RHSC & DCN Records Library (160,000 records)	1	368.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-R2-010		Accessible WC	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
4-R2-011		Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
B-S1-001		S1	Preparation/Cooking Area	1	94.0	CDS	28	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	40	40	Balanced	G4	43	60		500	n/a	None	A	80	Switch	General working plane 1m
B-S1-002			Preparation/Cooking Area	1	16.0	CDS	28	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	40	40	Balanced	G4	43	60		500	n/a	None	A	80	Switch	General working plane 1m
B-S1-003	Diet Prep Area - no longer used		1	12.0	CDS	28	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	DW172 Dependant	DW172 Dependant	Negative	G4	43	60		500	n/a	None	A	80	Switch	General working plane 1m	
B-S1-004	Diet Store		1	5.0	CDS	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
B-S1-005	Temperature Controlled Sandwich Prep		1	18.0	CDS	12	10	None	None	Yes	Ceiling Cassette - Chilled Water	General Supply and Extract	4	4	Balanced	G4	43	41		500	n/a	None	A	80	Switch	General working plane 1m	
B-S1-006	Bakery Preparation		1	13.0	CDS	12	10	None	None	Yes	Ceiling Cassette - Chilled Water	General Supply and Extract	4	4	Balanced	G4	43	41		500	n/a	None	A	80	Switch	General working plane 1m	
B-S1-007	Staff Room		1	8.0	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	
B-S1-008	Office 5 person		1	20.5	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m	
B-S1-009	Female Staff Changing inc Shower		1	13.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m	
B-S1-010	Male Staff Changing inc Shower		1	10.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m	
B-S1-011	Kitchen Equipment		1	6.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
B-S1-012	Pan Wash		1	12.0	CDS	28	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	0	6	Negative	G4	43	60		300	n/a	None	A	80	Switch	General working plane 1m	
B-S1-013	Returned Trolleys		1	25.0	CDS	28	16	Adjacent Space Transfer Air	None	No	None	General Supply and Extract	1	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m	
B-S1-014	Trolley Wash Area		1	6.0	CDS	28	16	Adjacent Space Transfer Air	None	No	None	General Supply and Extract	2	3	Negative	None	43	41		300	n/a	None	A	80	Switch	General working plane 1m	
B-S1-015	Refuse		1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
B-S1-016	DSR		1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		300	n/a	None	A	80	Automatic Controls	Floor 0m	
B-S1-017	Clean Trolleys Park		1	21.5	CDS	28	16	Adjacent Space Transfer Air	None	No	None	General Supply and Extract	1	2	Negative	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
B-S1-018	Disposables / Detergent		1	6.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m	
B-S1-019	Raw Meat		1	7.0	CDS	8	5	None	None	Yes	By Specialist	None	0	0	n/a	None	n/a	n/a		300	n/a	None	A	80	Switch	General working plane 1m	



Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	
B-S1-020		Veg Store	1	6.0	CDS	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
B-S1-021		Freezer	1	5.0	CDS	-18	-20	None	None	Yes	By Specialist	None	0	0	n/a	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	
B-S1-022		Freezer	1	5.0	CDS	-18	-20	None	None	Yes	By Specialist	None	0	0	n/a	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	
B-S1-023		Receipt Bay	1	3.0	Circulation Areas	28	18	Radiant Panels	Remote Sensor Adj.	No	None	General Extract	6	6	Negative	G4	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m	
B-S1-025		Dairy Store	1	9.0	CDS	5	2	None	None	Yes	By Specialist	None	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
B-S1-026		Weighing - no longer used	1	7.0	CDS	28	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	DW172 Dependant	DW172 Dependant	Negative	G4	43	60		300	n/a	None	A	80	Switch	General working plane 1m	
B-S1-027		Dry Goods	1	9.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
B-S1-031		Pick and Pack	1		Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m	
2-S2-001	S2	e-Health Infrastructure	Core Server Room	1	40.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m
B-S3-002	S3	Domestic Services	Linen Pool (Clean)	1	80.0	Linen Bay	28	18	Radiant Panels	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S3-003			Supplies Store	1	20.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S3-004			Laundry (microf bre)	1	15.0	Laundry	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	10	Negative	G4	43	60		300	n/a	None	A	80	Switch	Floor 0m
B-S3-005			Linen Pool (Dirty)	1	32.0	Dirty utility	28	18	Radiant Panels	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S3-007			Cleaning Equipment Store	1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S3-008			Sanitary Bins Store	1	6.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S3-009			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
B-S3-010			Bulk Equipment Store	1	10.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S3-011			Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
B-S3-012			Domestic Service Office	1	20.5	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
B-S3-013			Curtain Store	1	7.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S4-001	S4	Materials Management	Storage/Holding Area	1	100.0	Storage Area Equipment	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S4-003			Mailroom	1	20.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
B-S4-004			Office	1	10.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central General Extract	4	3	Positive	None	43	41		400	n/a	None	A	80	Automatic Controls	Floor 0m
B-S4-005			Porters Office	1	12.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
B-S4-050			Clocking In	1	N/A	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
2-S5-002	S5	Central Staff Changing	Bay for Token Machine	1	5.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
2-S5-003			DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
2-S5-004			Male Staff Changing , Shower, WC & Lockers	1	100.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
2-S5-005			Female Staff Changing , Shower, WC & Lockers	1	240.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
B-S6-003	S6	Estates	BMS Room	1	10.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m
B-S6-004			Workshop (NPD)	1	45.0	Small Workshop	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
B-S6-006			Staff Change	1	15.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m
B-S6-007			Shower	1	2.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S6-008			Shower	1	2.5	Bathroom	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S6-009			Workshop (NHSL)	1	30.0	Small Workshop	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
B-S6-010			Staff WC	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S6-011			Supervisors	1	14.8	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
B-S6-012			Estates Library	1	6.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
B-S6-013			Office	1	30.8	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
B-S6-014			Store	1	25.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S6-015			Contract Manager	1	6.0	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-S6-016			Office/Reception	1	11.0	Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
B-S6-019			Staff WC	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-S6-020			Atrium Cleaning Equipment	1	N/A	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S6-021			Staff WC	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-S6-022			Staff WC	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-S6-023			Chemical Store	1	7.7	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-S6-024			Trolley Holding Bay	1	9.2	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S6-025			Trolley Holding Bay	1	N/A	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S6-050	Staff Welfare	1	24.8	Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m		
4-S7-002			Male WC	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
4-S7-003			Female WC	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane			
4-S7-004	S7	Restaurant	Male WC	1	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m		
4-S7-007			Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m		
4-S7-008			Storage/Dishwashing	1	25.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m		
4-S7-009			DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m		
4-S7-010			Restaurant	1	157.0	Eating/Drinking	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	100 people at 10 l/s per person (9ach)	100 people at 10 l/s per person (9ach)	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m		
4-S7-011			WC Accessible	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m		
B-S8-001	S8	Sterile Support Store	Trolley Holding Bay	1	23	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m		
4-S9-001	S9	Helipad Support	WC Ambulant	1	3	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m		
4-S9-002			RFFS Changing / Support	1	29	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m		
4-S9-004A			RFFS Medical Equipment Store	1	6	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m		
4-S9-005			Trolley Bay Equip St	1	3.4	Trolley bay	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m		
4-S9-006			Cleaner	1	2.7	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m		
B-T1-001	T1	Plant	IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
B-T1-002			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
B-T1-003			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
G-T1-003			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
G-T1-004			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
G-T1-005			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
G-T1-006			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
G-T1-007			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
1-T1-001			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
1-T1-002			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
1-T1-003			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
1-T1-004			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
1-T1-005			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
2-T1-001			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
2-T1-002			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
2-T1-003			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
2-T1-004			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
2-T1-005			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
2-T1-006			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
3-T1-001			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
3-T1-002			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
3-T1-003			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
3-T1-004			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
3-T1-005			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
4-T1-001			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
4-T1-002			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
4-T1-003			IT Node Rooms	1	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Automatic Controls	Floor 0m		
3-U1-001			U1	Laboratory	Main Lab	1	120.0	Laboratory	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
3-U1-002					Utility Area Wash Up	1	12.0	Laboratory	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
3-U1-003					Temp Controlled Store	1	15.2	Laboratory	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m
3-U1-004					DSR	1	8.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	80	Automatic Controls	Floor 0m
3-U1-005					Record Store	1	15.0	Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-U1-006					Disposal Hold	1	10.0	Disposal Hold	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
3-U1-007	Meeting/Staff	1			16.0	Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6 people at 10 l/s per person (5ach)	6 people at 10 l/s per person (5ach)	Balanced	G4	43	n/a		300	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m		
3-U1-008	Male Change	2			6.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m		
3-U1-009	Female Change	1			6.0	Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative to corridor	G4	43	41		100	n/a	None	A	80	Automatic Controls	Floor 0m		
3-U1-010	Office	1			29.7	Cellular / Ward Offices	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m		
3-U1-012	Staff WC	1			3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m		
3-U1-013	Staff WC	1			3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m		
B-V1-001					Confidential Waste	1	17.1	Storage Area Equipment	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m

Room No.	Department	Room Name	Qty	SOA	Room Function	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane
B-V1-002	U1 Labs	WEEE / Furniture / Waste Goods	1	30.6	Storage Area Equipment	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-X1-001		EC Plant Room 1	1	338.4	Storage Area Equipment	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-X1-002		EC Plant Room 2	1	350.7	Storage Area Equipment	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-X1-003		HV Gen Control Room	1	40.5	Storage Area Equipment	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-X1-004		HV Generator	1	56.9	Storage Area Equipment	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-X1-005		HV Plant	1	25.5	Storage Area Equipment	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-X1-006		HV Plant	1	29.7	Storage Area Equipment	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
M-X1-001		Mezz Plant 1	1	124.7	Storage Area Equipment	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-S6-016		Office / Reception	1	11.0	Cellular / Ward Offices	28	18	Electric Heater	Remote Sensor Adj.	Yes	None	Supply and Extract	4	3	Positive	G4	n/a	n/a		400	n/a	None	A	80	Automatic Controls	Desk 0.75 to 0.85m
G-S6-022		WC - Staff	1	3.0	Toilet	28	18	Electric Heater	Remote Sensor Adj.	No	None	Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-S6-023		Chemical Store	1	7.7	Storage Area Equipment	28	16	Electric Heater	Remote Sensor Adj.	No	None	Dirty Extract	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-S6-024		Trolley Holding Bay	1	9.2	Circulation Equipment Storage Bays	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
B-S6-025		Trolley Holding Bay	1	8.4	Circulation Equipment Storage Bays	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Y1-001A		Clinical Waste - Dirty	1	34.4	Dirty utility	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Y1-001B		Clinical Waste - Dirty	1	N/A	Dirty utility	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Y1-001C		Clinical Waste - Dirty	1	N/A	Dirty utility	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Y1-002		General Waste	1	10.1	Storage Area Equipment	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Y1-003		Gas Manifold	1	37.1	Storage Area Equipment	40	10	Electric Heater	Remote Sensor Adj.	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Y1-004		Kitchen Waste	1	31.9	Storage Area Equipment	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Y1-005		Clinical Waste - Clean	1	35.1	Storage Area Equipment	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m
G-Y1-006		Wash Area	1	20.9	Storage Area Equipment	n/a	n/a	n/a	None	No	None	Natural	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Automatic Controls	Floor 0m

BMEdinburgh DocControl MULTIPLEX CONSTRUCTION EUROPE	Fwd: G1547 RDD Review Environmental Matrix TRANSMITTAL	18/03/2018 BMCE-TRANSMIT-004189
Kelly Bain MOTT MACDONALD LTD (HEAD OFFICE UK)	Fwd: G1547 RDD Review Environmental Matrix TRANSMITTAL	23/03/2018 MM-TRANSMIT-000613
Kelly Bain MOTT MACDONALD LTD (HEAD OFFICE UK)	Re: G1547 RDD Review Environmental Matrix GENERAL CORRES...	31/03/2018 MM-GC-001398
Ken Hall MULTIPLEX CONSTRUCTION EUROPE	Re: G1547 RDD Review Environmental Matrix GENERAL CORRES...	05/04/2018 BMCE-GC-007901
Kamil Kolodziejczyk MOTT MACDONALD LTD (HEAD OFFICE UK)	Re: G1547 RDD Review Environmental Matrix GENERAL CORRES...	15/04/2018 MM-GC-001398

**RHSC and DCN**  
Little France  
Edinburgh  
Scotland United Kingdom

**Mott MacDonald Ltd (Head Office UK)**  
20-26 Wellesley Rd  
Croydon  
Surrey CR9 2UL United Kingdom  
Ph. +44 20 87742000

MAIL TYPE  
General Correspondence  
REFERENCE NUMBER  
WWHIT-TRANSMIT-000597

MAIL NUMBER  
MM-GC-001398

## Re: G1547 RDD Review Environmental Matrix

From: Mr Kamil Kolodziejczyk - Mott MacDonald Ltd (Head Office UK)  
To (2): Mr Ken Hall - Brookfield Multiplex Construction Europe (+1 more...)  
Cc (8): Mr Darren Pike - Brookfield Multiplex Construction Europe (+7 more...)  
Sent: Friday, 15 April 2018 3:18:03 PM BST (GMT +01:00)  
Status: N/A

### FILE ATTACHMENTS (1)

File Name
 Environmental Matrix rev 05 Board Comments 150416.pdf

### ATTRIBUTES

Attribute 2: 33. M&E Building Services

### MESSAGE

All,

A47206723



Please note that the Board reviewed the Environmental Matrix and provided comments within the attached. Relative to the Financial Close comments, the Environmental Matrix is given status B.

The Board require the Environmental Matrix is re-submitted for the Board's review, including the following comments (as per MM-GC-001184):

- Updated Schedule of Accommodation,
- Changes resulting from Change process,
- Changes resulting from Production Groups comments,
- Design Development,
- Plus any other subsequent changes.

Project Co shall also review all related drawings against the Environmental Matrix with respect to anomalies between the detail on the drawing and the detail within the Environmental Matrix. Particular note to be given to the method of cooling provision e.g. Comfort Cooled Fresh Air or Ceiling Cassette Chilled Water. It is also noted that there are areas of over and under provision of both heating and cooling.

IHSL are also reminded that the reference design has no relevance to the current contract, and IHSL are to comply with the Project Agreement and in particular the BCR's and PCP's. Any non-compliance with the BCR's or PCP's should be highlighted to the Board.

Regards  
Kamil

---

**From:** B DocControl  
**Sent:** 18/03/2016 3:09:11 PM GMT (GMT +00:00)  
**To:** Kelly Gordon, Kamil Kolodziejczyk, NHSL RHSC + DCN  
**Cc:** Didier Blanchet, Richard Hair, Clive Hall, Donna Dougal, Liane Edwards-Scott, Alison Gordon, Ken Hall, Darren Pike, John Wales, Wallace Weir  
**Mail Number:** BMCE-TRANSMIT-004159  
**Subject:** Fwd: G1547 RDD Review Environmental Matrix

Please find attached RDD documents issued electronically for information. Documents have now been put into a workflow and a hard copy will be issued for your review.

Should you have any queries please do not hesitate to contact me.

Kind Regards,

Kara

A47206723

BM Edinburgh Document Control

Brookfield Multiplex Construction Europe  
RHSC & DCN Site Office  
Little France Crescent  
EDINBURGH  
EH16 4TJ

[REDACTED]

---

**From:** L Johnston  
**Sent:** 16/03/2016 2:43:32 PM GMT (GMT +00:00)  
**To:** BPEdinburgh DocControl  
**Cc:** Ken Hall  
**Mail Number:** WWHET-TRANSMIT-000597  
**Subject:** G1547 RDD Review Environmental Matrix

Please find attached for RDD Review.

**Regards**

**Lyndsey Johnston**

Document Controller

TUV SUD Limited  
The Venlaw Building  
349 Bath Street  
Glasgow  
G2 4AA  
United Kingdom

[REDACTED]

[REDACTED]

[www.tuv-sud.co.uk/wallacewhittle](http://www.tuv-sud.co.uk/wallacewhittle)

---

**From:** Liane Edwards-Scott [REDACTED]  
**Sent:** 12 May 2015 14:44  
**To:** 'Janice.Mackenzie@[REDACTED]'; 'david@[REDACTED]'; Brown, Maureen  
**Cc:** 'richard.hair@[REDACTED]'; Alasdair Fernie; 'lorraine.robertson@[REDACTED]'; Darren Pike  
**Subject:** RDS's

Janice

Please excuse the lack of aconex, I'm working off m phone on the train.

As discussed earlier, we'd like NHSL to consider the option of not issuing RDSs with production group issues.

NHSLs comments clearly indicate that you would rather the information is in place even when it is not contained on the RDS. Comments also referring to the environmental data were agreed (at last weeks MEP meeting) to be made on the matrix- this directly informs the RDSs. Finally, the equipment list is provided in multiple formats.

In summary, the RDD information is the collation of multiple info sources and it seems you will be more comfortable reviewing these when the other sources are signed off.

We can jointly review the best time to prepare the RDSs for meaningful review.

I trust that you will agree that it is a better approach to hold off the issue of RDSs for now, but await your confirmation.

We can discuss the timing of their issue and other issues pertaining the PG's next week - Project Co are issuing invitations for Monday or Weds morning (Weds would be preferable for us).

many thanks

LE

Liane Edwards-Scott ARB  
Design Manager

Brookfield Multiplex Construction Europe RHSC & DCN Project Office  
56 Canaan Lane  
EDINBURGH  
EH10 4SG

[REDACTED]  
w: [www.brookfieldmultiplex.com](http://www.brookfieldmultiplex.com)

P Please consider the environment before printing this email.

Please consider the environment before printing this e-mail.

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<http://www.mailcontrol.com>

**From:** MrKamilKolodziejczykMottMacDonaldLtd(HeadOfficeUK) <-> on behalf of MrKamilKolodziejczykMottMacDonaldLtd(HeadOfficeUK)  
**Sent:** 07 November 2016 17:47  
**To:** bmedinburghdoccontrolmultiplexconstructioneurope;  
mrdavidmartinr.a.m.assetmanagementlimited; mrkenhallmultiplexconstructioneurope;  
mrcolingrindlaymultiplexconstructioneurope  
**Cc:** mrrichardhairbouyguese&sfm; clivehallbouyguese&sfm; nhslrhsc+dcnnhslothian;  
alisongordonmultiplexconstructioneurope; mrdouglasmcfallmultiplexconstructioneurope;  
mrjohnwalesmultiplexconstructioneurope; mrbriancurrienhslothian;  
mrskellybainmottmacdonaldLtd; lianeedwards-scottmultiplexconstructioneurope;  
mrdidierblanchetbouyguese&sfm; mrwallaceweirhcpsocialinfrastructurelimited;  
mrdarrenpikemultiplexconstructioneurope  
**Subject:** Re: G1547 RDD Review Environmental Matrix

## Attributes

**Attribute 2 :** 33. M&E Building Services

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## Message

David / Ken / Colin,

The Board have serious concerns over the upgrading Environmental Matrix to Status B considering some of the issues raised (as per MM-GC-002084) being the same as the issues that had been raised since FC. There are also concerns over the potential inaccurate information being transferred to the Room Data Sheets being submitted through RDD.

However, as requested by Project Co, the Board has upgraded the Environmental Matrix to status B, noting the Board still does not believe the Environmental Matrix and resultant design complies with the Project Agreement. Project Co's failure to comply with the BCR's / PCP's (as per MM-GC-002084) the Board believes would result in a non-compliant Facility.

The Board would suggest that Project Co resolves the non-compliant and other issues as a matter of urgency, and requests that Project Co issues a strategy for resolution of these issues.

Regards

Kamil

**From:** K Kolodziejczyk  
**Sent:** 17/10/2016 11:52:44 AM BST (GMT +01:00)  
**To:** BMEinburgh DocControl, Ken Hall, David Martin  
**Cc:** Didier Blanchet, Richard Hair, Clive Hall, Wallace Weir, Kelly Gordon, Liane Edwards-Scott, Alison Gordon, Douglas McFall, Darren Pike, John Wales, NHSL RHSC + DCN  
**Mail Number:** MM-GC-002084  
**Subject:** Re: G1547 RDD Review Environmental Matrix

The Board have reviewed the Environmental Matrix and still has significant concerns on items that do not appear to comply with the BCR's.

The Board notes the following general comments:

1. The Board has highlighted cells in blue and red bubble on the hard copy which require PCo review.
2. The Environmental Matrix should be updated to reflect the Production Group drawings.
3. Currently the matrix doesn't reflect the clinical lights schedule submitted through Clinical Lights Specification and Clinical Lights Technical Submittal.
4. EM shall be updated to reflect all circulation areas as per SoA.
5. Some lux levels don't appear to align with LG2.
6. Some ventilation rates don't appear to comply with BCRs. The Board would like to point that is still awaiting response from PCo to the issues raised as per MM-RFI-000172 & MM-GC-002006 relating to ventilation rates.

Some specific comments as follows:

1. See example G-D1-015 in the table - confirm filtration to physical measurement rooms.
2. Areas off the circulation area / corridor, i.e. 1-D6-060 Resus Bay, indicates transfer air but not known from where. Same principles applies to all Bays and Receptions.
3. See example 1-D7-005 in the table - indicates area of 4m<sup>2</sup> however General Arrangement drawing shows 4.8m<sup>2</sup>. Please review this and all other similar instances.
4. See example 3-D9-009 in the table - indicates no cooling and no ventilation but filtration. Please review this and all other similar instances.
5. See example 3-D9-016 in the table - contradiction, please confirm for this and all other similar instances.
6. See example G-F1-037 in the table – only extract and filtration, please confirm for this and all other similar instances.
7. See example 1-H2-013 in the table – confirm temperature and cooling requirements for this and all other similar instances.

8. See example 1-L1-015 in the table – “via bedroom and en-suite” confirm extract rates for bedroom and en-suite.
9. All Dirty Utility rooms – please confirm dirty utility heating type and control.
10. Changing Cubicles – will be supplied with 18 deg C fresh air with no option to increase temperature. Please confirm.
11. Dictation Rooms - will be supplied with 18 deg C fresh air with no option to increase temperature. Please confirm.
12. 1-P1-067 (see table) – please confirm proposal.
13. 1-P1-090 and 1-P1-005 – should this not be other way round? Please confirm.

Whilst the Board has noted general and specific comments above, the Board reminds Project Co that unless the Board has already accepted a derogation, it is Project Co’s obligation to comply with the BCR’s / SHTMS etc, and the Board not commenting, does not remove that obligation on Project Co.

Regards  
Kamil

---

**From:** B DocControl  
**Sent:** 20/09/2016 1:08:11 PM BST (GMT +01:00)  
**To:** Kelly Gordon, Kamil Kolodziejczyk, NHSL RHSC + DCN  
**Cc:** Didier Blanchet, Richard Hair, Clive Hall, Wallace Weir, Liane Edwards-Scott, Alison Gordon, Ken Hall, Douglas McFall, Darren Pike, John Wales  
**Mail Number:** MPX-TRANSMIT-006178  
**Subject:** Fwd: G1547 RDD Review Environmental Matrix

Please find attached RDD documents issued electronically for information. Documents have now been put into a workflow and a hard copy will be issued for your review.

Should you have any queries please do not hesitate to contact me.

Kind Regards,

Kara

BM Edinburgh Document Control

Multiplex Construction Europe Ltd  
RHSC & DCN Site Office  
Little France Crescent  
EDINBURGH  
EH16 4TJ





---

**From:** L Johnston

**Sent:** 19/09/2016 3:58:48 PM BST (GMT +01:00)

**To:** Didier Blanchet, Richard Hair, Clive Hall, HLM Document Control, Jo Dorling, Mark Harrison, Lorraine Robertson HLM Architects, Ross Barrett HLM Architects, Eilidh Jane Simpson, Chris Youd, RHSC Document Control, James Ferry, Kieran Furley, Stacey Green, Neil Lancaster, Gavin Marsh, Gerry McDonnell, Jamie McLeish, Alison Mulrine, Gearoid Murray, Declan O'Donovan, Mark Quinn, Sinead Rogan, Brendan Rooney, Bob Violet, Jack Whittam, BMEdinburgh DocControl, Liane Edwards-Scott, Colin Grindlay, Ken Hall, Andy Kerr, Nicholas Leach, Jonathon Mays, Andrew McColl, Keith McIntee, RBG Document Control, Barry McCormack, Ryan Stokes, Lyndsey Johnston, TUV-SUD WHITTLE

**Mail Number:** WWHIT-TRANSMIT-000794

**Subject:** G1547 RDD Review Environmental Matrix

Please find attached our updated Environmental Matrix.

Regards

Lyndsey Johnston

Document Controller

TUV SUD Limited

The Venlaw Building

349 Bath Street

Glasgow

G2 4AA

United Kingdom

[Redacted]

[Redacted]

[www.tuv-sud.co.uk/wallacewhittle](http://www.tuv-sud.co.uk/wallacewhittle)

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RHSC and DCN  
Little France  
Edinburgh  
Scotland United Kingdom

Mott MacDonald Ltd (Head Office UK)  
20-26 Wellesley Rd  
Croydon  
Surrey CR9 2UL United Kingdom  
Ph: +44 20 87742000

MAIL TYPE  
General Correspondence

MAIL NUMBER  
MM-GC-002084

REFERENCE NUMBER  
WWHIT-TRANSMIT-000794

## Re: G1547 RDD Review Environmental Matrix

From: Mr Kamil Kolodziejczyk - Mott MacDonald Ltd (Head Office UK)  
To (3): Mr Ken Hall - Multiplex Construction Europe (+2 more...)  
Cc (11): Mr Didier Blanchet - Bouygues E&S FM (+10 more...)  
Sent: Monday, 17 October 2016 11:52:44 AM BST (GMT +01:00)  
Status: N/A

### ▼ ATTRIBUTES

Attribute 2: 33. M&E Building Services

### ▼ MESSAGE

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A47206723

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Regards

Kamil

---

From: B DocControl

Sent: 20/09/2016 1:08:11 PM BST (GMT +01:00)

To: Kelly Gordon, Kamil Kołodziejczyk, NHS, RHSC + DCN

Cc: Didier Blanchet, Richard Hair, Clive Hall, Wallace Weir, Liane Edwards-Scott, Alison Gordon, Ken Hall, Douglas McFall, Darren Pike, John Wales

Mail Number: MPX-TRANSMIT-006178

Subject: Fwd: G1547 RDD Review Environmental Matrix

Please find attached RDD documents issued electronically for information. Documents have now been put into a workflow and a hard copy will be issued for your review.

Should you have any queries please do not hesitate to contact me.

Kind Regards,

Kara

BM Edinburgh Document Control

Multiplex Construction Europe Ltd

RHSC & DCN Site Office

Little France Crescent

EDINBURGH

EH16 4TJ

---

**From:** L Johnston

**Sent:** 19/09/2016 3:58:48 PM BST (GMT +01:00)

**To:** Didier Blanchet, Richard Hair, Clive Hall, HLM Document Control, Jo Dorling, Mark Harrison, Lorraine Robertson HLM Architects, Ross Barrett HLM Architects, Eilidh Jane Simpson, Chris Youd, RHSC Document Control, James Ferry, Kieran Finley, Stacey Green, Neil Lancaster, Gavin Marsh, Gerry McDonnell, Jamie McLeish, Alison Mulrine, Gearoid Murray, Declan O'Donovan, Mark Quinn, Sinead Rogan, Brendan Rooney, Bob Violet, Jack Whittam, BMEdinburgh DocControl, Liane Edwards-Scott, Colin Grindlay, Ken Hall, Andy Kerr, Nicholas Leach, Jonathon Mays, Andrew McColl, Keith McIntee, RBG Document Control, Barry McCormack, Ryan Stokes, Lyndsey Johnston, TUV-SUD WHITTLE

**Mail Number:** WWHIT-TRANSMIT-000294

**Subject:** G15/17 RDD Review Environmental Matrix

Please find attached our updated Environmental Matrix.

**Regards**

**Lyndsey Johnston**

Document Controller

TUV SUD Limited  
The Venlaw Building  
349 Bath Street  
Glasgow  
G2 4AA  
United Kingdom

[REDACTED]

[REDACTED]

[www.tuv-sud.co.uk/wallacewhittle](http://www.tuv-sud.co.uk/wallacewhittle)

---

**From:** BMEdinburghDocControlMultiplexConstructionEurope <-> on behalf of BMEdinburghDocControlMultiplexConstructionEurope

**Sent:** 05 January 2018 13:59

**To:** mrskellybainmottmacdonaldltd; mrkamilkolodziejczyk mottmacdonaldltd; nhslrhsc+dcnnslothian

**Cc:** mrkenhallmultiplexconstructioneurope; mrrichardhairbouyguese&sfm; mrdarrenpikemultiplexconstructioneurope; mrcolingrindlaymultiplexconstructioneurope; alisongordonmultiplexconstructioneurope; mrwallaceweirhcpsocialinfrastructurelimited; mrdidierblanchetbouyguese&sfm; mrpaulwandlessbouyguese&sfm; mskellyhopkinsonmultiplexconstructioneurope; mrjohnwalesmultiplexconstructioneurope; lianeedwards-scottmultiplexconstructioneurope; mrdouglasmcfallmultiplexconstructioneurope; clivehallbouyguese&sfm

**Subject:** RDS Review For RDD

**Attachments:** HLM-Z2-01-RD-400-D7-B-1348828088484505788df.pdf; HLM-Z4-B1-RD-400-I2-B-1348828088484505813df.pdf; HLM-Z3-00-RD-400-M1-B-1348828088484505817df.pdf; HLM-Z4-04-RD-400-S7-B-1348828088484505815df.pdf; HLM-SZ-SL-RD-400-T1-B-1348828088484505827df.pdf; HLM-Z3-04-RD-400-S9-B-1348828088484505833df.pdf; HLM-Z2-00-RD-400-D8-C-1348828088484505809df.pdf; HLM-Z4-02-RD-400-M2-B-1348828088484505804df.pdf; HLM-Z3-00-RD-400-N1-B-1348828088484505799df.pdf; HLM-Z4-B1-RD-400-S1-B-1348828088484505789df.pdf; HLM-Z3-03-RD-400-C3-B-1348828088484505845df.pdf; HLM-Z3-03-RD-400-C1.7-B-1348828088484505837df.pdf; HLM-Z4-02-RD-400-N2-B-1348828088484505831df.pdf; HLM-Z4-01-RD-400-B1-B-1348828088484505818df.pdf; HLM-Z2-00-RD-400-E1-D-1348828088484505806df.pdf; HLM-Z2-00-RD-400-D10-B-1348828088484505800df.pdf; HLM-Z3-00-RD-400-Q1-B-1348828088484505816df.pdf; HLM-Z3-02-RD-400-R2-B-1348828088484505835df.pdf; HLM-Z4-01-RD-400-J1-B-1348828088484505793df.pdf; HLM-Z4-00-RD-400-F1-C-1348828088484505811df.pdf; HLM-Z4-02-RD-400-M3-B-1348828088484505792df.pdf; HLM-Z4-02-RD-400-M4-B-1348828088484505834df.pdf; HLM-Z4-01-RD-400-H2-B-1348828088484505798df.pdf; HLM-SZ-02-RD-400-G2-B-1348828088484505801df.pdf; HLM-Z4-00-RD-400-A3-B-1348828088484505787df.pdf; HLM-Z4-03-RD-400-C1.6-B-1348828088484505825df.pdf; HLM-Z4-00-RD-400-A1-B-1348828088484505841df.pdf; HLM-Z4-B1-RD-400-S3-B-1348828088484505805df.pdf; HLM-Z4-02-RD-400-L2-B-1348828088484505803df.pdf; HLM-SZ-SL-RD-400-D1-B-1348828088484505844df.pdf; HLM-Z2-03-RD-400-H3-B-1348828088484505814df.pdf; HLM-Z4-03-RD-400-D9-B-1348828088484505790df.pdf; HLM-Z4-B1-RD-400-S4-B-1348828088484505824df.pdf; HLM-Z4-03-RD-400-C1.1-B-1348828088484505812df.pdf; HLM-Z4-02-RD-400-S2-B-1348828088484505796df.pdf; HLM-Z4-04-RD-400-H1-B-1348828088484505797df.pdf; HLM-Z4-03-RD-400-C2-C-1348828088484505832df.pdf; HLM-Z4-01-RD-400-G3-B-1348828088484505819df.pdf; HLM-SZ-B1-RD-400-S6-B-1348828088484505786df.pdf; HLM-Z4-03-RD-400-C4-B-1348828088484505830df.pdf; HLM-Z4-04-RD-400-C5-B-1348828088484505838df.pdf; HLM-Z2-03-RD-400-K2-B-1348828088484505795df.pdf; HLM-Z3-02-RD-400-S5-B-1348828088484505794df.pdf; HLM-Z2-01-RD-400-D4-B-1348828088484505810df.pdf; HLM-Z4-01-RD-400-L1-B-1348828088484505840df.pdf; HLM-Z4-00-RD-400-A2-B-1348828088484505826df.pdf; HLM-Z2-00-RD-400-K1-D-1348828088484505808df.pdf; HLM-Z4-03-RD-400-C1.8-B-1348828088484505828df.pdf; HLM-Z3-03-RD-400-C1.5-B-1348828088484505791df.pdf; HLM-Z3-01-RD-400-P1-B-1348828088484505785df.pdf; HLM-Z4-00-RD-400-J2-B-1348828088484505842df.pdf; HLM-Z2-00-RD-400-D5-D-1348828088484505821df.pdf; HLM-SZ-SL-RD-400-R1-B-1348828088484505820df.pdf; HLM-Z2-00-RD-400-I1-D-1348828088484505829df.pdf; HLM-Z2-00-RD-400-D2-B-1348828088484505843df.pdf; HLM-Z3-03-RD-400-C1.3-B-1348828088484505807df.pdf; HLM-Z3-03-RD-400-C1.4-B-1348828088484505823df.pdf; HLM-Z3-B1-RD-400-V1-B-1348828088484505839df.pdf; HLM-Z4-B1-RD-400-S8-B-1348828088484505802df.pdf; HLM-Z2-01-RD-400-D6-C-1348828088484505836df.pdf; HLM-

**Attachments:** Z4-03-RD-400-C1.2-B-1348828088484505822df.pdf

---

**Message**

All,

Please see attached for your Information/ action, Documents which have been reviewed and given a status.

Should you have any queries please dont hesitate to contact me.

Many Thanks,

Document Control.

BM Edinburgh Document Control

Multiplex Construction Europe Ltd  
RHSC & DCN Site Office  
Little France Crescent  
EDINBURGH  
EH16 4TJ



ADB

## Room Data Sheet

1-B1-009

<b>Project:</b>	11072	RHSC & DCN	
<b>Department:</b>	B1	PICU and HDU's - 24 Beds	
<b>Room:</b>	1-B1-009	Bay 1	
<b>Room Number:</b>			<b>Revision Date:</b> 11/07/2017

<b>Activities:</b>	<ol style="list-style-type: none"> <li>1) Rest and relaxation</li> <li>2) Patient may take meals or refreshments in bed or by the bed</li> <li>3) Patient may receive visitors</li> <li>4) Clinical handwashing</li> <li>5) Patient records reviewed and recorded</li> <li>6) Use of mobile hoist (if required)</li> <li>7) Therapeutic and clinical attention from healthcare staff</li> <li>8) Patient examinations and assessment</li> <li>9) Use of piped medical gases, vacuum and associated equipment</li> </ol>		
<b>Personnel:</b>	4 x patients 5 x staff 8 x visitors		
<b>Planning Relationships:</b>	Not Applicable		
<b>Space Data:</b>	<b>Area (m<sup>2</sup>):</b>	115.50	<b>Height (mm):</b> 2,700

**Notes:**

For upper load limits for heavy equipment refer to RBG-SZ-01-PL-200-001 and HLM-SZ-01-PL-450-002



ADB

## Room Environmental Data

1-B1-009

**Project:** 11072 RHSC & DCN  
**Department:** B1 PICU and HDU's - 24 Beds  
**Room:** 1-B1-009 Bay 1  
**Room Number:** **Revision Date:** 11/07/2017

AIR	Requirements	Notes
<b>Winter Temperature (DegC):</b>		Permissible space temperature range (dry bulb) (degC) : 18 - 28
<b>Summer Temperature (DegC):</b>		
<b>Mechanical Ventilation (Supply ac/hr):</b>	4.0	Ventilation Type: Natural and Central Supply Air
<b>Mechanical Ventilation (Extract ac/hr):</b>	1.7	
<b>Pressure Relative to Adjoining Space:</b>	Positive	
<b>Filtration (%DSE and % Arrestance):</b>	/	F7 - Minimum
<b>Humidity (%RH):</b>		
<b>General Notes:</b> Heating Type: Radiant Panels with Remote Sensor Adj. Cooling: Comfort Cooled Fresh Air		
LIGHTING		
<b>Service Illumination (Lux):</b>	100	
<b>Service Illumination Night (Lux):</b>	5.0	
<b>Local Illumination (Lux):</b>	300.0	@ Bed/trolley 1450 AFFL
<b>Colour Rendering Required:</b>	Y	Colour rendering characteristics (Ra):80
<b>Standby Lighting Grade:</b>	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting
<b>General Notes:</b>		
NOISE		
<b>Privacy Factor Required (dB):</b>		
<b>Mechanical Services (NR):</b>	30	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,f.
<b>Intrusive Noise (NR Leq):</b>		45:daytime / 35:nighttime (LAeq,1hr) and 45:nighttime (LAmax,f).
<b>*Acceptable Sound Level [L10dB(A)]:</b>		
<b>*Speech Privacy Required:</b>	N	
<b>*Quality Which Cannot Be Tolerated: (* alternative format)</b>		
<b>General Notes:</b> Refer to drawing HLM-Z4-01-PL-252-109 and Acoustic Report		
SAFETY		
<b>Hot Surface Max. Temp (DegC):</b>	43	
<b>Hot Water Max. Temp (DegC):</b>	41	
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20		
FIRE		
<b>Enclosure:</b>		See Note Below
<b>Automatic Detection:</b>		Heat and Smoke
This room forms part of a fire enclosure; surrounding walls will have different ratings, to identify the extent refer to drawing HLM-SZ-01-PL-572-003		

<b>ADB</b>	<b>Room Design Character</b>	<b>1-B1-009</b>
------------	------------------------------	-----------------

<b>Project:</b>	11072	RHSC & DCN	
<b>Department:</b>	B1	PICU and HDU's - 24 Beds	
<b>Room:</b>	1-B1-009	Bay 1	
<b>Room Number:</b>			<b>Revision Date:</b> 11/07/2017

**Walls:** Surface Finish (HTM 56): Type W2: Eggshell hygenic paint  
 Moisture Resistance (HTM 56): H:High humidity.  
 Cleaning Routine (HTM 56): Follow instructions of Manufacturer

**Floor:** Surface Finish (SHTM 61): Type F5: Linoleum Sheet 2.5mm  
 Cleaning Routine (SHTM 61): Follow instructions of Manufacturer

**Ceiling:** Surface Finish (SHTM 60): Type B: Suspended ceiling / exposed grid  
 Moisture Resistance (SHTM 60): N:Normal humidity.  
 Cleaning Routine (SHTM 60): Follow instructions of manufacturer


**Doorsets:** 1 x 1800 mm, double leaf, vision panel  
 Refer to HLM-SZ-SL-SH-322-010 and HLM-SZ-SL-SH-322-011 for details

**Windows:** Clear, solar control (East, South, West facing), privacy control

**Internal Glazing:** Clear, Privacy Control

**Hatch:** N/A

**Notes:**

 RHSC + DCN Edinburgh		Derogation Request		
		Date	Notes MER	Reference
		26/07/2016	[insert revision notes if nec]	WW015
<b>BCR Clause</b>				
8.1 Minimum Engineering Standard.				
<b>Relevant Regulation - HBN, SHTM, Building Regulations etc</b>				
SHTM 03-01 Ventilation in Healthcare Premises.				
<b>Requirement</b>				
Compliance with SHTM.				
<b>Derogation</b>				
The air change rate has been decreased within the single bedrooms from 6ac/hr to 4ac/hr. Mixed mode ventilation has been provided with additional natural vent available from the opening windows. Single bedrooms without opening windows have been provided with 6ac/hr.				
<b>Proposal</b>				
Single bedrooms with opening windows to have a mechanical ventilation rate of 4ac/hr.				
<b>Reference Docts - Sketches, drawings, reference material extracts etc</b>				
Ventilation layout drawings series 524. Environmental Matrix - Guidance Note No.26.				
<b>Approvals</b>				
	<b>Organisation</b>	<b>Title</b>	<b>Signature</b>	<b>Date</b>
Project Co	BMCE	Design Manager		
	BMCE	Commercial		
	BYES	FM		
NHSL				
<b>Comments [NHSL]</b>				

Kelly Bain MOTT MACDONALD LTD (HEAD OFFICE UK)	RHSC+DCNI Air Extract REQUEST FOR INF...	18/05/2018 MM-RFI-000133	Partial
Ken Hall MULTIFLEX CONSTRUCTION EUROPE	Re: RHSC+DCNI Air Extract RESPONSE TO RFH	03/06/2018 BMCE-RTRFI-000792	Closed-Out
Kelly Bain MOTT MACDONALD LTD (HEAD OFFICE UK)	Fwd: RHSC+DCNI Air Extract GENERAL CORRES...	03/06/2018 MM-GC-001547	
Kelly Bain MOTT MACDONALD LTD (HEAD OFFICE UK)	Re: RHSC+DCNI Air Extract GENERAL CORRES...	15/06/2018 MM-GC-001580	
Kelly Bain MOTT MACDONALD LTD (HEAD OFFICE UK)	Fwd: RHSC+DCNI Air Extract GENERAL CORRES...	29/07/2018 MM-GC-001750	
Kamil Kolodziejczyk MOTT MACDONALD LTD (HEAD OFFICE UK)	Automatic reply: MM-GC-001750: Fwd: RHSC+D... EMAIL	29/07/2018 MM-EMAIL-000908	
Colin MacRae MOTT MACDONALD LTD (HEAD OFFICE UK)	Re: RHSC+DCNI Air Extract GENERAL CORRES...	29/07/2018 MM-GC-001751	
Ken Hall MULTIFLEX CONSTRUCTION EUROPE	Fwd: RHSC+DCNI Air Extract GENERAL CORRES...	22/08/2018 MPX-GC-012071	
Kamil Kolodziejczyk MOTT MACDONALD LTD (HEAD OFFICE UK)	Re: RHSC+DCNI Air Extract GENERAL CORRES...	22/08/2018 MM-GC-002006	
Ken Hall MULTIFLEX CONSTRUCTION EUROPE	Re: RHSC+DCNI Air Extract GENERAL CORRES...	26/08/2018 MPX-GC-012125	
Kamil Kolodziejczyk MOTT MACDONALD LTD (HEAD OFFICE UK)	Re: RHSC+DCNI Air Extract GENERAL CORRES...	26/09/2018 MM-GC-002023	
Colin Grindlay MULTIFLEX CONSTRUCTION EUROPE	Re: RHSC+DCNI Air Extract GENERAL CORRES...	16/12/2018 MPX-GC-014140	
Kamil Kolodziejczyk MOTT MACDONALD LTD (HEAD OFFICE UK)	Fwd: RHSC+DCNI Air Extract GENERAL CORRES...	16/12/2018 MM-GC-002342	
Colin Grindlay MULTIFLEX CONSTRUCTION EUROPE	Re: RHSC+DCNI Air Extract GENERAL CORRES...	19/12/2018 MPX-GC-014174	
Ken Hall MULTIFLEX CONSTRUCTION EUROPE	Re: RHSC+DCNI Air Extract GENERAL CORRES...	19/01/2017 MPX-GC-014408	
Kamil Kolodziejczyk MOTT MACDONALD LTD (HEAD OFFICE UK)	Re: RHSC+DCNI Air Extract GENERAL CORRES...	30/01/2017 MM-GC-002399	
Kamil Kolodziejczyk MOTT MACDONALD LTD (HEAD OFFICE UK)	Re: RHSC+DCNI Air Extract GENERAL CORRES...	11/01/2017 MM-GC-002408	
Kamil Kolodziejczyk MOTT MACDONALD LTD (HEAD OFFICE UK)	Re: RHSC+DCNI Air Extract GENERAL CORRES...	19/01/2017 MM-GC-002417	

A47206723

MULTIPLEX CONSTRUCTION EUROPE	GENERAL CORRES...	MPX-GC-014515
Kamil Kolodziejczyk MOTT MACDONALD LTD (HEAD OFFICE UK)	Re: RHSC+DCNI Air Extract GENERAL CORRES...	13/01/2017 MM-GC-002418
Ken Hall MULTIPLEX CONSTRUCTION EUROPE	Re: RHSC+DCNI Air Extract GENERAL CORRES...	13/01/2017 MPX-GC-014532
Kamil Kolodziejczyk MOTT MACDONALD LTD (HEAD OFFICE UK)	Re: RHSC+DCNI Air Extract GENERAL CORRES...	13/01/2017 MM-GC-002421
Ken Hall MULTIPLEX CONSTRUCTION EUROPE	Re: RHSC+DCNI Air Extract GENERAL CORRES...	13/01/2017 MPX-GC-014539
Ken Hall MULTIPLEX CONSTRUCTION EUROPE	Re: RHSC+DCNI Air Extract GENERAL CORRES...	17/01/2017 MPX-GC-014577
Graeme Greer MOTT MACDONALD LTD (HEAD OFFICE UK)	Fwd: RHSC+DCNI Air Extract GENERAL CORRES...	19/01/2017 MM-GC-002456

**RHSC and DCN**  
Little France  
Edinburgh  
Scotland United Kingdom

**Mott MacDonald Ltd (Head Office UK)**  
20-26 Wellesley Rd  
Croydon  
Surrey CR9 2UL United Kingdom  
Ph. +44 20 87742000

MAIL TYPE  
General Correspondence  
REFERENCE NUMBER  
MM-RFI-000133

MAIL NUMBER  
MM-GC-002006

## Re: RHSC+DCNI Air Extract

From: Mr Kamil Kolodziejczyk - Mott MacDonald Ltd (Head Office UK)  
To: Mr Ken Hall - Multiplex Construction Europe  
Cc (4): Graeme Greer - Mott MacDonald Ltd (Head Office UK) (+3 more...)  
Sent: Thursday, 22 September 2016 4:46:56 PM BST (GMT +01:00)  
Status: N/A

### MESSAGE

Following the review of PCo's derogations (WW014 & 015) the Board cannot accept this proposal.

As per the BCRs, PCo are required to provide room heat recovery with balanced ventilation at specified air change rates. Based on PCo derogations, in order to achieve balanced pressure regime (in 4 bedded room 1-L1-100), the en-suite extract would have to be in order of 36ac/h. This is in excess of SHTM recommendation of 3ac/h. Also it means that heat recovery from this air cannot be achieved.

Can Project Co please confirm how compliance with SHTM in relation to air change rates, balanced ventilation and room heat recovery will be met.

A47206723

Regards  
Kamil

---

**From:** K Hall  
**Sent:** 22/09/2016 2:00:16 PM BST (GMT +01:00)  
**To:** Kamil Kolodziejczyk  
**Cc:** Colin Grindlay, David Martin  
**Mail Number:** MPX-GC-012071  
**Subject:** Fwd: RHSC+DCN| Air Extract

Kamil

Reference discussions on Tuesday last, you intimated this derogation submitted nearly 4 months ago would not be accepted and you were going to confirm reasons for this.

Could you urgently confirm what the reasons are please?

Thanks

Ken

---

**From:** K Hall  
**Sent:** 03/06/2016 12:46:52 PM BST (GMT +01:00)  
**To:** Kelly Gordon  
**Cc:** Colin Grindlay  
**Mail Number:** BMCE-RTRFI-000792  
**Subject:** Re: RHSC+DCN| Air Extract

Hi Kelly

Copy of derogation request for review and discussion if you let us know best way to take this forward.

Thanks

Ken

---

**From:** K Gordon  
**Sent:** 19/05/2016 2:41:36 PM BST (GMT +01:00)  
**To:** Colin Grindlay, Darren Pike, David Martin  
**Cc:** Graeme Greer, Kamil Kolodziejczyk, Colin MacRae, Brian Currie, NHSL RHSC + DCN  
**Mail Number:** MM-RFI-000133  
**Subject:** RHSC+DCN| Air Extract

A47206723

Hi All,

The Board have noted the number of air changes within the en-suites is higher than that required under SHTM. The Board understand this is to provide adequate air changes for the volume of air within both the en suite and single room and there is not an extract fan within the bedroom. As the extract fan is in the en-suite and extracting 'dirty' air the Board understand that no heat recovery is possible. Can Project Co please confirm the above and if a Derogation needs to be submitted for the Boards approval.

Kind regards,  
Kelly



## Royal Hospital for Sick Children and Department for Clinical Neurosciences - Edinburgh

RHSC / DCN RDS Environmental Matrix

Dept Code	Index
-	Cover
-	Guidance Notes
-	Room Function Reference Sheet
-	Occupancy & Equipment Load Allowances
A1 - A4	Front Door - A&E / Assessment Ward
B1	Critical Care / HDU / Neonatal Surgery
C1 - C5	RHSC In Patient Pathway / Ward Care
D1 - D10	RHSC Ambulatory Care
E1	Pod
F1	Child and Adolescent Mental Health
G2 - G3	Clinical Support
H1 - H3	Academic
I1 - I2	Facilities / Infrastructure Support Services
J1 - J2	Patient / Family Support
K1 - K2	Family Facilities
L1 - L2	DCN In Patient Pathway / Ward Care
M1 - M4	DCN Support Space
N1	DCN Out Patient Departments
P1	Combined Theatres
Q1	Combined Radiology
R1 - R2	Office / Admin Support Services
S1 - S7	Combined Facilities / Infrastructure Support Services
T1	Plant
U1	Shelved Space

Updated to suit  
accommodation schedule  
issued 03/08/2016 Rev 4\*

General mechanical  
services updated in line  
with current drawings

Lighting updated as per  
table 1 and table 2.

WW-XX-XX-XX-XX-001  
Rev 07

19th September 2016

RDO	
Revision 04 of 04 Schedule 5 of 10 (Structure) (RDO)	
Board	
Name	B. CURRIE
Date	13/10/16
Site	[REDACTED]
Level	A3
Comments:	
PLEASE REFER TO MH-9C-002084. SEE ALSO DOCUMENT.	
<small>* This document is for use in the design of the building and is not to be used for any other purpose. It is the responsibility of the user to ensure that the information is up to date and correct. © 2016 Brookfield Multiplex All rights reserved.</small>	

*top of page*  
*PLEASE ALSO REFER TO MH-9C-002055 14 Nov 2016*

REFER TO  
MPX - GC - 012654

<b>Brookfield MULTIPLEX</b>	
Built to outperform.	
Consultant Document Review RHSC & DCN Edinburgh	
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Date: 13/10/16	
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Rev 7. The following table indicates Board Comments, initial response together with the Environmental Matrix to reflect the following Board comments.

- 1 Updated to suit accommodability schedule issued 03/06/2016 Rev 04. *CIRCULATION AREAS NOT INCLUDED IN THE MATRIX.*  
 2 General mechanical services updated in line with current drawings. *ALL SERVICES SHALL BE UPDATED TO REFLECT BCRs*  
 3 Lighting updated as per table 1 and table 2. *LIGHTING SHALL BE UPDATED TO REFLECT BCRs.*

Table 1 Amendments

	Room Function	Matrix	LG2	Comment	Resolution
1	Body Viewing room	300	50/100	Higher than LG2	Reduce output via KNX commissioning
2	Cellar/Ward Offices	400	300	Higher than LG2	Reduce output via KNX commissioning
3	Shower	200	100-150	Higher than LG2	Reduce output via KNX commissioning
4	Linen Bay	200	100	Higher than LG2	Reduce output via KNX commissioning
5	Multi-disciplinary Office	400	500	Higher than LG2	Reduce output via KNX commissioning
6	Open plan office	400	300	Higher than LG2	Reduce output via KNX commissioning
7	Operating Theatre	500	1000	Higher than Matrix	Amend Matrix
8	Resuscitation Bay	200	500	Higher than LG2	Amend Matrix at patient treatment bays to 500lux, general bays to be 200lux (As schedule below)
9	Workshop	300	300-500	Compliant with both	As matrix
10	Staff Base	200/300	300	Compliant with both	As Matrix
11	Tea making	200	100	Higher than LG2	Reduce output via KNX commissioning

Table 2 Resuscitation Trolley/Bay

	Room	Light level (Lux)
3.01.2.029	Resuscitation Trolley Bay	200
1.D6.060	Resuscitation Bay	500
3.09.005	Resuscitation Trolley Bay	200
1.L1.0054	Resuscitation Bay	500
1.L1.074	Resuscitation Trolley Bay	200
2.L2.020	Resuscitation Trolley Bay	200

Rev B: The following table indicates Board Comments, initial response together with the Environmental Matrix to reflect the following Board comments

Item	Initial Response	Feedback	Reconciliation	
1	Update the Environmental Matrix shall be updated by Project Co to reflect all the rooms and room types in the proposed Facility, this should be based on an updated Schedule of Accommodation that has been commented on separately by the Board. This also needs to reflect the names and room numbers in the GSU table.	Individual room numbering being applied.	OK	Agreed
2	Include the requirements contained in the Clinical Output Specification including but not limited to the requirement that theatre temperatures are to be able to be raised to 31°C for certain operations.	We have made reference to the figure of 31°C in the Guidance Notes. Theatre temperatures are to be able to be raised to 31°C for certain operations.	Temperature control in theatres is covered in the Operational Design Notes V3 14th Oct2014 for NHS Theatres 1 & 2. Operating theatres 1-P1-032 and 1-P1-044 shall operate normally as detailed in the Environmental Matrix. These rooms shall be provided with a manual control to raise the temperature to 31°C within a period of 2 hours. This manual control function shall be logged in the BMS and the temperature requirements of the Environmental Matrix shall not apply for the duration of the elevated temperature operation. THIS HOWEVER IS NOT NOTED ANYWHERE.	This statement is now incorporated within the guidance notes of the matrix.
3	Measures shall be assessed, modelled and implemented to demonstrate that the internal air temperature of the following room types to reduce the temperature control from 20°C to 25°C: Treatment Rooms, Consulting Rooms, Laboratory, Physiotherapy Studio, Recovery.  These rooms shall not exceed the maximum acceptable level of 25°C for more than 50 hours per annum.	The Temp (max) column within the table has been updated to 25°C for the agreed rooms 3.1-3.5 above.	OK	Agreed
4	Detailed proposal awaited on bedroom ventilation to achieve balanced negative pressure relative to corridor.	The single bedrooms have had their ensuite extract increased to achieve a balance within the room, this has been noted within the matrix.	NOTE 26 AND VENTILATION TYPE HAVE NOT BEEN ALTERED.	Refer to Matrix.
5	Colour rendering all stated as 80 where certain areas should be 90	Amended.	NEEDS TO BE CHECKED FOR ALL.	Refer to Matrix.
6	There also need to have a consistent approach e.g. guidance notes and ED body view room stated as 25-8, bereavement suite body view room stated as 25-8	The figure of 25-8 is now reflected within the matrix.	OK	Matrix now amended. See item 7 below.
7	Further discussion is required on the minimum temperature requirements for the Body View Room.	Awaiting confirmation on the one from the client, however discussion at the meeting on the 11/11/14 was that rather than take the room temperature down to 8°C which would require specialist cooling they would look at providing a cold blanket for the body and room temperatures would be retained at a normal room.	NHSU confirm following discussion with users that the use of a cooling blanket or cooling cap for the body is appropriate and therefore there is no requirement to have the room at 8 degrees and 25°C is acceptable.	Matrix amended to minimum temperature of 18°C in place of 8°C.

NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
1	Technical Submittal MER-XX-SL-TS-015 appears to contradict environmental note 13 by way of radiant panel controls.	Note 13 has been deleted from the matrix and Mercury's technical submittal takes precedent.	Now updated	X	X	✓
2	1-B1-010 medical gas cylinder store, SHM 02-01 states internal cylinders stores may require mechanical ventilation, please confirm no ventilation provided.	Extract ventilation has been provided. Matrix updated and drawings where appropriate.	Now updated.	✓	X	✓
3	IPS room maximum temperatures stated as "Manufacturer Dependent", this is not acceptable, temperatures to be stated. Room has 3ach mechanical extract therefore heating type should be Adjacent space transfer air and temperatures accordingly.	Room temperatures have been added, adjacent space transfer air added, heating type.	Now updated	X	X	✓
4A	Isolation cubicles and bedrooms are not shown with any extract ventilation.	Extract provided in new added.	Now updated	X	X	✓
4B	Gowning lobby, supply stated as "in line with SHPN 04" and extract stated as "To match total bedroom air volume", design development review required.	Note removed and extract rate added.	Now updated	X	X	✓
5	Technical Submittal MER-XX-SL-TS-015 shows room 1-B1-057 with a radiant panel which contradicts Environmental Matrix room 1-B1-057 warm air reheat battery.	The air is heated by a heater battery which is BMS controlled as per the matrix.	No action required	X	X	✓
6	Where ventilation rates 10ls per person are stated, room occupancy to be detailed and ventilation rates calculated.	These particular areas have been designed based on occupancies; occupancy figures and ventilation rates have been added to these areas to provide clarity.	Now updated	X	X	✓
7	1-B1-063 Stated as supply air 4ach, extract via en-suite, this room does not have en-suite facilities.	Room extract rate added.	Now updated	X	X	✓
8	1-B1-090 has an area of 6m2 which is not stated in the matrix, PCO to populate areas.	A review will be carried out and any blank GFA rates will be noted - Updated schedule of accommodation required for this item.	Now updated	X	X	✓
9	1-C1.1-008 review ventilation type, only showing supply when 4ach supply and extract.	Ventilation type now amended to interzonal extract.	Now updated	X	X	✓



NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
10	Room 1-G3-003/005/007 bathroom temperatures stated as 26 / 20 with adjacent space transfer air from area with temperatures of 28 / 18	These bathrooms have their own radiant panel.	Now updated	X	X	✓
11	Similarly isolation bedroom 3-C1-4-040, temperatures stated as 23 / 21 with adjacent space transfer air from area with temperatures of 28 / 18, ventilation described as "balanced".	The adjacent area; Lobby 3-C1-4-039 is heated via heater battery and will be at least 21°C. Matrix has been updated.	Now updated	X	X	✓
12	3-C1-7-003; 004, 005 supply and extract "to suit location" not acceptable.	Air change rates will be noted and the "to suit location" will be removed.	Now updated	X	X	✓
13	0-D2-006 supply and extract "to suit location", statement "to suit location" is not acceptable.	Air change rates will be noted and the "to suit location" will be removed.	Now updated	X	X	✓
14	This is ventilation stated as "in line with SHTM 03-01", correct, this is a BCR requirement. However dental surgeries are not mentioned in SHTM 03-01, I would suggest SHPN 26 part 2. The required ventilation to be designed and detailed.	In line with the SHTM 03-01 removed and air change rates added.	Now updated	X	X	✓
15	1-N2-021 is currently labelled a single bedroom but it is an isolation room, review ventilation.	This room function was RF13 and has been designed as an isolation room (matrix has been updated).	Now updated	X	X	✓
16	1-P1-003 and 005 are bedrooms, not bedrooms.	Bathroom changed to bedroom.	Now updated	X	X	✓
17	Richen states DW172 dependant, actual design detail to be added.	Design details will be noted and 'DW172' will be removed.	Now updated	X	X	✓
18	Complete Estates SOA areas.	A review will be carried out and any blank GFA rates will be noted.	Now updated	X	X	✓
19	Room 0-32-002 and 001 stated in Environmental Matrix as Adjacent Space Transfer Air, however shown with radiant panel on drawing.	Matrix will be updated with radiant panel noted.	Now updated	X	X	✓



NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
20	ADB code reference should be confirmed.	ADB code reference is an unnecessary column for the use of this matrix so the column will be deleted from the environmental matrix.	Now updated.	X	X	✓
21	Last column not filled. What does it refer to?	This column is the IET grouping but this column has now been superseded by the categorisation document. Column will be deleted from the environmental matrix.	Now updated.	X	X	✓
22	B-53-002 & B-54-001 can min temp be increased to 18?	Temperature will be altered to 18°C	Now updated.	X	X	✓
23	Disposal hold – can min temp be reduced to 16.	Sensor could be set to 16°C rather than 18°C but the reduction to the maximum temperature from 28°C to 25°C is problematic though so if required, cooling will be need to be added - Confirmed at meeting that 28°C is to be retained.	Now updated.	X	X	✓
24	During a recent PO it was made clear that due to the nature of the research being carried out in the Clinical Research Department in rooms H2-013, 014, 016 and 020 the temperature cannot at any time exceed 25°C.	Cooling has been provided in H2-014, H2-016 and H2-020. H2-013 requires cooling. Matrix has been updated to reflect this but drawing requires updating.	Environmental Matrix updated and drawing to be updated.	✓	X	✓
25	Further to the recent discussion regarding hepa filtration in the isolation rooms the matrix should have been updated to reflect this.	The matrix doesn't note HEPA filter requirements but all isolation rooms have the capability of HEPA filters being installed.	No action required	X	X	✓
26	G-F1 Bedrooms with 6ach where most bedrooms are taken as 4ach.	This is a CAHMS bedroom so 6 ACH has been utilised. reference to natural ventilation will be removed.	Now updated.	X	X	✓
27	B-54-204, no supply air.	Supply air reference will be added.	Now updated.	X	X	✓
28	G-56-016, Cooling - Yes, Cooling Type - none.	Comfort cooled fresh air is now noted.	Now updated.	X	X	✓
29	G-01-007, Cooling – No, Cooling Type - Comfort cooled fresh air.	Cooling note removed.	Now updated.	X	X	✓



NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
30	G-Q1-161. Heating type - Adjacent space transfer air, supply at 10 fwh positive pressure. Diagnostic rooms, "To suit location"	This room is part of corridor and shares heating and ventilation with corridor.	No action required	X	X	✓
31	G-A1-004, supply 4 ach extract 3 ach positive, different to other diagnostic rooms.	We have treated this room like an office.	No action required	X	X	✓
32	Confirm where natural ventilation, i.e. 1-B1-063/055/067.	Extent of ventilation clarified on schedule.	Now updated	X	X	✓
33	3-C1.3-018, supply 4 ach extract 3 ach positive, different to other offices.	Air change rates utilised are in line with cellular offices.	No action required	X	X	✓
34	1-L1-005 Resus area 30m2 with extract at 3 ach.	This room has been updated on the matrix.	Now updated	X	X	✓
35	G-A1-028028, Resus area with central general extract with supply at 10 ach extract at 6 ach.	Ventilation type for these rooms has been updated in line with design.	Now updated	X	X	✓
36	Consider absence detection to all offices, meeting rooms and node rooms.	The lighting control has generally been described in the matrix as either presence or switched. If this is causing confusion the reference to presence could be renamed automatic. As a general note, automatic detection has been used in all suitable areas.	No action required	X	X	✓
37	1-Q3-002 Circulation Equipment Storage Bays, all others are presence detection.	Automatic controls added.	Now updated	X	X	✓
38	Disposal hold, LC2 recommends 200 lux.	100 lux will be changed to 200 lux.	Now updated	X	X	✓
39	IPS rooms, normal lux stated as nil.	200 lux will be added to the matrix.	Now updated	X	X	✓



NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
40	G-F1-028, 030, 063, 045 and 1-L1-028 are described as offices but have local lux of 1000.	Local lux figures to be removed.	Non-compliant	X	X	✓
41	Anaesthetic rooms, LG2 recommends local lux 1000 and Ra 80.	Ra 80 has been noted in the environmental matrix and 1000 lux is for local lighting but 500 lux is for general, all as noted in the environmental matrix.	No action required	X	X	✓
42	Theatre exit bays (transfers), LG2 recommends normal lux 300 local lux not required and Ra 80.	500 lux will be dropped to 300 lux, Ra 90 will be reduced to Ra 80 and local lux will be removed.	Environmental Matrix updated and drawings will be updated	✓	X	✓
43	Preparation rooms and scrub up, LG2 does not require local lux 10,000 – 100,000, or Ra 90.	Ra 90 will be reduced to Ra 80 and local lux will be removed.	Environmental Matrix updated and drawings will be updated	✓	X	✓
44	Theatre utility rooms, LG2 recommends local lux 100 – 150 and does not require local lux 10,000 – 100,000, or Ra 90.	500 lux will be dropped to 150 lux, RA 90 will be reduced to Ra 80 and local lux will be removed.	Environmental Matrix updated and drawings will be updated	✓	X	✓
45	Recovery areas, LG2 does not require local lux 1000 but does recommend Ra90	RA 80 will be increased to Ra 90 and local lux will be removed.	Environmental Matrix updated and drawings will be updated	✓	X	✓
46	Nurse/boothdown bases not shown to have night lighting, confirm this achieved by dimming.	All night lighting is achieved by dimmable fittings.	No action required.	X	X	✓
47	Resus trolley bay 1-D1-009 to be as other trolley bays, Ra 80 and presence detection.	1-D1-009 will be updated to reflect other trolley bays.	To be updated	X	X	✓
48	Review colour rendering, e.g. theatre suite, prep, anaesthetic, scrub utility, exit bay all Ra 80. Review consult examination rooms to have the higher color rendering of Ra 90. All to be as CIBSE LG2.	RA 90 is currently shown in theatres, preparation rooms, scrub rooms, utility rooms and exit bay. Anaesthetic room will be changed to Ra90 from Ra80. We feel that the consultant room are general treatment rooms so should remain as Ra80, where Ra90 is required, it will be achieved via the examination luminaires.	Environmental Matrix updated and drawings will be updated	✓	X	✓
49	No absence detection or daylight control detailed included from drawings.	The lighting control has generally been described in the matrix as either presence or switched. If this is causing confusion the reference to presence could be renamed automatic. As a general note, automatic detection has been used in all suitable areas.	No action required.	X	X	✓

RHSC & DCN  
 Environmental Matrix Comments  
 Second Batch



NHSL Reference	NHSL Comment	Response	Environmental Matrix Status	Drawing Implication	FC Comment	Post FC Comment
50	Medical location column states "See Guidance Notes" for every entry and not mentioned in those guidance notes.	This has been superseded by the risk profile document which sets out the medical grouping and classification. Column has been removed.	Not updated	x	x	✓

## Environmental Matrix - Guidance Notes

- 1 The workbook is prepared for the Financial Close Stage as an easier reference tool to replace ADB RDS M&E Sheets for the Environmental Criteria elements as described on these sheets.
- 2 The services matrices are produced from the Schedule of Accommodation Sheets.
- 3 The design of the HVAC systems to the theatres shall be in accordance with SHTM 03-01.
- 4 Where radiant panels are indicated in any room in these matrices, detailed design development may remove the need for these without detriment to environmental temperature. This design development is dependant on actual room layout - i.e. whether a room is located adjacent to an external wall, ground bearing floor, roof surface or is internal.
- 5 Ventilation air change rates and the use of natural ventilation in Patient Areas shall be reviewed throughout the detail design process to ensure a maximum internal temperature of 25°C (dry bulb) is not exceeded during normal occupancy. This criteria shall also apply to cellular and open plan office spaces.
- 6 Maximum internal temperatures listed relate to normal occupancy and Summer Design Conditions; External Summer Conditions for Cooling Plant Selection as per SHTM2025, Enthalpy 54kJ/kgda, 26deg Cdb, 19deg C wb. External Winter Conditions as per CIBSE Guide A Table A 2.2 for locality = -6°C for Heat Losses, and as SHTM 2025 for locality = -10°C for AHU Ventilation Plant design.
- 7 Examination lamp notes where listed are provisional. Detailed requirements (fixed, mobile, illumination) will be detailed on C sheets as agreed from signed off 1:50 RDS, which shall take precedence over this schedule.
- 8 All lighting levels are derived from CIBSE Lighting Guide LG2.
- 9 Colour rendering refers to CIBSE Lighting Design Guide and will be applied throughout.
  - \*80\* Normal
  - \*90\* Enhanced to provide close as possible match to natural light for clinical purposes
- 10 Thermostatic Mixing Devices - SHTM 04-01 Guidance shall be employed for specific TRV Type versus listed Area/Activity.
- 11 Standby Lighting to be Grade A throughout.
- 12 The internal temperature in naturally or mechanically ventilated rooms shall not exceed the maximum temperature as listed on these Environmental Matrices provided external summer design criteria is not exceeded.
- 13 Note Deleted
- 14 Local Control BMS Temperature Sensors for ducted reheat zones and chilled water castles for hotspots shall be provided with local range adjustment to +/- 2°C of BMS Set Point. BMS set point shall be adjustable via operator/user dialogue through formal FM
- 15 **Typical bedroom** - Design Criteria - SHTM 03-01 Clause 2.11 - internal temperatures in patient areas should not exceed 28°C db for more than 50 hrs per year. Appendix 1 SHTM 03-01 gives 16°C to 28°C float range. NHSL however require that the maximum internal design temperature should not exceed 25°C for more than 50 hrs per year.
 

**HPU bed areas** - Design Criteria - HBN 2/7 gives specific guidance as well as SHTM 04-01 - Appendix 1 for air change rates - 10achr supply, 18°C to 25°C control range ( Capability shall be provided but not at the summer and winter external ambient design extremes against the internal maximum and minimum range conditions ).

The department will be comfort cooled and controlled on a zonal basis.

Central AHU to be provided with blank section for future provision of humidification.

**Post theatre recovery areas** - Design Criteria - SHTM 03-01 - Appendix 1 for air change rates - 15achr S&E, 18°C to 25°C control range ( Capability shall be provided but not at the summer and winter external ambient design extremes against the maximum and minimum range conditions ).

**Critical Care areas** - Design Criteria - SHTM 03-01 - Appendix 1 for air change rates - 10achr Supply for isolation cubicles, 18°C to 25°C control range ( Capability shall be provided but not at the summer and winter external ambient design extremes against the maximum and minimum range conditions), NHSL may require specific rooms to have a control range up to 28°C.

Central AHU to be provided with blank section for future provision of humidification.
- 16 **Corridor** ventilation may be either mechanical or where the opportunity exists natural. To be determined during detailed design with due regard to clinical functionality.
- 17 **Single Room WC** - SHTM 03-01 Appendix 1 suggests 3achr extract air change rate only. We have applied 10achr extract rate to provide a more robust rate of extract.
- 18 **Diagnostic Rooms** - ( X Ray, CT Scanner, MRI Scanners, Gamma Camera ) air change rates listed at 8achr. Actual air change rate must be derived through room heat gain analysis and actual equipment guidance.
- 19 **Operating Theatre Laminar Flow/UCV Requirements** - Refer to Operational Policy Documents for specific theatres which require Laminar Flow/UCV canopy style ventilation solution.
 

Central AHU to be provided with blank section for future provision of humidification.

Operating Theatres 1-P1-032 and 1-P1-044 shall operate normally as detailed in the Environmental Matrix. These rooms shall be provided with a manual control to raise the temperature to 31°C within a period of 2 hours. This manual control function shall be logged on the BMS and the temperature requirements of the Environmental Matrix shall not apply for the duration of the elevated temperature operation.
- 20 **Small workshop Areas** - Local Extract Ventilation (LEV) unit requirement to be determined from room equipment schedules.
- 21 **Note that Isolation Suite ventilation solutions for this project shall follow HBN 4 Supplement 1 Section 4 Item 4.8 Guidance i.e.**

A common departmental AHU shall be employed to provide supply air ventilation ( and shall therefore employ duty & standby fans);

Isolation Rooms En Suite Extracts shall be provided with an independent Isolation Room inlet extract ventilation system.

Isolation Rooms En Suite Extracts shall be provided with either externally located 3 mtr high discharge stack in a safe location or with extract filters ( H14 ) within a safe change housing outside the building on the suction side of the fan.

Heating & Cooling the Isolation Suites shall be provided via the ventilation system.
- 22 **Retail Provision** - Service provisions listed are Infrastructure only for future fit-out by retailer. ( Fire detection shall be provided to assist completion).
- 23 **Comfort Cooled Fresh Air** - Where noted as such on the matrix, these are provided via departmental air handling plant via chilled water cooling coils.
- 24 **Body View Room** - A cooling blanket or cooling coil shall be used in this room.
- 25 All signature rooms (17no. off) will be treated as sealed rooms with Supply at 6achr and Extract to match to achieve a balanced pressure.
- 26 **Single Bedroom** - The design philosophy for ventilation is for a mixed mode operation where natural vent is encouraged which has benefits both physiological with users being party in control, and from an energy stand point where mechanical vent loading is partly reduced (2/3rds). This strategy results in zero pressure differential regime within the room where supply and extract is balanced. En suite dirty extract volume flow rate has been increased to achieve a balanced ventilation system.

















































Room No.	Department	Room Name	Area	Room Function	Typical Use	Typical Hours	Activity Type	Typical Contents	Storage Practices	Storage Location	Typical Hazard	Regulated (RCRA)	Regulated (EPCRA)	Regulated (CERCLA)	Regulated (DOT)	Regulated (OSHA)	Regulated (EPA)	Regulated (FIFRA)	Regulated (PPE)	Regulated (Other)	Regulated (Misc)	Regulated (Total)	Regulated (Other)	Regulated (Misc)	Regulated (Total)	Regulated (Other)	Regulated (Misc)	Regulated (Total)			
1-0100	Building	01-0100-01	01	01-0100-01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01			
1-0101		01-0101-01	01	01-0101-01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01		
1-0102		01-0102-01	01	01-0102-01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	
1-0103		01-0103-01	01	01-0103-01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	
1-0104		01-0104-01	01	01-0104-01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	
1-0105		01-0105-01	01	01-0105-01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
1-0106		01-0106-01	01	01-0106-01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	
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1-0200	Facilities Division	02-0200-01	02	02-0200-01	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02		
1-0201		02-0201-01	02	02-0201-01	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	
1-0202		02-0202-01	02	02-0202-01	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02
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1-0204		02-0204-01	02	02-0204-01	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02	02
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1-0300	Maintenance	03-0300-01	03	03-0300-01	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03		
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1-0302		03-0302-01	03	03-0302-01	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
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1-0304		03-0304-01	03	03-0304-01	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
1-0305		03-0305-01	03	03-0305-01	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
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1-0307		03-0307-01	03	03-0307-01	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
1-0308		03-0308-01	03	03-0308-01	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03
1-0309		03-0309-01	03	03-0309-01	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03	03































































































**From:** MrKamilKolodziejczykMottMacDonaldLtd(HeadOfficeUK) <-> on behalf of MrKamilKolodziejczykMottMacDonaldLtd(HeadOfficeUK)  
**Sent:** 17 October 2016 11:53  
**To:** mrkenhallmultiplexconstructioneurope; bmedinburghdoccontrolmultiplexconstructioneurope; mrdavidmartinr.a.m.assetmanagementlimited  
**Cc:** mrskellybainmottmacdonaldLtd; lianeedwards-scottmultiplexconstructioneurope; alisongordonmultiplexconstructioneurope; mrdouglasmcfallmultiplexconstructioneurope; mrdidierblanchetbouyguese&sfm; clivehallbouyguese&sfm; mrwallaceweirhcpsocialinfrastructurelimited; nhsIrhsc+dcnnhslotion; mrjohnwalesmultiplexconstructioneurope; mrdarrenpikemultiplexconstructioneurope; mrrichardhairbouyguese&sfm  
**Subject:** Re: G1547 RDD Review Environmental Matrix

## Attributes

**Attribute 2** : 33. M&E Building Services

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## Message

The Board have reviewed the Environmental Matrix and still has significant concerns on items that do not appear to comply with the BCR's.

The Board notes the following general comments:

1. The Board has highlighted cells in blue and red bubble on the hard copy which require PCo review.
2. The Environmental Matrix should be updated to reflect the Production Group drawings.
3. Currently the matrix doesn't reflect the clinical lights schedule submitted through Clinical Lights Specification and Clinical Lights Technical Submittal.
4. EM shall be updated to reflect all circulation areas as per SoA.
5. Some lux levels don't appear to align with LG2.
6. Some ventilation rates don't appear to comply with BCRs. The Board would like to point that is still awaiting response from PCo to the issues raised as per MM-RFI-000172 & MM-GC-002006 relating to ventilation rates.

Some specific comments as follows:

1. See example G-D1-015 in the table - confirm filtration to physical measurement rooms.

2. Areas off the circulation area / corridor, i.e. 1-D6-060 Resus Bay, indicates transfer air but not known from where. Same principles applies to all Bays and Receptions.
3. See example 1-D7-005 in the table - indicates area of 4m<sup>2</sup> however General Arrangement drawing shows 4.8m<sup>2</sup>. Please review this and all other similar instances.
4. See example 3-D9-009 in the table - indicates no cooling and no ventilation but filtration. Please review this and all other similar instances.
5. See example 3-D9-016 in the table - contradiction, please confirm for this and all other similar instances.
6. See example G-F1-037 in the table – only extract and filtration, please confirm for this and all other similar instances.
7. See example 1-H2-013 in the table – confirm temperature and cooling requirements for this and all other similar instances.
8. See example 1-L1-015 in the table – “via bedroom and en-suite” confirm extract rates for bedroom and en-suite.
9. All Dirty Utility rooms – please confirm dirty utility heating type and control.
10. Changing Cubicles – will be supplied with 18 deg C fresh air with no option to increase temperature. Please confirm.
11. Dictation Rooms - will be supplied with 18 deg C fresh air with no option to increase temperature. Please confirm.
12. 1-P1-067 (see table) – please confirm proposal.
13. 1-P1-090 and 1-P1-005 – should this not be other way round? Please confirm.

Whilst the Board has noted general and specific comments above, the Board reminds Project Co that unless the Board has already accepted a derogation, it is Project Co’s obligation to comply with the BCR’s / SHTMS etc, and the Board not commenting, does not remove that obligation on Project Co.

Regards  
Kamil

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**From:** B DocControl  
**Sent:** 20/09/2016 1:08:11 PM BST (GMT +01:00)  
**To:** Kelly Gordon, Kamil Kolodziejczyk, NHSL RHSC + DCN  
**Cc:** Didier Blanchet, Richard Hair, Clive Hall, Wallace Weir, Liane Edwards-Scott, Alison Gordon, Ken Hall, Douglas McFall, Darren Pike, John Wales  
**Mail Number:** MPX-TRANSMIT-006178  
**Subject:** Fwd: G1547 RDD Review Environmental Matrix

Please find attached RDD documents issued electronically for information. Documents have now been put into a workflow and a hard copy will be issued for your review.

Should you have any queries please do not hesitate to contact me.

Kind Regards,

Kara

BM Edinburgh Document Control

Multiplex Construction Europe Ltd  
RHSC & DCN Site Office  
Little France Crescent  
EDINBURGH  
EH16 4TJ



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**From:** L Johnston  
**Sent:** 19/09/2016 3:58:48 PM BST (GMT +01:00)  
**To:** Didier Blanchet, Richard Hair, Clive Hall, HLM Document Control, Jo Dorling, Mark Harrison, Lorraine Robertson HLM Architects, Ross Barrett HLM Architects, Eilidh Jane Simpson, Chris Youd, RHSC Document Control, James Ferry, Kieran Furley, Stacey Green, Neil Lancaster, Gavin Marsh, Gerry McDonnell, Jamie McLeish, Alison Mulrine, Gearoid Murray, Declan O'Donovan, Mark Quinn, Sinead Rogan, Brendan Rooney, Bob Violet, Jack Whittam, BMEinburgh DocControl, Liane Edwards-Scott, Colin Grindlay, Ken Hall, Andy Kerr, Nicholas Leach, Jonathon Mays, Andrew McColl, Keith McIntee, RBG Document Control, Barry McCormack, Ryan Stokes, Lyndsey Johnston, TUV-SUD WHITTLE  
**Mail Number:** WWHIT-TRANSMIT-000794  
**Subject:** G1547 RDD Review Environmental Matrix

Please find attached our updated Environmental Matrix.

Regards

Lyndsey Johnston

Document Controller

TUV SUD Limited

The Venlaw Building

349 Bath Street

Glasgow

G2 4AA

United Kingdom





[www.tuv-sud.co.uk/wallacewhittle](http://www.tuv-sud.co.uk/wallacewhittle)

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**CONFIDENTIAL****Meeting:** Project Management Group Meeting**Location:** MacKinlay Room**Date and time:** 2<sup>nd</sup> of November 2016 at 10:00am**Subject:** Project Management**Meeting Chair:** David Martin**Attendees:**

Brian Currie	NHSL	(BC)
Jackie Sansbury	NHSL	(JS)
Janice Mackenzie	NHSL	(JM)
Stuart Davidson	NHSL	(SD)
Graeme Greer	Mott MacDonald	(GG)
Kamil Kolodziejczyk	Mott MacDonald	(KK)
Kelly Gordon	Mott MacDonald	(KG)
Wallace Weir	IHSL	(WW)
David Martin	IHSL	(DM)
Hayley Prowse	IHSL	(HP)
Darren Pike	MPX	(DP)
Stuart Jackson	MPX	(SJ)
Douglas McFall	MPX	(DMc)
Colin Grindlay	MPX	(CG)
Richard Hair	BYES	(RH)

**Apologies:**

Ronnie Henderson	NHSL	(RHe)
Sorrel Cosens	NHSL	(SC)
Paul Wandless	BYES	(PW)

**Distribution (over and above attendees):**

Graham Coupe	MPX	(GC)
Kelly Hopkinson	MPX	(KH)
David Campbell	MPX	(DC)
John Wales	MPX	(JW)
Andy Clapp	IHSL	(AC)
Juan Custodio	IHSL	(JC)
Richard Osborne	IHSL	(RO)

Number	Action	Owner	Date
<b>1.0 Matters Arising</b>			
1.1	1.1 Kelly Hopkinson updating RDD schedules (MEP & Architecture), ongoing. HLM RDS Release programme issued to the Board for	Board	16/11/16

Number	Action	Owner	Date
	info/comments.  DMc / KG to discuss and agree list of information required by the Board for room reviews.  CDS room data sheets issued to the Board.	DMc/KG  Board	04/11/16  16/11/16
1.2	1.2 The county sewer draft Deed of Servitude: SW queries returned and confirms the Deed covers new pipework within the project boundary. WW progressing drawing amendments with MPX. DMc to chase HLM for revised plans.	WW / DMc	09/11/16
1.3	1.3 Demarcation meeting to be held w/c 31/10/16. Ventilation query is outstanding.: Board to respond. Meeting to be scheduled to resolve issues.	JS/CG	09/11/16
1.4	1.4 Commissioning Plan: Revised programme issued. JS reviewing comments from CG/RH/DM and will issue an updated programme shortly.  Board met with LH and PM to review equipment changes on 14 <sup>th</sup> October. Further meeting to be arranged.	JS  LH/PM/JS	09/11/16  07/11/16
1.5	1.5 Review of Courtyards: MPX & Board met to discuss. Rod Shaw issued cost comments 01/11/16. Further meeting scheduled for 09/11/16.	MPX	09/11/16
1.6	1.6 Patient Environment: MPX expecting Boston feedback by 04/11/16 following recent meeting with Gingko. CG will issue updated matrix once prices received. Note: maintenance and lifecycle are a Board responsibility.	CG	10/11/16
1.7	1.7 Environmental Matrix: EM returned at status C. CG requested Board review and reissue as status B with comments.	KK	09/11/16
1.8	1.8 Fire Strategy Report: Risk Assessment submitted to building control. MPX waiting for comments back from them. Matrix to then be updated. DMc will chase.	DMc	Update 16/11/16
1.9	1.9 Pattresses for the Fire Extinguishers: The Board continue to respond with areas in conjunction with MPX. CG noted problems with drawing markups re: clarity/ambiguity. KK will arrange with Billy a time to relook at drawings. SJ to issue information required dates for the upcoming areas.	Board  SJ	07/11/16  04/11/16
1.10	1.10 MPX issued Draft Single Completion date Programme issued to IHSL. IHSL sent to Intercreditor Agent and TA; awaiting response. MPX will issue final response to IHSL by 09/11/16. BC noted that NHSL have requested a weekly update on progress on this key item.	MPX/IHSL  MPX/IHSL	09/11/16  Weekly

Number	Action	Owner	Date
1.11	1.11 Completion Criteria: DM met with JW 01/11/16 to review IHSL response to MM's query schedule. Initial meeting with Board/IHSL/MPX scheduled for 07/11/16. MPX will issue response to Board comments 03/11/16.	IHSL/MPX/ All  MPX	07/11/16 07/11/16  03/11/16
1.12	1.12 Ongoing Energy Document: SD will send comments by 04/11/16. Once the response is received BYES will determine if specialist consultants are required.	SD	04/11/16
1.13	1.13 Construction (temporary and permanent) details for the Link Connection. MPX received HLM internal connection details. Waiting on RBG information. DMc / SJ to issue interface details and RAMS. Board noted that the ideal start date for works would be February 2017 school holidays.	SJ/DMc	Update 16/11/16
1.14	1.14 Dewatering design information: MPX to respond to outstanding MM queries. SJ will arrange meeting with MM.	SJ/MM	08/11/16
1.15	1.15 Service Yard: Full suite of service drawings requested by the Board. RFI issued with expectation that drawings will be issued including comments. DMc will follow up.  BC requested drawing/s which include the details of the overlay the existing crib wall. Although this action is welcomed, agreement will be required with Consort. SJ currently reviewing boundary wall pack including internal turning circle area.	DMc  SJ	07/11/16  09/11/16
1.16	1.16 Public Realm/RIE building works: Board aiming to have 'access rights' agreed with Consort before Christmas. IHSL to draft SA1 as part of the change request. Street Lighting/ CCTV drawings to be appended to the SA6 agreement when agreed following the walk-around performed 19/10/16 and the review meeting on the 02/11/16  BC previously noted that U of E have requested a fully detailed specification of their works as designed. DMc will follow up and send to BC.  BC requested details and a schedule of the Street Furniture to be installed by MPX together with its value. U of E / Bio Quarter specification may be higher so Board to determine how to upgrade /enhance specifications.  External Signage: DMc queried site wide planning. BC noted North and South side of Bio quarter not being covered by MPX.	Board/ IHSL  MPX  DMc  MPX/Board	Update 16/11/16  09/11/16  09/11/16  Update 16/11/16
1.17	1.17 Plant Rooms:		

Number	Action	Owner	Date
	CG reissued Rentokil report to SD. SD reviewing.	SD	16/11/16
	GC to add substance to the Change request notification (IHSL 020).	GC	07/11/16
1.18	1.18 RDS's are currently in workflows. MPX will send two samples of room pack to Board /IHSL/BYES for review and discussion.	CG DMc	09/11/16 07/11/16
1.19	5.4 Removable Panels responsibilities: MPX to provide alternative details for link corridor access points and the IMRI first floor access panel (internal and external). MPX received drawings for panels. Set of drawings will be issued to the Board.	MPX	14/11/16
1.20	5.5 FF&E information received by MPX. Data sheets issued.	Board	Update 16/11/16
1.21	10.1 Red line CCTV and Lighting installation progressing. Walk round review carried out 19/10/16.	MPX / Board	Update 16/11/16
1.22	13.1 Reports of ETFE Roof failure at Victoria Station, Manchester: Board would like reassurance that any lessons from the incident are considered. MPX gathering information and will provide update.	IHSL/MPX	Update 16/11/16
1.23	13.2 Water storage capacity: MPX proceeding with 24 hours capacity. CG reviewing requirement for derogation.	CG	14/11/16
1.24	13.3 Lighting control for bedded areas in critical care: MPX waiting on feedback from Mercury, however, don't foresee issues.	CG	Update 16/11/16
<b>2.0 Programme Update</b>			
2.1	<p>Brief Update.</p> <p>Current areas of activity:</p> <ul style="list-style-type: none"> <li>• Stephenson's have completed the main works and</li> <li>• Steelwork ongoing at roof level.</li> <li>• TC 1 to be removed early December.</li> <li>• TC2 to be removed mid-November.</li> <li>• TC3 is required for the Helipad so will remain until late December.</li> </ul> <p>Zone A</p> <ul style="list-style-type: none"> <li>• Second and third fix M&amp;E progressing.</li> <li>• First fix services in hotel well under way.</li> <li>• Decoration in progress to ground and 1<sup>st</sup> floors.</li> <li>• Brickwork is ongoing.</li> <li>• ETFE roof work completed.</li> <li>• Ceilings in progress on ground floor.</li> <li>• Door frames, IPS, floor screeds in progress.</li> <li>• Vinyl flooring due to commence.</li> </ul> <p>Zone B &amp; C</p> <ul style="list-style-type: none"> <li>• SFS in progress.</li> <li>• Internal partitions progressing.</li> <li>• M&amp;E first fix in progress and some 2<sup>nd</sup> fix commenced.</li> </ul>	SJ/DP	Update 16/11/16

Number	Action	Owner	Date
	<ul style="list-style-type: none"> <li>• Windows in progress</li> <li>• Screeding in progress.</li> </ul> Zone D (Energy Centre) <ul style="list-style-type: none"> <li>• Brickwork/Blockwork in progress</li> <li>• Envelope and fit out works progressing.</li> <li>• Blockwork decoration has commenced.</li> <li>• Initial mains power due by 22/12/16</li> </ul> Basement <ul style="list-style-type: none"> <li>• M&amp;E and partitions in progress.</li> </ul>		
2.2	Zutec Training: Mock up rooms date to be scheduled with Gareth. CG will chase Gareth.  First rooms will be available 20/01/17.  Board require meeting to discuss and understand the procedures for closing off and completing items when registered on Zutec by the Board. This will be done as part of Zutec training and with guidance from MPX.	CG  -  MPX/Board	Update 16/11/16  -  Update 16/11/16
<b>3.0 FM Update</b>			
3.1	BYES RDD matters to review: A number of matters to process.	RH	04/11/16
3.2	BYES will issue updated risk register and monthly report 03/11/16.	RH	03/11/16
3.3	Technical review submittal: Weekly review meetings commenced.	RH/ MPX	Ongoing
3.4	BYES continue to carry out regular site visits and beginning joint site visits.	RH	Ongoing
3.5	Recruitment for Technical Supervisor role is now in 2 <sup>nd</sup> interview stage from w/c 07/11/16.	RH	Update 16/11/16
3.6	RH confirmed that room numbering and department names etc. are now aligned to allow BYES to populate their CAFM system and consolidated with architects. CAFM build has commenced.	RH	Update 16/11/16
<b>4.0 Commissioning Update</b>			
4.1	Joint commission meetings continue. Next scheduled for 09/11/16.	All	09/11/16
4.2	M&E commissioning process has been realigned with new construction zones. Meeting with Mercury and David Wilson scheduled for 02/11/16.	MPX	02/11/16
4.3	Witnessing meetings commencing on bi-weekly basis. Next scheduled for 09/11/16. CG will continue to issue 4 weekly look ahead schedules mid cycle.	CG	09/11/16
	CG will issue draft Commissioning plan.	CG	07/11/16
4.4	A list of the "off-site" factory testing visits has been provided although more detail would be helpful.	CG	Update 16/11/16
<b>5.0 Equipment Update</b>			



Number	Action	Owner	Date
5.1	Equipment meetings have commenced and are progressing well. Meeting dates scheduled weekly.	-	Ongoing
5.2	Group 2A finalised list received, minor zoning queries to be resolved. Group 2B various dates provided. Group 3 ongoing with discussions. CG working with JS.	JS/CG	Ongoing
5.3	Theatres: Final review meeting to be scheduled with Drager/Clinicians.	JS/CG	07/11/16
<b>6.0 RDD &amp; Design</b>			
6.1	<p>Board tabled their top 10 issues which excludes those previously noted. Key action points are:</p> <ul style="list-style-type: none"> <li>• Gas Meter – MPX will raise derogation in respect to the reduction of disabled spaces, while Board will determine if/where disabled spaces will be allocated to.</li> <li>• Lightning Protection – Board would like connection detail/rationale/benefits from MPX</li> <li>• Helipad – MPX were to issue RDD pack. CG will follow up with Dave Campbell.</li> <li>• Chillers – Drawings with Board for review.</li> <li>• Lig 2506 in Theatres: MPX collating report. MPX will then issue to IHSL. Meeting to be arranged with Patrick MacCauley to discuss requirements, involve Theatre clinical team.</li> <li>• ATD: MPX provided responses to some individual ATD projects. Board will now be able to issue further Changes. See 9.1.</li> <li>• Exclusion Zones over MRI drainage pipework: MPX to respond to RFI.</li> <li>• Sprinklers in Atrium: CG to draft derogation and issue to the Board.</li> <li>• Number plate recognition: MPX reviewing detail and will respond.</li> <li>• Air Changes: Meeting scheduled with Wallace Whittle to progress MPX response.</li> </ul>	MPX/ Board	Update 16/11/16
6.2	<p>MPX top 10 issues along with the Board's top 10 issues and throughout the notes in addition to:</p> <ul style="list-style-type: none"> <li>• Key Suiting: David Campbell will update diagram and spreadsheet. To be sent to the Board.</li> <li>• Blackline Boundary: Board has drafted Change ready to issue.</li> <li>• Room Naming: Board to reissue schedule for MPX to price.</li> <li>• Gas outlets for Level 4 Labs: Change of gas outlet could affect trunking.</li> </ul>	Board/ MPX	Update 16/11/16
<b>7.0 RFI</b>			
7.1	Latest RFI tracker issued on 02/11/16 and was reviewed at the meeting. Actions for various parties.	All	02/11/16
<b>8.0 Change</b>			



Number	Action	Owner	Date
8.1	Board previously advised of the following possible NHSL changes: <ul style="list-style-type: none"> <li>• Helipad: Possible enhancement from County Ambulance for a mist system for fire suppression. MPX reviewing feasibility.</li> </ul>	Board  CG/DP	Update 16/11/16  14/11/16
<b>9.0 Charities</b>			
9.1	MXP issued a number of ATD responses to the Board: <ul style="list-style-type: none"> <li>• 2.1 Wall Graphics</li> <li>• 4.1 Old to new</li> <li>• 7.1 Pod and Play spaces</li> <li>• 7.2 DCN Waiting spaces</li> <li>• 15.1 Multisensory distraction</li> <li>• 15.3 Snoezelen</li> <li>• 17.1 CAMHS</li> <li>• 17.3 Adolescent space</li> <li>• 20.1 Programmable spaces</li> </ul>	Board	Update 16/11/16
9.2	Charities coming on site for walk around 15/11/16	-	-
<b>10.0 Interface Activities</b>			
10.1	St Lighting / CCTV final review meeting 02/11/16	MPX/Board	02/11/16
<b>11.0 Communications</b>			
11.1	Communications meetings will be held bi-monthly. Next meeting to be held on 22/11/16.	Board / IHSL / MPX	22/11/16
<b>12.0 Health and Safety</b>			
12.1	Accident occurred 04/10/16: Mercury Modular framework fell on operative foot. Close out report with SJ for review. Once finalised SJ will issue to IHSL.	SJ	09/11/16
<b>13.0 AOB</b>			
13.1	BREEAM: MPX chasing up and will provide update to Board/ IHSL.	MPX	09/11/16
13.2	KG requested CDS equipment list in excel format.	CG	07/11/16
13.3	Responsibility Matrix for ATD equipment: JS noted importance to include catering equipment.	-	-
The Next meeting will take place on 16/11/16 at 10:00 in Mackinlay			

**From:** Kolodziejczyk, Kamil K [REDACTED]  
**Sent:** 07 November 2016 07:41  
**To:** Currie, Brian  
**Cc:** 'ronnie.henderson@[REDACTED] Greer, Graeme  
**Subject:** FW: Environmental Matrix - Status B

Brian,

Further to last weeks PMG, and the discussion on upgrading the Environmental Matrix to status B, please refer to Colin Grindlay's email below re-requesting the Board upgrade the Environmental Matrix to status B.

Following a review of our previous comments that led to a status C, the caveats we have drafted on an upgraded status B may not sufficiently protect the Board. FYI I have pasted the previous comments below that led to the status C, as follows;

The Board notes the following general comments:

1. The Board has highlighted cells in blue and red bubble on the hard copy which require PCo review.
2. The Environmental Matrix should be updated to reflect the Production Group drawings.
3. Currently the matrix doesn't reflect the clinical lights schedule submitted through Clinical Lights Specification and Clinical Lights Technical Submittal.
4. EM shall be updated to reflect all circulation areas as per SoA.
5. Some lux levels don't appear to align with LG2.
6. Some ventilation rates don't appear to comply with BCRs. The Board would like to point that is still awaiting response from PCo to the issues raised as per MM-RFI-000172 & MM-GC-002006 relating to ventilation rates.

Some specific comments as follows:

1. See example G-D1-015 in the table - confirm filtration to physical measurement rooms.
2. Areas off the circulation area / corridor, i.e. 1-D6-060 Resus Bay, indicates transfer air but not known from where. Same principles applies to all Bays and Receptions.
3. See example 1-D7-005 in the table - indicates area of 4m2 however General Arrangement drawing shows 4.8m2. Please review this and all other similar instances.
4. See example 3-D9-009 in the table - indicates no cooling and no ventilation but filtration. Please review this and all other similar instances.
5. See example 3-D9-016 in the table - contradiction, please confirm for this and all other similar instances.
6. See example G-F1-037 in the table – only extract and filtration, please confirm for this and all other similar instances.
7. See example 1-H2-013 in the table – confirm temperature and cooling requirements for this and all other similar instances.

8. See example 1-L1-015 in the table – “via bedroom and en-suite” confirm extract rates for bedroom and en-suite.
9. All Dirty Utility rooms – please confirm dirty utility heating type and control.
10. Changing Cubicles – will be supplied with 18 deg C fresh air with no option to increase temperature. Please confirm.
11. Dictation Rooms - will be supplied with 18 deg C fresh air with no option to increase temperature. Please confirm.
12. 1-P1-067 (see table) – please confirm proposal.
13. 1-P1-090 and 1-P1-005 – should this not be other way round? Please confirm.

Whilst the Board has noted general and specific comments above, the Board reminds Project Co that unless the Board has already accepted a derogation, it is Project Co’s obligation to comply with the BCR’s / SHTMS etc, and the Board not commenting, does not remove that obligation on Project Co.

As you can see from the comments above, the comments are extensive hence we think the status C still applies, however as requested, we have drafted the following caveat for an upgraded status B;

“The Board have serious concerns over the upgrading Environmental Matrix to Status B considering some of the issues raised (as per MM-GC-002084) being the same as the issues that had been raised since FC. There are also concerns over the potential inaccurate information being transferred to the Room Data Sheets being submitted through RDD.

However, as requested by Project Co, the Board have upgraded the Environmental Matrix to status B, noting the Board still does not believe the Environmental Matrix and resultant design complies with the Project Agreement. Project Co’s failure to comply with the BCR’s / PCPs (as per MM-GC-002084), the Boar believes would result in a non-compliant Facility.

The Board would suggest that Project resolve the non-compliant issues as a matter of urgency, and requests that Project Co issues a strategy for resolution of these issues”.

Regards  
Kamil

---

**From:** Colin Grindlay [REDACTED]  
**Sent:** 03 November 2016 13:02  
**To:** Kolodziejczyk, Kamil K [REDACTED]  
**Cc:** Currie, Brian [REDACTED] Ken Hall [REDACTED] Darren Pike [REDACTED]  
**Subject:** Environmental Matrix - Status B

Kamil,

As discussed in PMG, can you advise when we will receive confirmation of Environmental Matrix at Status B.

This would help us greatly.

Regards,

**Colin Grindlay**  
Lead M&E Manager

# MULTIPLEX

**Multiplex Construction Europe Ltd**

RHSC & DCN Project Office

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Edinburgh, EH16 4TJ, United Kingdom



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**Subject:** FW: Demracation Reports

**Importance:** High

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**From:** Colin Grindlay [REDACTED]  
**Sent:** 10 November 2016 18:04  
**To:** Kolodziejczyk, Kamil K; Sansbury, Jackie  
**Cc:** Henderson, Ronnie; Currie, Brian; Darren Pike; Ken Hall; Graham Coupe; Glenn Collins; 'david [REDACTED]'  
**Subject:** RE: Demracation Reports  
**Importance:** High

Kamil,

The demarcations reports are a document design to specifically clarify and confirm the termination points of services between turnkey and ProjectCo.

The ACH per hour is a separate issue and have already advised I would not re-issue these documents until this is resolved.

There are various works within the report with are totally unaffected by the ventilation. By Status C this document you are directly delaying and stopping works onsite.

These document need to be a Status B to mitigate project risk (both NHS & Multiplex) and heavily caveated if required to conclude your ventilation position.

If is disappointing after all this work that these documents were going to be sent back as Status C based on the below.

Regards,

**Colin Grindlay**  
Lead M&E Manager

**MULTIPLEX**



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**From:** Kolodziejczyk, Kamil K [REDACTED]  
**Sent:** 10 November 2016 17:41  
**To:** Colin Grindlay; Sansbury, Jackie  
**Cc:** Henderson, Ronnie  
**Subject:** RE: Demracation Reports

Colin,

Tried catching up with you earlier before responding with demarcation reports to give you heads up. Until the ventilation issue is not clarified we are unable to return drawings other than status C.

We will return hard copies tomorrow.

Kamil

---

**From:** Colin Grindlay [REDACTED]  
**Sent:** 10 November 2016 11:20  
**To:** Sansbury, Jackie [REDACTED]; Kolodziejczyk, Kamil K [REDACTED]  
**Cc:** Henderson, Ronnie [REDACTED]  
**Subject:** RE: Demracation Reports

Still finalising with WW.

Happy for comment to remain as Status B.

We will then conclude and update document accordingly.

Just want to check one item which I don't think is covered in report. – MRI rooms are Turnkey buying their own FCU's or do you want us to free issue???

Personally, I think they should buy their own to our specification.

Regards,

**Colin Grindlay**  
Lead M&E Manager

**MULTIPLEX**



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**From:** Sansbury, Jackie [REDACTED]  
**Sent:** 10 November 2016 11:17  
**To:** 'Kolodziejczyk, Kamil K'; Colin Grindlay  
**Cc:** Henderson, Ronnie  
**Subject:** RE: Demracation Reports

Colin, any update on the ventilation? Currently the reports have comments re this.  
Jackie

---

**From:** Kolodziejczyk, Kamil K [REDACTED]  
**Sent:** 10 November 2016 11:01  
**To:** Colin Grindlay  
**Cc:** Sansbury, Jackie; Henderson, Ronnie  
**Subject:** RE: Demracation Reports

Hi Colin,

Apologies for delay getting these back to you. I am aiming for today.



Kamil

---

**From:** Colin Grindlay [REDACTED]  
**Sent:** 10 November 2016 10:40  
**To:** Kolodziejczyk, Kamil K [REDACTED]  
**Cc:** Sansbury, Jackie [REDACTED]; Henderson, Ronnie [REDACTED]  
**Subject:** Demracation Reports

Kamil,

Can you advise when we will receive the demarcation report feedback.

Looking to get this closed out asap.

**Colin Grindlay**  
Lead M&E Manager

## MULTIPLEX

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RHSC and DCN  
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Scotland United Kingdom

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56 Canaan Lane  
Edinburgh  
EH10 4SG United Kingdom

MAIL TYPE  
General Correspondence  
REFERENCE NUMBER  
NHSL-GC-001364

MAIL NUMBER  
NHSL-GC-001364

RHSC + DCN - Little France - Ventilation Compliance

From: Mr Brian Currie - NHS Lothian  
To: Mr Wallace Weir - HCP Social Infrastructure (UK) Limited  
Cc (6): Mr John Edwards - Arcadis LLP (UK)  
Mr Andy Clapp - Daimore Capital  
Graeme Greer - Mort MacDonald Ltd (Head Office UK)  
Mr Darren Pike - Multiplex Construction Europe  
Mr John Ballantyne - Multiplex Construction Europe  
Ms Jackie Sansbury - NHS Lothian  
Sent: Friday, 11 November 2016

MESSAGE

Wallace

This is not a new issue by any means having been discussed at length many times in recent weeks and in relation to Point 1 below since well before FC.  
However, I feel compelled to write expressing our concern and alarm that ventilation ductwork is appearing on site which quite clearly does not reflect a compliant design. It is nobody's interest to allow this situation to continue.

**Point 1 Ventilation to single and 4 bedded rooms**

You are not providing heat recovery and your designed air changes rates in relation to extract through toilets are unacceptable.

**Point 2 Ventilation to Diagnostic + Interventional Radiology Rooms**

15 A/C Hour is required as verified by HPS.

**Point 3 Ventilation to Isolation Rooms**

A derogation is required.

Please confirm receipt of this communication and confirm by return that IHSL will be providing a fully compliant design.

Brian

**From:** MrKamilKolodziejczykMottMacDonaldLtd(HeadOfficeUK) <-> on behalf of MrKamilKolodziejczykMottMacDonaldLtd(HeadOfficeUK)  
**Sent:** 11 January 2017 12:59  
**To:** mrcolingrindlaymultiplexconstructioneurope; mrdavidmartinr.a.m.assetmanagementlimited  
**Cc:** graemegreermottmacdonaldLtd; mrwallaceweirhcpsocialinfrastructurelimited; nhsrhsc+dcnhslothian; mrbriancurrienhslothian; mrdarrenpikemultiplexconstructioneurope; mrkenhallmultiplexconstructioneurope  
**Subject:** Re: RHSC+DCN| Air Extract  
**Attachments:** 141013 Environmental Matrix Comments-283757372ma.docx; SHTM vs PCo diagram-283757372ma.pptx

## Attributes

**Attribute 1 :** Stage 3 - RHSC & DCN Construction Phase

**Attribute 2 :** 33. M&E Building Services

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## Message

David / Colin,

Thanks for your response, the Board has reviewed the information submitted and provided comments in blue below. Note we had to break up points submitted by PCo to comprehensively respond to all the comments.

There is clearly still a difference of opinion as to whether PCo has provided a compliant design, hence we would like to suggest a workshop on Monday 16 January at 10am to progress through the below points. Please confirm whether the proposed date is suitable for PCo's team.

Regards

Kamil

---

**From:** C Grindlay  
**Sent:** 16/12/2016 8:12:22 AM GMT (GMT +00:00)  
**To:** Kamil Kolodziejczyk  
**Cc:** Wallace Weir, Graeme Greer, Ken Hall, Darren Pike, NHSL RHSC + DCN, David Martin  
**Mail Number:** MPX-GC-014140  
**Subject:** Re: RHSC+DCN| Air Extract

Kamil,

Following a joint review with Project Co. please see below our response to MM-GC-002006.

'We note your comments relate to both single bedrooms and 4 bedded rooms. We would confirm derogations WW014 and WW015 were prepared for single bedrooms only.

1.0 Reference to 4 bedded room comments made, taking Room 1-L1-100 as the example, you have noted the ensuite extract would have to be in order of 36ac/h. This statement is incorrect as the design solution for single bedrooms is fundamentally different to 4 bedded design.

Board response 090117 - In relation to your statement that the design solution for single bedrooms is fundamentally different to 4 bedded design, can you please confirm which guidance / specification details this? In accordance with SHFN 30 Infection Control, the pressure cascade for single/multibed areas shall be negative to corridor and positive to en-suite (if available). Please also refer to the attached diagram of Board's interpretation of the SHTM guidance and PCo proposed design (to be further discussed at the workshop).

It is clear within the environmental matrix the extract is not balanced to the bedroom supply ventilation. This is in compliance with Appendix 1: Table A1 of SHTM 03:01 "pressure" column.

Board response 090117 – the Board disagrees with the PCo's statement, it appears there is a positive pressure in the room in relation to the corridor which is not in compliance with Table A1 of the SHTM 03-01, however further discussion is required between the PCo and the Board.

We would reiterate the extract within the 4 bedded rooms ensuite is 10ac/h as detailed within the environmental matrix and not 36ac/h as you have noted.

Board response 090117 - The extract rate column in the environmental matrix states either "via en suite" or "minimum 10", which in both instances is not acceptable and the actual value should be provided throughout environmental matrix.

2.0 WW014 was prepared on the basis that the SHTM does not detail ventilation rates for ensuite, only WCs at 3ac/h. Reference to SHTM03-01 appendix 1: Table A1 refers to WC only. Given the ensuite contains both a shower and WC, 3ac/h was considered to be inadequate and this was documented on the original Wallace Whittle Environmental matrix guidance notes, note 17, copy attached.

Board response 090117 - In terms of the WC/en-suite, please note the following reference from SHTM 03-01 providing further guidance as to how this should be approached:

*"Toilets should have an extract ventilation rate as set out in the building regulations. Where WC's are located in shower and bathroom spaces, the ventilation required for the WC will normally be adequate for the whole space."*

The Board would like to note that the PCo report submitted and discussed at the meeting on 13.01.15 suggests that there is no dubiety in the interpretation of Table A1 Appendix 1 of the SHTM 03-01 in terms of single room and WC ventilation.

These notes were reviewed pre FC and no adverse comments were received. This was further clarified at the meeting of 13.01.15 as per BMCE-RFI-000077 dated 19.01.15.

Board response 090117 – the ventilation issue was first raised pre-FC (14 October 2014, MM-GC-000339, copy attached) highlighting the areas where the environmental matrix is non compliant in relation to ventilation which was further clarified as per the Board response on 29 January 2015 (MM-GC-000432) confirming that PCo design shall comply with SHTM guidance, as follows:

*“Hi Ken,*

*Following your recent RFI, the Board respond as follows:*

- The single room with en-suite ventilation design shall comply with the parameters set out in SHTM 03-01*
- The design solution should not rely in any way with the opening windows as these will be opened or closed by patient choice.*
- The critical factor from SHTM 03-01 for infection control will be the resultant pressure within the room being balanced with or negative to the corridor.*
- Isolation room ventilation shall comply with SHPN 04 Supplement 1.”*

Furthermore, the Board reviewed the environmental matrix several times before and after FC and made comments regarding the deemed non compliance of the ventilation design. The environmental matrix was rejected at FC on the basis that it did not comply with the SHTM’s. The Board also rejected all ventilation drawings submitted for FC, please refer to Section 5 of Schedule Part 6. PCo since has not provided design that would comply with the Board’s requirements.

On the basis the ensuite extract figures are not detailed within the SHTM we can if you wish withdraw the derogation as we do not consider this to be a compliance issue with the SHTM. The environmental matrix clearly details the minimum 10ac/h.

Board response 090117 – as detailed above, the Board believes the current Project Co design to be non-compliant.

3.0 WW015 for the bedroom supply ventilation reducing 6ac/h to 4ac/h was prepared on the basis of the pre FC report pulled together from the M+E workshops, and tabled at the meeting of 13.01.15. BMCE-RFI-000077 dated 19.01.15 refers. 4ac/h was captured within the environmental matrix, and drawing WW-SZ-SL-500-002 Rev 01 was prepared as part of the FC pack clearly showing “supply only” within the bedroom, and “extract” via the ensuite. PCP 4.9 section 4 makes reference to the bedroom drawing, copy of the drawing attached for ease of reference. Zonal design drawings then commenced post FC adopting this design strategy, tabled at both pre RDD and RDD reviews without rejection of the bedroom ventilation and ensuite design.

Board response 090117 – Please refer to Board’s response as per MM-GC-000432 (also copied above), referring to the compliance with SHTM requirements. The WW-SZ-SL-500-002 was rejected at FC however more specific ventilation comments were included on the specific ventilation drawings. Note this is not the Board’s obligation to ensure that PCo delivers a compliant design.



4.0 We note your comments that the BCRs state PCo are required to provide “room heat recovery” . We are unable to find this specific wording, could you please confirm where this is stated. We are aware of BCR clause 8.7.8 where it states “....shall be logically designed to operate efficiently incorporating heat recovery and ....”. For the avoidance of doubt we can confirm single bedroom heat recovery has been reassessed based on the output of the IES energy model for the single bedrooms. We can confirm compliance with SHTM 03-01 paragraph 4.142 on the basis it was uneconomic to provide this'.

Board response 090117 – The BCRs state “The heating, ventilation and air conditioning systems shall be logically designed to operate efficiently incorporating heat recovery and providing local control where required.”

For the avoidance of doubt the SHTM 4.143 also states “Energy recovery will normally be fitted to all healthcare ventilation systems. It may be omitted only where it would clearly be uneconomic. Where the economic case is marginal, space should be allowed for the retrofitting of an energy recovery system.”

Also the AHUs technical submittals issued to the Board through RDD indicate the provision of thermal wheels which in turn would suggest that the heat recovery is being provided.

Furthermore the paragraph 2.3.2 of the 4.10 Energy PCP suggest the minimum 60% of heat recovery will be provided to mechanical ventilation units.

PCo also hasn't submitted any derogation to the Board to deviate from BCR/SHTM requirements and therefore the design as it stands is non-compliant.

---

**From:** K Kolodziejczyk  
**Sent:** 22/09/2016 4:46:56 PM BST (GMT +01:00)  
**To:** Ken Hall  
**Cc:** Graeme Greer, Colin Grindlay, NHSL RHSC + DCN, David Martin  
**Mail Number:** MM-GC-002006  
**Subject:** Re: RHSC+DCN| Air Extract

Following the review of PCo's derogations (WW014 & 015) the Board cannot accept this proposal.

As per the BCRs, PCo are required to provide room heat recovery with balanced ventilation at specified air change rates. Based on PCo derogations, in order to achieve balanced pressure regime (in 4 bedded room 1-L1-100), the en-suite extract would have to be in order of 36ac/h. This is in excess of SHTM recommendation of 3ac/h. Also it means that heat recovery from this air cannot be achieved.

Can Project Co please confirm how compliance with SHTM in relation to air change rates, balanced ventilation and room heat recovery will be met.

Regards  
Kamil

**From:** K Hall  
**Sent:** 22/09/2016 2:00:16 PM BST (GMT +01:00)  
**To:** Kamil Kolodziejczyk  
**Cc:** Colin Grindlay, David Martin  
**Mail Number:** MPX-GC-012071  
**Subject:** Fwd: RHSC+DCN| Air Extract

Kamil

Reference discussions on Tuesday last, you intimated this derogation submitted nearly 4 months ago would not be accepted and you were going to confirm reasons for this.

Could you urgently confirm what the reasons are please?

Thanks

Ken

---

**From:** K Hall  
**Sent:** 03/06/2016 12:46:52 PM BST (GMT +01:00)  
**To:** Kelly Gordon  
**Cc:** Colin Grindlay  
**Mail Number:** BMCE-RTRFI-000792  
**Subject:** Re: RHSC+DCN| Air Extract

Hi Kelly

Copy of derogation request for review and discussion if you let us know best way to take this forward.

Thanks

Ken

---

**From:** K Gordon  
**Sent:** 19/05/2016 2:41:36 PM BST (GMT +01:00)  
**To:** Colin Grindlay, Darren Pike, David Martin  
**Cc:** Graeme Greer, Kamil Kolodziejczyk, Colin MacRae, Brian Currie, NHSL RHSC + DCN  
**Mail Number:** MM-RFI-000133  
**Subject:** RHSC+DCN| Air Extract

Hi All,

The Board have noted the number of air changes within the en-suites is higher than that required under SHTM. The Board understand this is to provide adequate air changes for the volume of air within both the en suite and single room and there is not an extract fan within the bedroom. As the extract fan is in the en-suite and extracting 'dirty' air the Board understand that no heat recovery is possible. Can Project Co please confirm the above and if a Derogation needs to be submitted for the Boards approval.

Kind regards,  
Kelly

**Environmental Matrix Comments - 13 October 14**

The Board has the following initial technical comments on the draft 1 of the Environmental Matrix;

1. The submitted Environmental Matrix does not reflect the current Schedule of Accommodation, e.g. theatres and DCN acute care changes are not included. IHS to provide up to date Environmental Matrix.
2. Issues within the guidance notes relating to:
  - a. Environmental Matrix still dated as version 13 issued 19th September 2012,
  - b. Humidification, the requirement is for the space for future installation,
  - c. HK Design reference to be removed.
3. The detail contained in the Clinical Output Specification requires theatre temperatures to be able to be raised to 31°C for certain operations. IHS to reflect this in the Environmental Matrix.
4. Body view rooms to be able to reduce temperature for body storage. IHS to reflect this in the Environmental Matrix.
5. Room descriptions are given but no room numbers shown – IHS to add room numbers.
6. SHTM 03-01 clause 2.11 states;

“Internal temperatures in patient areas should not exceed 28°C db for more than 50 hrs per year”, however the Board added an additional BCR clause regarding the 25°C as clarified below:

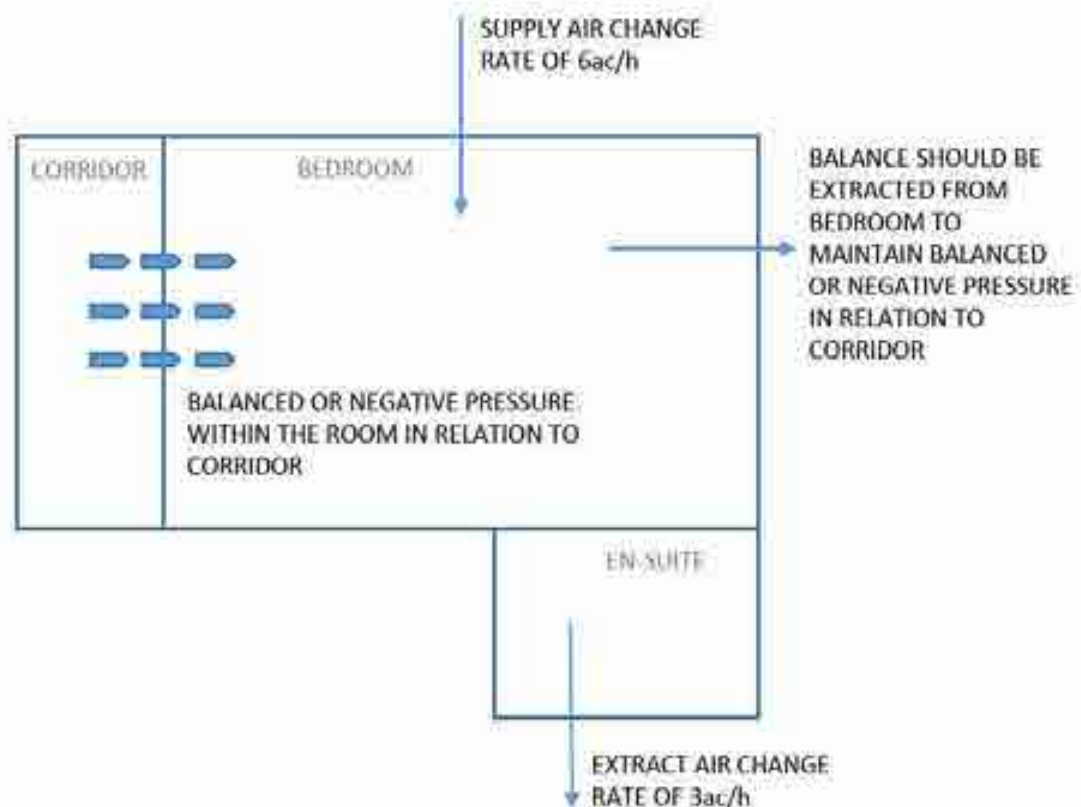
“Measures shall be assessed, modelled and implemented to demonstrate that the internal air temperature of any room or area does not exceed the maximum acceptable level of 25°C for more than 50 hours per annum”.

Further review and development of the Environmental Matrix is required to clarify the following;

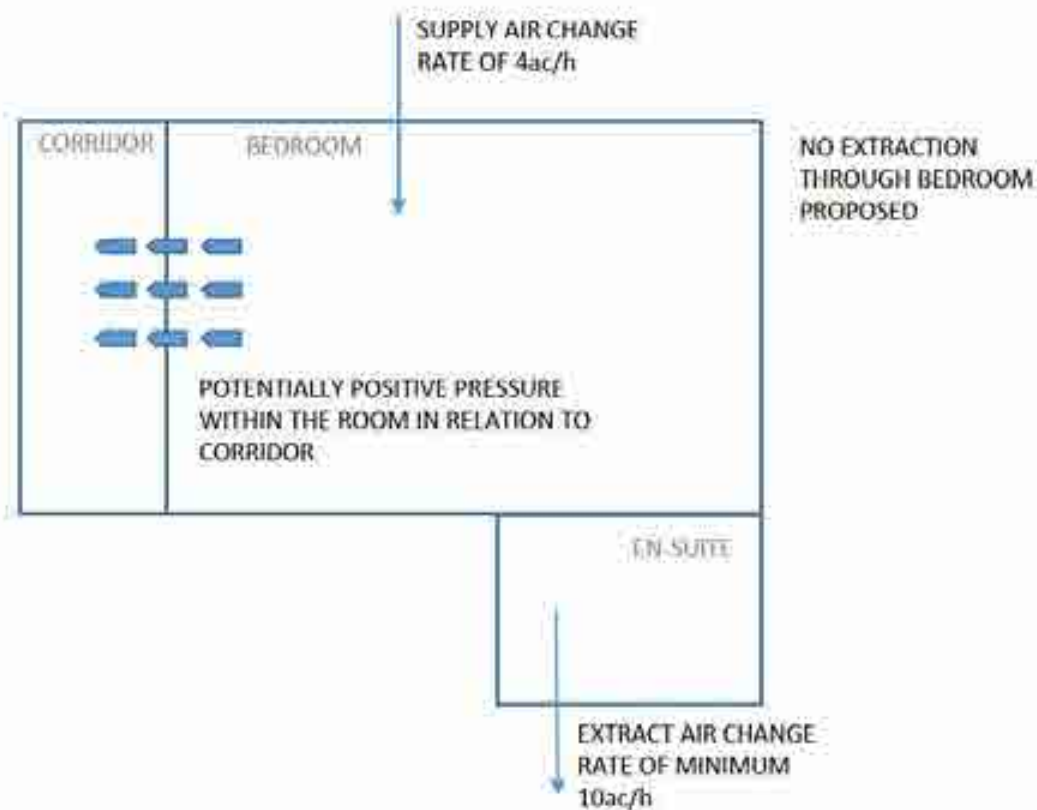
- a. There are some rooms at 28°C which are provided with comfort cooling.
  - b. There are areas / rooms in the Environmental Matrix that contradict the above BCR clause, hence once IHS produce an updated Environmental Matrix, further discussion is required with the Board to confirm which rooms or areas are not going to meet the Clause.
7. Bedrooms 4ac/hr, SHTM says 6 ac/hr  
Bedrooms have no extract  
Bedroom en-suites 10 ac/hr, SHTM says 3 ac/hr  
Bedrooms stated as positive pressure, SHTM says 0 or –ve pressure  
The supply air to a bedroom has to be balanced with extract  
e.g. Bedroom area 19m<sup>2</sup> and 2.4m high = volume 45.6m<sup>3</sup> x 6ac/hr = 273.6 m<sup>3</sup> / hr  
En-suite area 5 m<sup>2</sup> and 2.4m high = volume 12.0m<sup>3</sup> x 3ac/hr = 36 m<sup>3</sup> / hr  
To achieve balanced pressure within room bedroom extract required = 273.6 – 36 = 237.6 m<sup>3</sup> / hr
8. Recovery stated as 4 ac/hr, SHTM says supply and extract 15 ac/hr

9. Query DSR at 10 ac/hr, this seems high for a predominantly empty room – IHSL to confirm if this correct?
10. Query disposal hold extract 10 ac/hr, this seems high – IHSL to confirm if this correct?
11. Public telephone booth area of 2m<sup>2</sup> fitted with a radiant panel – IHSL to confirm if this correct?
12. Colour rendering all stated as 80 where certain areas should be 90.

**SHTM RECCOMMENDATION**



**PCo DESIGN**



**From:** Andrew WALKER [mailto:AWALKER@NHS.uk]  
**Sent:** Friday, 27 April 2018 11:02 AM  
**To:** 'NHS' <NHS@NHS.uk>  
**Subject:** Fed: Bedroom Ventilation Key Considerations

**From:** Andrew WALKER [mailto:AWALKER@NHS.uk]  
**Sent:** Friday, 27 April 2018 11:02 AM  
**To:** 'NHS' <NHS@NHS.uk>  
**Subject:** Fed: Bedroom Ventilation Key Considerations

**From:** Andrew WALKER [mailto:AWALKER@NHS.uk]  
**Sent:** Friday, 27 April 2018 11:02 AM  
**To:** 'NHS' <NHS@NHS.uk>  
**Subject:** Fed: Bedroom Ventilation Key Considerations


**MAIL TYPE**  
 General Correspondence

**MAIL NUMBER**  
 NHS-UC-002867

**ADDRESS RANGE**  
 WANTS-UC-002400

**FILE ATTACHMENTS (1)**

**File Name**

 Fed: Bedroom Ventilation Key Considerations.pdf

**ATTACHMENTS**

**Attachment 1**      **File Name:** NHS-UC-002867.docx

**Attachment 2**      **File Name:** 28 NHS Building Services

**MESSAGE**

**MESSAGE**

This email and any files transmitted with it are confidential and intended only for the individual named. If you have received this email by mistake please notify the system manager. This email and any files transmitted with it are confidential and intended only for the individual named. If you have received this email by mistake please notify the system manager.

**From:** Andrew WALKER [mailto:AWALKER@NHS.uk]  
**Sent:** 27 April 2018 11:02 AM (GMT+01:00)  
**To:** 'NHS' <NHS@NHS.uk>  
**Subject:** Fed: Bedroom Ventilation Key Considerations

**Dear All,**

Further to the ventilation workshop meeting, please find enclosed a copy of our Bedroom Ventilation Key Considerations document. Please review as discussed and agreed.

Regards,  
 Brian

Same attachment as mail no NHS.UC-002867



**From:** MrBrianRutherfordWallaceWhittle <-> on behalf of MrBrianRutherfordWallaceWhittle  
**Sent:** 09 February 2017 11:02  
**To:** colinmacraemottmacdonaldltd; mrronniehendersonhslthian;  
mrdavidmartinr.a.m.assetmanagementlimited; mrcolingrindlaymultiplexconstructioneurope;  
mrstewartmckechniewallacewhittle; mrkamikolodziejczykottmacdonaldltd;  
mrkenhallmultiplexconstructioneurope; dorothyhanleyhslthian; mrbriancurrienhslthian;  
mrwallaceweirhcpsocialinfrastructurelimited; mrdarrenpikemultiplexconstructioneurope;  
mrrichardhairbouyguese&sfm  
**Subject:** Multi Bed Room Ductwork Amendment Proposals  
**Attachments:** Multi Bed Rooms - Ventilation Amendments Proposal-284050106ma.pdf; G1547 Multi Bed  
Rooms Key Plans-284050106ma.pdf

## Attributes

**Attribute 1 :** Stage 3 - RHSC & DCN Construction Phase

**Attribute 2 :** 33. M&E Building Services

---

## Message

All,

Further to our Ventilation workshop on Monday, please find enclosed a copy of our Multi Bed Rooms - Ventilation Amendment Proposal to Achieve Room Balance, Proposed Solution To Rooms Identified As Being Of Concern.

As agreed we have also enclosed a set of A3 general arrangement layout drawings to be used as key plans, over marked to show specific room locations.

Regards,

Brian

## Multi Bed Rooms – Ventilation Amendment Proposal to Achieve Room Balance



Wallace Whittle

### Proposed Solution To Rooms Identified As Being Of Concern

Room Reference Location	Ventilation Layout Drawing Number	Room Number	Room Name	Proposed Solution
A	WW-Z4-00-PL-524-001I	G-A2-054	4 Bed Room	Reduce supply ventilation down to 2.7ac/hr, increase dirty extract for en-suite and WC from 10ac/hr to 17ac/hr, branch ductwork and grilles to be increased in size. This will achieve a balanced room pressure. Branch ducts have long runs across the width of the floor plate to get back to the main duct.
B	WW-Z4-00-PL-524-001I	G-A2-046	4 Bed Room	Reduce supply ventilation down to 2.7ac/hr, increase dirty extract for en-suite and WC from 10ac/hr to 17ac/hr, branch ductwork and grilles to be increased in size. This will achieve a balanced room pressure. Branch ducts have long runs across the width of the floor plate to get back to the main duct.
C	WW-Z4-00-PL-524-002G	G-A2-028	4 Bed Room	Reduce supply ventilation down to 2.7ac/hr, increase dirty extract for en-suite and WC from 10ac/hr to 17ac/hr, branch ductwork and grilles to be increased in size. This will achieve a balanced room pressure. Branch ducts have long runs back to the main duct within the corridor.
D	WW-Z4-01-PL-524-001H	1-B1-063	Open Plan Bay (4 beds)	Reduce supply ventilation down to 3ac/hr, introduce a general extract ductwork branch and grille and connect into the duct main branch. This will achieve a balanced room pressure. The branch duct will require to be increased in size and has a long run back to the main.
E	WW-Z4-01-PL-524-001H	1-B1-031	Open Plan Bay (4 beds)	Reduce supply ventilation down to 3ac/hr, introduce a general extract ductwork branch and grille and connect into the duct branch. This will achieve a balanced room pressure. The branch duct will require to be increased in size and has a long run back to the main.

Issue	Date	By	Checked
1	06/02/17	HW	SMK

## Multi Bed Rooms – Ventilation Amendment Proposal to Achieve Room Balance



Wallace Whittle

### Proposed Solution To Rooms Identified As Being Of Concern

F	WW-Z4-01-PL-524-001H	1-B1-009	Open Plan Bay (4 beds)	Reduce supply ventilation down to 3ac/hr, increase the main branch size and introduce a general extract duct branch and grille within the room. This will achieve a balanced room pressure. The branch duct will require to be increased in size and has a long run back to the main.
G	WW-Z3-03-PL-524-001F	3-C1.3-011	4 Bed Room	Reduce supply ventilation down to 3ac/hr, increase dirty extract for en-suite from 10ac/hr to 17ac/hr, branch ductwork and grille to be increased in size. Wet room to increase to 17ac/hr with new ductwork and grille being introduced and connect into the duct main. This will achieve a negative room pressure. En-suite ductwork has a long run to get back to the main, additional wet room branch is local.
H	WW-Z3-03-PL-524-001F	3-C1.3-013	4 Bed Room	Reduce supply ventilation down to 3ac/hr, increase dirty extract for en-suite from 10ac/hr to 17ac/hr, branch ductwork and grille to be increased in size. Wet room to increase to 17ac/hr with new ductwork branch and grille being introduced and connect into the duct main. This will achieve a negative room pressure. En-suite ductwork has a long run to get back to the main, additional wet room branch is local.
I	WW-Z4-03-PL-524-001F	3-C1.2-026	4 Bed Room	Reduce supply ventilation down to 3ac/hr, increase dirty extract for en-suite from 10ac/hr to 17ac/hr, branch ductwork and grille to be increased in size. Wet room to increase to 17ac/hr with new ductwork branch and grille being introduced and connect into the duct main. This will achieve a balanced room pressure. En-suite ductwork has a long run to get back to the main, additional wet room branch is local. The main ductwork will also require to be increased in size.

Issue	Date	By	Checked
1	06/02/17	BR	SMK

## Multi Bed Rooms – Ventilation Amendment Proposal to Achieve Room Balance



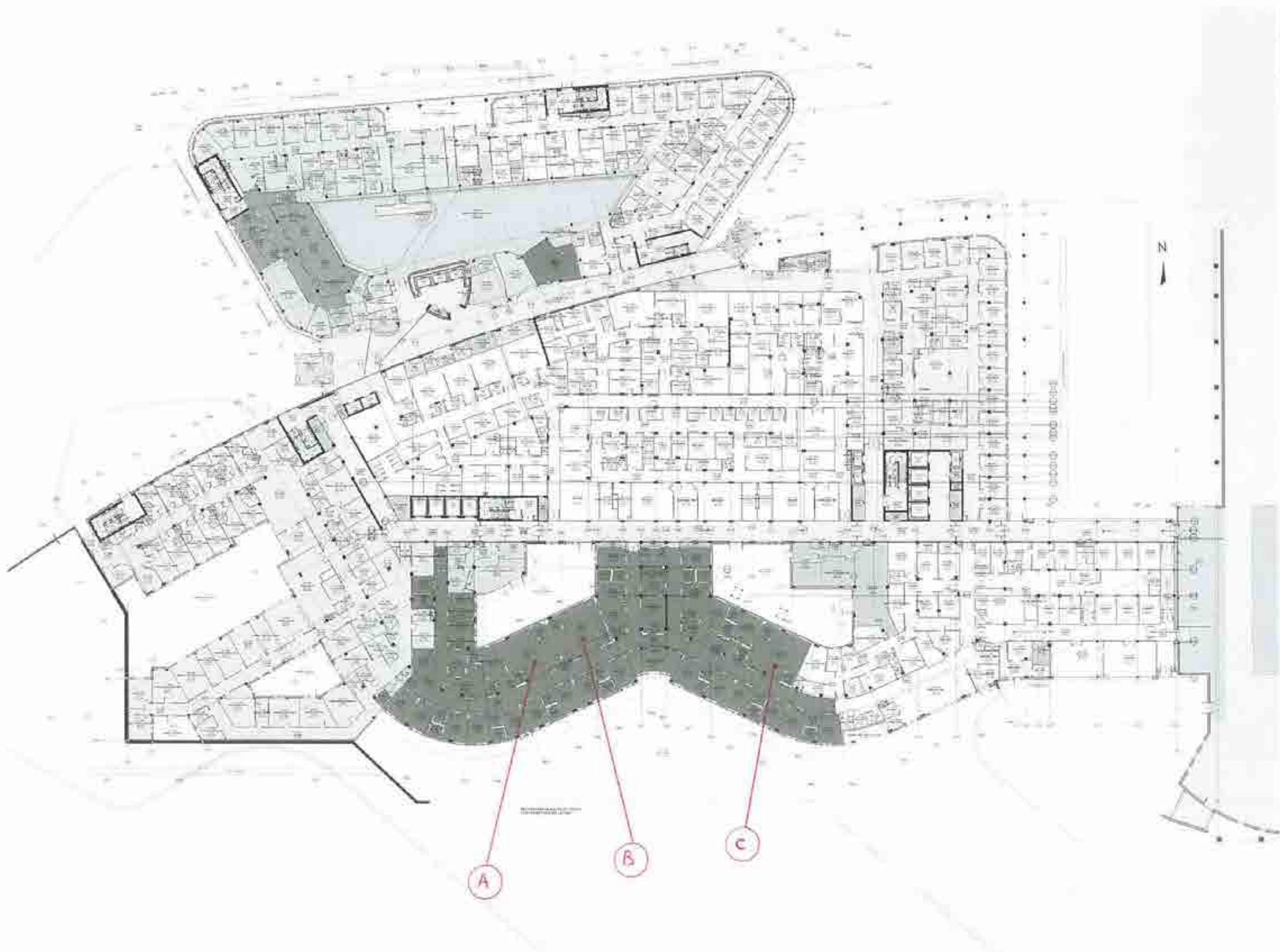
Wallace Whittle

### Proposed Solution To Rooms Identified As Being Of Concern

J	WW-Z4-03-PL-524-001F	3-C1.2-023	4 Bed Room	Reduce supply ventilation down to 3ac/hr, increase dirty extract for en-suite from 10ac/hr to 17ac/hr, branch ductwork and grille to be increased in size. Wet room to increase to 17ac/hr with new ductwork branch and grille being introduced and connect into the duct main. This will achieve a balanced room pressure. En-suite ductwork has a long run to get back to the main, additional wet room branch is local. The main ductwork will also require to be increased in size.
K	WW-Z4-03-PL-524-002F	3-C1.1-018	4 Bed Room	Reduce supply ventilation down to 2.7ac/hr, increase dirty extract for en-suite and WC from 10ac/hr to 17ac/hr, branch ductwork and grilles to be increased in size. This will achieve a balanced room pressure. The branch ducts will require to be increased in size and have a long run back to the main. The main ductwork will also require to be increased in size.
L	WW-Z4-03-PL-524-002F	3-C1.1-046	4 Bed Room	Reduce supply ventilation down to 2.7ac/hr, increase dirty extract for en-suite and WC from 10ac/hr to 17ac/hr, branch ductwork and grilles to be increased in size. This will achieve a balanced room pressure. The branch duct will require to be increased in size and have a long run back to the main. The main ductwork will also require to be increased in size.

Issue	Date	By	Checked
1	06/02/17	BR	SMK





1	Room
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3	Staircase
4	Lift
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Re-provision of RHSC and DCN at Little France



GENERAL ARRANGEMENT GROUND FLOOR LAYOUT

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**From:** MrKenHallMultiplexConstructionEurope <-> on behalf of MrKenHallMultiplexConstructionEurope  
**Sent:** 27 February 2017 10:18  
**To:** mrstewartmckechniewallacewhittle; dorothyhanleyhsllothian; msjanicemackenzienhsllothian; mrkamilkolodziejczykottmacdonaldltd; mrbriancurrienhsllothian; colinmacraemottmacdonaldltd; mrdavidmartinr.a.m.assetmanagementlimited; mrrichardhairbouyguese&sfm; mrwallaceweirhcpsocialinfrastructurelimited; mrdarrenpikemultiplexconstructioneurope; mrbrianrutherfordwallacewhittle; hayleyprowsehcpsocialinfrastructurelimited; mrcolingrindlaymultiplexconstructioneurope; mrronniehendersonhsllothian  
**Subject:** Meeting 24.02.17: Multi Bed Room Ductwork Amendment Proposals  
**Attachments:** Attendees 24.02.17-284244131ma.pdf; WW Schedule Mark Up 24.02.17-284244131ma.pdf

## Attributes

**Attribute 1 :** Stage 3 - RHSC & DCN Construction Phase

**Attribute 2 :** 33. M&E Building Services

---

## Message

Confirmation of the essential / non essential room discussion recorded at the meeting last Friday 24.02.17.

Regards

Ken

---

**From:** B Rutherford  
**Sent:** 23/02/2017 12:04:49 PM GMT (GMT +00:00)  
**To:** Richard Hair, Wallace Weir, Kamil Kolodziejczyk, Colin MacRae, Colin Grindlay, Ken Hall, Darren Pike, Brian Currie, Dorothy Hanley, Ronnie Henderson, David Martin, Stewart McKechnie  
**Mail Number:** WWHIT-GC-002463  
**Subject:** Re: Multi Bed Room Ductwork Amendment Proposals

All,

As discussed and agreed at last Fridays Ventilation Workshop, see enclosed a copy of our General Ward - Ventilation Proposal to Achieve Room Balance with columns incorporated to identify the severity of the ventilation works and whether the ductwork has already been fabricated.

Regards,  
Brian

---

**From:** B Rutherford  
**Sent:** 09/02/2017 11:02:07 AM GMT (GMT +00:00)  
**To:** Richard Hair, Wallace Weir, Kamil Kolodziejczyk, Colin MacRae, Colin Grindlay, Ken Hall, Darren Pike, Brian Currie, Dorothy Hanley, Ronnie Henderson, David Martin, Stewart McKechnie

**Mail Number:** WWHIT-GC-002421

**Subject:** Multi Bed Room Ductwork Amendment Proposals

All,

Further to our Ventilation workshop on Monday, please find enclosed a copy of our Multi Bed Rooms - Ventilation Amendment Proposal to Achieve Room Balance, Proposed Solution To Rooms Identified As Being Of Concern.

As agreed we have also enclosed a set of A3 general arrangement layout drawings to be used as key plans, over marked to show specific room locations.

Regards,

Brian

**MULTIPLEX****Record of Meeting Attendance**

Project Reference

Rev

Location	RHSC & DCN Site Office		
Date of Meeting	24th February 2017	Time	09.30

Topic	Bedroom Ventilation Update Meeting

**Attendance List**

No:	Name	Job Title	Company	Signature
1	KEN MALL	M+E MGR	MULTIPLEX	[Redacted]
2	JANICE MALONEY	CLINICAL DIRECTOR	NHSL	[Redacted]
3	Ronithy Housley	COMMERCIAL MGR	NHSC	[Redacted]
4	Brian O'Leary	Product Director	KBSL	[Redacted]
5	Hayley House	Project Administrator	I HSL	[Redacted]
6	Colin Grindley	M+E MANAGER	MPX	[Redacted]
7	Samuel K. O'Leary	IT	HM	[Redacted]
8	Ronnie Henderson	Commercial manager	NHSL	[Redacted]
9	Stuart Webb	Director	TUV - W	[Redacted]
10	Brian Butterfield	Senior Engineer	TUV - W	[Redacted]
11				
12				
13				
14				
15				
16				

Template Details		Uncontrolled when printed		
Date	31/01/11	Author	JS	Page 1 of 2
Reference	LIV/HS/F/060	Rev	05	





Wessels-Hermes

General Ward – Ventilation Amendment Proposal to Achieve Room Balance

Proposed Solution To Rooms Identified As Being Of Concern

Room Reference Location	Ventilation Layout Drawing Number	Room Number	Room Description	Proposed Solution	Severity of Works			Ductwork Fabricated
					Local	Medium	Major	Yes/No
A	WW-24-00-PL-524-001I	G-A2-054 <b>ESSENTIAL</b>	Multi Bed (4)	Reduce supply ventilation down to 2.7achr, increase dirty extract for en-suite and WC from 10achr to 17achr, branch ductwork and grilles to be increased in size. This will achieve a balanced room pressure. Branch ducts have long runs across the width of the floor plate to get back to the main duct.		✓		Yes
B	WW-24-00-PL-524-001I	G-A2-046 <b>ESSENTIAL</b>	Multi Bed (4)	Reduce supply ventilation down to 2.7achr, increase dirty extract for en-suite and WC from 10achr to 17achr, branch ductwork and grilles to be increased in size. This will achieve a balanced room pressure. Branch ducts have long runs across the width of the floor plate to get back to the main duct.		✓		Yes
C	WW-24-00-PL-524-002G	G-A2-028 <b>ESSENTIAL</b>	Multi Bed (4)	Reduce supply ventilation down to 2.7achr, increase dirty extract for en-suite and WC from 10achr to 17achr, branch ductwork and grilles to be increased in size. This will achieve a balanced room pressure. Branch ducts have long runs back to the main duct within the corridor.		✓		Yes
D	WW-24-01-PL-524-001H	1-B1-063 <b>ESSENTIAL</b>	Multi Bed (4)	Reduce supply ventilation down to 3achr, introduce a general extract ductwork branch and grille and connect into the duct main branch. This will achieve a balanced room pressure. The branch duct will require to be increased in size and has a long run back to the main.		✓		Yes
E	WW-24-01-PL-524-001H	1-B1-031 <b>ESSENTIAL</b>	Multi Bed (4)	Reduce supply ventilation down to 3achr, introduce a general extract ductwork branch and grille and connect into the duct branch. This will achieve a balanced room pressure. The branch duct will require to be increased in size and has a long run back to the main.		✓		Yes
F	WW-24-01-PL-524-001H	1-B1-009 <b>ESSENTIAL</b>	Multi Bed (4)	Reduce supply ventilation down to 3achr, increase the main branch size and introduce a general extract duct branch and grille within the room. This will achieve a balanced room pressure. The branch duct will require to be increased in size and has a long run back to the main.		✓		Yes
G	WW-23-03-PL-524-001F	3-C1.3-011 <b>ESSENTIAL</b>	Multi Bed (4)	Reduce supply ventilation down to 3achr, increase dirty extract for en-suite from 10achr to 17achr, branch ductwork and grille to be increased in size. Wet room to increase to 17achr with new ductwork and grille being introduced and connect into the duct main. This will achieve a negative room pressure. En-suite ductwork has a long run to get back to the main, additional wet room branch is local.	✓			Yes
H	WW-23-03-PL-524-001F	3-C1.3-013 <b>ESSENTIAL</b>	Multi Bed (4)	Reduce supply ventilation down to 3achr, increase dirty extract for en-suite from 10achr to 17achr, branch ductwork and grille to be increased in size. Wet room to increase to 17achr with new ductwork branch and grille being introduced and connect into the duct main. This will achieve a negative room pressure. En-suite ductwork has a long run to get back to the main, additional wet room branch is local.	✓			Yes

Item	Date	By	Status
1	14.02.17	SW	ISSUED
2	14.02.17	SW	ISSUED
3	12.02.17	SW	ISSUED





## General Ward – Ventilation Amendment Proposal to Achieve Room Balance

Room Reference Location	Ventilation Layout Drawing Number	Room Number	Room Description	Proposed Solution	Severity of Works			Ductwork Fabricated
					Local	Medium	Major	Yes/No
I	WW-24-03-PL-524-001F	3-C1.2-026 <b>ESSENTIAL</b>	Multi Bed (4)	Reduce supply ventilation down to 3ac/hr, increase dirty extract for en-suite from 10ac/hr to 17ac/hr, branch ductwork and grille to be increased in size. Wet room to increase to 17ac/hr with new ductwork branch and grille being introduced and connect into the duct main. This will achieve a balanced room pressure. En-suite ductwork has a long run to get back to the main, additional wet room branch is local. The main ductwork will also require to be increased in size.			✓	Yes
J	WW-24-03-PL-524-001F	3-C1.2-023 <b>ESSENTIAL</b>	Multi Bed (4)	Reduce supply ventilation down to 3ac/hr, increase dirty extract for en-suite from 10ac/hr to 17ac/hr, branch ductwork and grille to be increased in size. Wet room to increase to 17ac/hr with new ductwork branch and grille being introduced and connect into the duct main. This will achieve a balanced room pressure. En-suite ductwork has a long run to get back to the main, additional wet room branch is local. The main ductwork will also require to be increased in size.			✓	Yes
K	WW-24-03-PL-524-002F	3-C1.1-015 <b>ESSENTIAL</b>	Multi Bed (4)	Reduce supply ventilation down to 2.7ac/hr, increase dirty extract for en-suite and WC from 10ac/hr to 17ac/hr, branch ductwork and grilles to be increased in size. This will achieve a balanced room pressure. The branch ducts will require to be increased in size and have a long run back to the main. The main ductwork will also require to be increased in size.			✓	Yes
L	WW-24-03-PL-524-002F	3-C1.1-046 <b>ESSENTIAL</b>	Multi Bed (4)	Reduce supply ventilation down to 2.7ac/hr, increase dirty extract for en-suite and WC from 10ac/hr to 17ac/hr, branch ductwork and grilles to be increased in size. This will achieve a balanced room pressure. The branch duct will require to be increased in size and have a long run back to the main. The main ductwork will also require to be increased in size.			✓	Yes
M	WW-24-01-PL-524-001H	1-B1-065 <b>ESSENTIAL</b>	Multi Cot (3)	Reduce supply ventilation down to 3ac/hr, introduce a general extract ductwork branch and grille and connect into the duct main branch. This will achieve a balanced room pressure. The branch duct will require to be increased in size and has a long run back to the main.		✓		Yes
T	WW-24-03-PL-524-002F	3-09-022 <b>ESSENTIAL</b>	Multi Bed (3)	Reduce supply ventilation down to 3ac/hr, increase dirty extract for en-suite from 10ac/hr to 17ac/hr, branch ductwork and grille to be increased in size. Introduce a new general extract branch and grille into the room and connect into the duct main. This will achieve a balanced room pressure. En-suite ductwork is local to the main.  The general extract main ductwork is at the end of the system and will have to be extended as well as being increased in size in order to accommodate the additional volume requirements.			✓	Yes

Rev	Date	By	Checked
1	2023/11/01	MR	MR
2	2023/11/01	MR	MR
3	2023/11/01	MR	MR



## General Ward – Ventilation Amendment Proposal to Achieve Room Balance

### Addendum - Review of Rooms Identified as Non Critical

Room Reference Location	Ventilation Layout Drawing Number	Room Number	Room Name	Proposed Solution	Severity of Works			Ductwork Fabricated
					Local	Medium	Major	Yes/No
N	WW-24-01-PL-524-002F	1-L1-100	Multi Bed (4)	Reduce supply ventilation down to 3ac/hr, increase dirty extract for en-suite from 10ac/hr to 17ac/hr, branch ductwork and grille to be increased in size. Introduce a new general extract branch and grille into the room and connect into the duct main. This will achieve a balanced room pressure. En-suite ductwork has a long run across the width of the floor plate to get back to the main. The general extract main ductwork is local to the room, however the main will require to be increased in size in order to accommodate the additional volume requirements.			✓	Yes
O	WW-24-01-PL-524-002F	1-L1-097	Multi Bed (4)	Reduce supply ventilation down to 3ac/hr, increase dirty extract for en-suite from 10ac/hr to 17ac/hr, branch ductwork and grille to be increased in size. Introduce a new general extract branch and grille into the room and connect into the duct main. This will achieve a balanced room pressure. En-suite ductwork has a long run across the width of the floor plate to get back to the main. The general extract main ductwork is local to the room, however the main will require to be increased in size in order to accommodate the additional volume requirements.			✓	Yes
P	WW-23-03-PL-524-001F	3-C1.8-027	Multi Bed (4)	Reduce supply ventilation down to 2.7 ac/hr, increase dirty extract for en-suite and WC from 10ac/hr to 17ac/hr, branch ductwork and grilles to be increased in size. This will achieve a balanced room pressure. Branch ducts have long runs back to the main duct which is in the corridor. The main ductwork will also require to be increased in size.			✓	Yes
Q	WW-23-03-PL-524-001F	3-C1.8-016	Multi Bed (4)	Reduce supply ventilation down to 2.7 ac/hr, increase dirty extract for en-suite and WC from 10ac/hr to 17ac/hr, branch ductwork and grilles to be increased in size. This will achieve a balanced room pressure. Branch ducts have long runs back to the main duct which is in the corridor. The main ductwork will also require to be increased in size.			✓	Yes
R	WW-23-03-PL-524-002G	3-C1.4-084	Multi Bed (4)	Reduce supply ventilation down to 3ac/hr, increase dirty extract for en-suite from 10ac/hr to 17ac/hr, branch ductwork and grille to be increased in size. Introduce a new general extract branch and grille into the room and connect into the duct main. This will achieve a balanced room pressure. The general extract main ductwork is local to the room, however the main will require to be increased in size in order to accommodate the additional volume requirements. The dirty extract main will also need increased in size.			✓	Yes
S	WW-23-03-PL-524-002G	3-C1.4-061	Multi Bed (4)	Reduce supply ventilation down to 3ac/hr, increase dirty extract for en-suite from 10ac/hr to 17ac/hr, branch ductwork and grille to be increased in size. Introduce a new general extract branch and grille into the room and connect into the duct main. This will achieve a balanced room pressure. The general extract main ductwork is local to the room, however the main will require to be increased in size in order to accommodate the additional volume requirements. The dirty extract main will also need increased in size.			✓	Yes

Item	Date	By	Checked
1	20/07/23	AW	AW
2	04/08/23	AW	AW
3	11/08/23	AW	AW

**From:** Kolodziejczyk, Kamil K [REDACTED]  
**Sent:** 05 June 2017 11:00  
**To:** Currie, Brian  
**Cc:** Henderson, Ronnie; Hanley, Dorothy; Greer, Graeme; Bain, Kelly J  
**Subject:** FW: R.A.M-GC-000278: Bedroom Ventilation ACNXREF<k0UhnnsIWbcLUweShIJJSB>  
**Attachments:** ADB\_Multi Bed Room \_4 Beds.pdf

Hi Brian,

Further to the below email relating to multi bedroom ventilation, we drafted the following response to David Martin. Can you please review and confirm I can respond back to PCo?

"David,

As previously described under MM-GC-002408, the Board does not believe these updates to the environmental conditions constitutes a Board Change. Without these updates, PCo's design was not compliant with BCRs and relevant guidance, and also from a patient safety perspective, was not acceptable to the Board.

In relation to point 1 & 2 below, as per Schedule Part 8 (Review Procedure) of the Project Agreement, please note that the RDD review doesn't remove PCo's obligation under the Project Agreement, and the Board did not receive a derogation/change from PCo for an alternative design.

In terms of point 3, the WW design report states that current ventilation design for single room and general ward areas are fully compliant with SHTM 03-01, please note however that this is incorrect. PCo proposed air change rates do not align (as stated in the report) with SHTM recommendations hence, without PCo change, the design as it stands is not compliant. The Board expects to receive PCo's Change for deviation of air change rates as recommended per SHTM 03-01.

Additionally, the Board notes that PCo used wrong design criteria for the multi bed rooms. As explained by the Board at the meeting on Monday 23 January, a "ward" constitutes the total bed complement of a designated area. Multi-bed rooms are much smaller sections within a ward that allow patients to be nursed as a small group. Within Children's Services these areas are important for the purposes of clinical safety as they allow cohorting of patients who require enhanced level of nursing observation/support either because they have the same type of infection, or are at similar stages of acute post operative recovery. Additionally, these rooms aid the normal socialisation and development of young children. Similarly, within DCN multi-bed rooms within the ward are used to cohort patients requiring enhanced levels of nursing/monitoring that is more difficult to achieve within single room environment.

Please note that Table A1 is a summary extract from the Activity Database (ADB) and as stated in the SHTM, PCo should refer to the full ADB Sheets for further details relating to multibed rooms. Please find attached, for your information, the design criteria for multibed areas."

Regards  
Kamil

---

**From:** David Martin [mailto:[REDACTED]]  
**Sent:** 23 May 2017 11:06  
**To:** Kolodziejczyk, Kamil K [REDACTED]  
**Subject:** R.A.M-GC-000278: Bedroom Ventilation ACNXREF<k0UhnnsIWbcLUweShIJJSB>

You have received a new [General Correspondence: R.A.M-GC-000278](#)

**Project:** RHSC & DCN

**Type:** General Correspondence

**Mail Number:** R.A.M-GC-000278

**To:** Mrs Kelly Bain, Mott MacDonald Ltd (Head Office UK)

**Cc:** Georgia Villaflor, HCP Social Infrastructure (UK) Limited  
Mr Wallace Weir, HCP Social Infrastructure (UK) Limited  
Graeme Greer, Mott MacDonald Ltd (Head Office UK)

**Mr Kamil Kolodziejczyk, Mott MacDonald Ltd (Head Office UK)**

Mr Glenn Collins, Multiplex Construction Europe  
Mr Graham Coupe, Multiplex Construction Europe  
Mr Colin Grindlay, Multiplex Construction Europe  
Mr Stuart Jackson, Multiplex Construction Europe  
Mr Darren Pike, Multiplex Construction Europe  
Mr Brian Currie, NHS Lothian

**From:** D Martin, R.A.M. Asset Management Limited

**Sent:** 23/05/2017 11:06:06 AM BST (GMT +01:00)

**Status:** Outstanding

**Response:** Respond by Tuesday, 30 May 2017

**Subject:** Bedroom Ventilation

---

Kelly

Please find attached the updated ventilation drawings and associated narrative which accommodates the Boards request to have the 4 bedded ward at a negative or balanced pressure.

Our opinion is that this amendment to the environmental conditions and operation of these rooms constitutes a change for the reasons noted below.

1.0 Environmental matrix was signed off as status B with the noted design parameters that the current ventilation design represents - as per MM-GC-001398.

2.0 Full RDD ventilation zonal design pack and workshops have been through RDD and signed off.

3.0 Copy of WW design document outlining compliance with the SHTMs is attached.

We anticipate that the costs of this Change will be in the Medium Value category.

We look forward to the Board's, positive response to this request.

Kind Regards

David

David Martin

for IHSL

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#### File Attachments

Attachments are larger than your preference of 4MB for external email - or [view this Mail on Aconex](#) to retrieve them

[18.05.17 Bedroom Ventilation.pdf](#)

[18.05.17 G1547 SHTM 03-01 Table A1.pdf](#)

[Multiplex Construction Europe-RHSC & DCN-2017-05-12-12-18-06-449.zip](#)

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[REDACTED]

Regards,  
The Aconex Team

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<b>ADB</b>	<b>Room Data Sheet</b>	<b>B0405</b>
------------	------------------------	--------------

<b>Project:</b>	ADB1203	Activity Database Version 1203
<b>Department:</b>		
<b>Room:</b>	B0405	Multi-bed room: 4 beds
<b>Room Number:</b>		<b>Revision Date:</b> 03/10/2011

<b>Activities:</b>	<ol style="list-style-type: none"> <li>1) User may undress and dress in privacy.</li> <li>2) Rest and relaxation or sleeping.</li> <li>3) Patient may take meals or refreshments in bed, by the bed or in the sitting space.</li> <li>4) Entertainment services system may be used.</li> <li>5) Patient may receive visitors.</li> <li>6) Clinical wash-hand basin may be used.</li> <li>7) Patient records may be reviewed and recorded.</li> <li>8) Electronic patient records (EPRs) may be accessed and updated.</li> <li>9) Secure holding/storing of medicines for use by patient (self medication).</li> <li>10) Holding/storing working supply of linen.</li> <li>11) A working supply of consumables is held/stored.</li> <li>12) Holding/storing patient's clothing and personal belongings.</li> <li>13) Mobile hoist may be used.</li> <li>14) Patient will receive therapeutic and clinical attention from healthcare staff.</li> <li>15) Patient may arrive on foot in a wheelchair or on a trolley</li> <li>16) Carrying out examinations and assessment of patient.</li> <li>17) Women to receive visitors.</li> <li>18) Consuming beverages, meals and snacks.</li> <li>19) Piped medical gases, vacuum and associated equipment may be used.</li> </ol>		
<b>Personnel:</b>	<p>4 x patients. 8 x others (staff and/or visitors).</p>		
<b>Planning Relationships:</b>	<p>Close to social space. En-suite sanitary facilities.</p>		
<b>Space Data:</b>	<b>Area (m<sup>2</sup>):</b>	64.00	<b>Height (mm):</b> 2,700
<b>Notes:</b>	<p>This room is based on the use of a trolley with a worktop. It is assumed that computers will be handheld or brought into the room on a trolley.</p> <p>The call repeat lamp is situated over the door outside the room.</p> <p>The following items may be provided:</p> <ul style="list-style-type: none"> <li>- a ceiling-mounted hoist;</li> <li>- when used for maternity post-natal provision of a cot(s) will be required.</li> </ul> <p>Outlets defined as voice or data will be the same for structured cabling solutions.</p>		

ADB	Room Environmental Data	B0405
<b>Project:</b>	ADB1203	Activity Database Version 1203
<b>Department:</b>		
<b>Room:</b>	B0405	Multi-bed room: 4 beds
<b>Room Number:</b>		<b>Revision Date:</b> 03/10/2011
<b>TEMPERATURE AND VENTILATION</b>	<b>Requirements</b>	<b>Notes</b>
Permissible Space Temperature Range(dry bulb) (degC):	18 - 28	
Heating Design Temperature (dry bulb)(degC):	22	
Minimum Air Changes (AC/hr):	6	
Ventilation Type:	S/E/N	
Pressure Relative to Adjoining Space:	Bal or -ve	
Supply Air: Final Filter Class	G4	
Permissible Relative Humidity Range (%):		
<b>General Notes:</b>		
<b>LIGHTING</b>		
Type Of Control:	S/N	
Daytime General Service Illuminance (Lux):	100	
Daytime Specific Service Illuminance (Lux):	300	
Nighttime General Service Illuminance (Lux):	5	
Nighttime Specific Service Illuminance (Lux):	0.5	
Local Task Illuminance (Lux):	300	
Colour Rendering Required:	Y	
Colour Rendering Required Characteristics (Ra):	80	
Unified Glare Rating Limit (UGRL):	19	
Emergency Escape Route Lighting Required:	N	
Standby Lighting Grade - General Lighting:	B	
Standby Lighting Grade - Local Lighting:	A	
<b>General Notes:</b>		
<b>RISK</b>		
Clinical Risk Category:	3	
Non-clinical Business Continuity Risk Category:		
<b>General Notes:</b>		
<b>NOISE</b>		
Noise Intrusion (dB) 1hr day:		
Noise Intrusion (dB) 1hr night:		
Noise Intrusion (dB) 1hr night:		
Maximum Internal Noise from M&E Services (NR):	30	
Room Sound-insulation Parameters - Privacy:		
Room Sound-insulation Parameters - Noise Generation:		
Noise Sensitivity:		
Sound-insulation Rating (dB D nT,w):		
<b>General Notes:</b>		
<b>SAFETY/FIRE</b>		
Maximum Surface Temperature (DegC):	43	
Domestic Hot Water Discharge Temperature (DegC):	43	
Maximum Cold Water Discharge Temperature (DegC):	20	
<b>General Notes:</b>		
Type of Automatic Fire Detection:	Smoke	
<b>General Notes:</b>		



ADB	Room Design Character		B0405
<b>Project:</b>	ADB1203	Activity Database Version 1203	
<b>Department:</b>			
<b>Room:</b>	B0405	Multi-bed room: 4 beds	
<b>Room Number:</b>			<b>Revision Date:</b> 03/10/2011
<b>Walls:</b>			
<b>Floor:</b>			
<b>Ceiling:</b>			
<b>Doorsets:</b>	Three sets of doors: 1 x 1500 mm, one & a half leaf, half glazed, obscurable; bed access. 1 x 1300 mm leaf and half with occupancy indicator (minimum, preferably 1500 mm). 1 x 1000 mm single leaf with occupancy indicator.		
<b>Windows:</b>	Clear, solar control, privacy control.		
<b>Internal Glazing:</b>	N/A or clear, privacy control.		
<b>Hatch:</b>	N/A		
<b>Notes:</b>	Finishes to comply with Performance Requirements for Building Elements Used in Healthcare Facilities 8941:0.6 England; Element 1: Floor finishes and skirtings; Element 2: Walls/Partitions; Element 3: Ceilings; Element 4: Sanitary assemblies All finishes to be selected using the "Selection Procedure for Finishes" included in 8941:06: England All finishes selected must have an appropriate risk assessment to accompany the design decision. Infection Control must be consulted as described in Performance Requirements for Building Elements Used in Healthcare Facilities 8941:0.6 England		

ADB			Schedule of Components by Room		B0405	
Project:		ADB1203		Activity Database Version 1203		
Department:						
Room:		B0405		Multi-bed room: 4 beds		
Room Number:		Revision Date: 03/10/2011				
Quantity			Code	Description	Alt Code	Grp
New	Trans	Total				
1		1	DOR100	Doorset, 1000mm, left hand		
1		1	DOR131	Doorset, 1300mm, right hand		
1		1	DOR157	Doorset, 1500mm, right hand, half glazed		
2		2	PAN307	SANITARY BACK-PANEL: IPS type; 700W		
2		2	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D.		1
4		4	BED025	MEDICAL SUPPLY UNIT, may include socket and parking bracket/clip for patient handset and bedside light controls		1
4		4	BED040	BED HEAD BUFFER/DOCKING device, bed and wall protection, horizontal, wall mounted, (internal clearance 1000-1400)		1
4		4	CAL007	PULL/PUSH BUTTON, staff emergency call, reset and integral/adjacent indicator lamp		1
1		1	CAL034	LAMP, repeat call, patient/staff or staff emergency or cardiac call		1
4		4	LIG005	LUMINAIRE, bedhead, dimmable, patient reading and general nursing care/examination		1
4		4	OUT002	OUTLET cable, 13 amp		1
1		1	OUT005	SOCKET outlet, switched, 13 amp, single		1
20		20	OUT010	SOCKET outlet, switched, 13 amp, twin		1
2		2	OUT049	CONNECTION UNIT, switched, 13 amp, flex outlet		1
4		4	OUT121	SOCKET outlet, computer data, single		1
9		9	OUT133	SOCKET outlet, computer data, double		1
4		4	OUT453	OUTLET, 4 kPa compressed air, medical		1
4		4	OUT470	OUTLET, oxygen, medical		1
4		4	OUT475	OUTLET, vacuum, medical		1
8		8	RAI130	RAIL, clinical equipment, wall mounted, 600mm		1
1		1	SWC025	SWITCH, light		1
2		2	TAP892	TAP, bib, 2x8 mm thermostatic mixer, automatic action, sensor operated, non-touch,		1
1		1	TRA167	TRACK, curtain, two sided, L-shape, handed version, 3600W 3200L		1
1		1	TRA168	TRACK, curtain, two sided, L-shape, 3600W 3200L		1
1		1	TRA169	TRACK, curtain, two sided, L-shape, 3600W extended x 3200L		1
1		1	TRA175	TRACK, curtain, one sided, 3600L extended		1
2		2	WAS107	TRAP, bottle, 1.1/4 in, plastic resealing.		1
4		4	BRA003	BRACKET, holder, suction unit, wall mounted		2
2		2	DIS011	DISPENSER, barrier cream, disposable single cartridge, wall mounted		2
2		2	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS026	DISPENSER, Medical hand sanitizer, lever action, wall mounted		2
2		2	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
2		2	DIS438	DISPENSER, disposable gloves set of 3 and disposable apron, wall mounted		2

<b>ADB</b>	<b>Schedule of Components by Room</b>	<b>B0405</b>
------------	---------------------------------------	--------------

<b>Project:</b>	ADB1203	Activity Database Version 1203
<b>Department:</b>		
<b>Room:</b>	B0405	Multi-bed room: 4 beds
<b>Room Number:</b>		<b>Revision Date:</b> 03/10/2011

Quantity			Code	Description	Alt Code	Grp
New	Trans	Total				
4		4	ECS015	ENTERTAINMENT/COMMUNICATION SYSTEM, bedside, adjustable arm. May include socket for patient handset.		2
8		8	HOO019	HOOK, single, small, wall mounted		2
4		4	BED015	BED variable height, two-way tilt, adjustable backrest and knee-break, built-in bed extension with mattress retainer, electrically operated, on castors, 380-780H 2260/2430L 1010W		3
4		4	CHA307	CHAIR, easy, high back, with open arms, upholstered, wipeable		3
8		8	CHA317	CHAIR, upright, upholstered, stacking, wipeable		3
3		3	HOL006	HOLDER, sack, with lid foot operated, medium, freestanding, 875H 430W 385D		3
4		4	MAT008	MATTRESS, suitable for BED015		3
1		1	SMT007	TROLLEY, modular storage, single enclosed frame, including worktop, with lockable door, with up to 5 sets of runners for 600 facing inserts, 900H 660W 500D		3
4		4	TAB073	TABLE, overbed, cantilevered		3
4		4	WAR021	ROBE-LOCKER combined, with lockable section/drawer, towel rail at rear, on castors, 1430H 610W 530D		3

**From:** Greer, Graeme  
**Sent:** 04 July 2017 09:18  
**To:** [REDACTED]  
**Subject:** Design Issues Report  
**Attachments:** Design Issues Report.docx

A large teal-colored graphic element on the left side of the page. It consists of a triangle at the top pointing downwards, a vertical rectangle below it, and a diagonal line connecting the top-left corner of the rectangle to the top-right corner of the triangle above. The text 'Design Issues Report' is positioned to the right of this shape.

# Design Issues Report

7 June 2017  
Confidential

NHS Lothian

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# Design Issues Report

7 June 2017

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## Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
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## Executive summary

To date a number of issues have been found within Project Co's design / construction proposals and on site works. In many instances, Project Co have amended the design to align with the requirements set out in Project Agreement, however, there are still few items that require to be resolved prior to the Anticipated Actual Completion Date. The outstanding design issues, and corresponding categorisation are:

1. Resilience of the HV cable distribution which is classed as a non-compliance issue;
2. Bedroom ventilation which is classed as Change liability issue; and
3. MRI / IOMRI room design which is classed as non-compliance issue.

# 1 Key Parts of the Project Agreement and Board Construction Requirements (BCR)

Before describing the main issues the following highlights the relevant clauses included in both Project Agreement and BCRs:

## 1.1 Project Agreement (front end)

*"12 THE DESIGN CONSTRUCTION AND COMMISSIONING PROCESS*

*Overall Responsibility:*

*12.1 Project Co shall carry out the Works:*

*12.1.1 so as to procure satisfaction of the Board's Construction Requirements;*

*12.1.2 in accordance with Project Co's Proposals; and*

*12.1.3 in accordance with the terms of this Agreement.*

*12.2 To avoid doubt, the obligations in Clauses 12.1.1, 12.1.2 and 12.1.3 are independent obligations. In particular:*

*12.2.1 the fact that Project Co has complied with Project Co's Proposals shall not be a defence to an allegation that Project Co has not satisfied the Board's Construction Requirements; and*

*12.2.2 the fact that Project Co has satisfied the Board's Construction Requirements shall not be a defence to an allegation that Project Co has failed to comply with Project Co's Proposals."*

## 1.2 Project Agreement, Schedule Part 8 (Review Procedure)

*"4 Effect of Review*

*4.5 The return or deemed return of any Submitted Item endorsed "no comment" (or in the case of Reviewable Design Data endorsed "Level A - no comment" or otherwise endorsed in accordance with paragraphs 4.3.1 or 4.3.2) shall mean that the relevant Submitted Item may be used or implemented for the purposes for which it is intended but, save to the extent expressly stated in this Agreement including, without limitation, as specified in Appendix 1 Table A to this Schedule Part 8 (Review Procedure), such return or deemed return of any Submitted Item shall not otherwise relieve Project Co of its obligations under this Agreement nor is it an acknowledgement by the Board that Project Co has complied with such obligations."*

### 1.3 Project Agreement, Schedule Part 6 (Construction Matters), Section 3 (Board's Construction Requirements), Sub-Section A-C

#### "2 Project Wide Requirements

*Project Co shall ensure that the design of the Facilities draws upon and endeavours to further develop, improve and exceed current best practice (and Good Industry Practice) standards achieved in other similar schemes, and meets the requirements of the prospective patient groups, staff and the public. This philosophy of design and sustainability shall be extended across all parts of the Facilities including landscaped and external areas as well as the essential patient areas and these endeavours should extend to benefit the wider population of the community."*

#### "2.3 NHS Requirements

*In addition to the standards listed in paragraph 2.4 of this Sub-Section C of the Board's Construction Requirements, unless the Board has expressed elsewhere in the Board's Construction Requirements, a specific and different requirement, the Facilities shall comply with but not be limited to the provisions of the NHS Requirements as the same may be amended from time to time:*

- a) The themes, issues and recommendations in "Better by Design: Pursuit of Excellence in Healthcare Buildings" by the Department of Health;*
- b) New Policy on Design Quality for NHS Scotland published by SGHSCD;*
- c) Firecode;*
- d) HAI SCRIBE;*
- e) HBN;*
- f) HFN and SHFN;*
- g) HGN and SHGN;*
- h) HTM and SHTM;*
- i) SHTN;*
- j) SFPN;*
- k) HDL;*
- l) SHPN;*
- m) NHS publication 'Performance requirements for building elements used in healthcare facilities';*
- n) NHS Scotland & NHS Policies;*
- o) Board Policies as scheduled and available in the Disclosed Data as such schedule and Board Policies may be amended from time to time;*
- p) Health Department Letters (or Management Executive Letters) as appropriate published by SEHD and SGHSCD;*
- q) Safety Action Notices published by NHS Scotland;*
- r) Healthcare Improvement Scotland (HIS);*
- s) NHS Model Engineering Specifications;*
- t) Department of Health publication "Better by Design";*
- u) Corporate Greencode;*
- v) NHS Scotland Fire Safety Management, incorporating NHS Scotland Firecode;*
- w) Hazard Notices issued by NHS Scotland; and*
- x) HSC 1999/123;."*

#### "2.5 Hierarchy of Standards

*Where contradictory standards / advice are apparent within the terms of the Board's Construction Requirements and the Appendices then subject to the foregoing paragraph then*

*(1) the most onerous standard / advice shall take precedence and (2) the most recent standard / advice shall take precedence. When the more onerous requirement is to be used the Board will have the right to decide what constitutes the more onerous requirement.*

*Where there is a conflict of interest resulting from the use of the standards / advice Project Co shall involve the Board in the decision making process. The Board shall be entitled to make the final decision regarding the standards / advice to be used for the Facilities including any contradictions that may arise between items (1) and (2) above.”*

*“2.7 Derogations Register*

*Project Co shall comply with Section 3 (Boards Construction Requirements) of Schedule Part 6 (Construction Matters), subject to the agreed derogations as set out in sub-section 32(Derogations Register) of Section 4 (Project Co’s Proposals) of Schedule Part 6 (Construction Matters).”*



## 2 Key Design Issues

### 2.1 Resilience of the HV cable distribution

#### 2.1.1 Introduction

The Board believes Project Co's design for HV Distribution is non-compliant with Project Co Proposal's (PCP) and SHTM Guidance in relations to system resilience. The design currently creates a single point of failure at the HV side of the electrical distribution network. The Board believes that the Sub Station 2A (SS2A) and Sub Station 2B (SS2B) should not be treated as discreet substations as they are not separated by 4h fire rated wall, they share common ventilation system and are bus coupled. The loss of power to SS2A/SS2B may result in loss of power to whole of the Facility – single point of failure.

#### 2.1.2 Compliance clauses

The Board believes that Project Co has not demonstrated compliance with the following PCPs and SHTMs clauses noted below:

- **PCP 2.55:**

*“The principle adopted is that the first single point of failure is as close as possible to the point of use. Thus the possibility that the failure of a single component will cause a major power outage has been removed”*

- **SHTM 06-01 section 4.5:**

*“The design process should ensure that single points of failure are minimised by providing the appropriate level of resilience at the point of use. Risk management carefully balances the approach to a design strategy with the cost/benefit relationships, where cost represents investment, business continuity and operational risk.”*

- **SHTM 06-01 section 7.30:**

*“Where the HV substation is part of a ring network, consideration may be given to having the two network incomers in two rooms separated by a four-hour fire-rated partition wall, the two sections being linked by a fully rated cable.”*

Additionally, Project Co has also failed to provide and /or demonstrate a full cause and effect model as per the below extracts:

- **PCP 2.52:**

*“A full cause and effect model shall be developed to indicate power resilience and sequential power reinstatement in the event of various failure scenarios.”*

And has not complied with the following guidance from SHTM 06-01

- **SHTM 06-01 Section 4.4:**

*“A complete risk assessment for a sustainable electrical supply is a key duty of care owed to patients, staff and visitors.”*

- **SHTM 06-01 Note 3:**

*“An inappropriate level of resilience or response to a failure may compromise patient safety.”*

Further evidence in support of this view was given by NHSL, at the meeting on Thursday 11 May 2017 between NHS Lothian (including NHSL Fire Officer and NHSL Advisers) and Multiplex Construction Europe, in the form of the expected Scottish Fire and Rescue Service (SFRS) response to such an incident. Described as follows:

Due to no fire stopping installed for the busbar and a common ventilation and fire alarm system, the space should be treated as a single room in the event of a fire. Therefore, should SFRS need to fight a fire in HV Substation 2 they would need to isolate Ring Main Units RMU2A and RMU2B. It should be noted that this not only isolates the normal mains supply but it also isolates the emergency supply from the standby generators.

### 2.1.3 Summary

In the Board's opinion, Project Co has failed to provide sufficient evidence that they have satisfied the above clauses. The full cause and effect document (Generator Load Step Controls, ref WW-SZ-SL-SH-531-202 rev 02) was submitted to the Board, however, the Board does not believe the document fully addresses the risk of fire or major incident that could cause a power down to both Ring Main Unit RMU2A & RMU2B. The Board would like to emphasise their concern that they consider it reasonable and foreseeable that a fault, fire, or major incident could cause or require power down to both RMU2A & RMU2B.

Project Co's argument relies on the basis of supplies being fed from different sides of the open ring, however SS2A and SS2B are not fed from different sides of the open ring and they are both fed from the energy centre switchboard.

### 2.1.4 Additional HV issues

Further to the issue outlined above, the following clauses from SHTM 06-01 indicate compliance issues with the current as installed arrangements in the substation, although they are not directly related to the HV distribution:

- Clause 7.24 "HV substations should not be used for any purpose other than HV equipment and cables. The room should not be used for the storage of other items at any time. The room should not be used as a conduit for other engineering services, including drainage." The current design includes a common ventilation system which
- Clause 7.31 "Internal HV substations should have natural ventilation to prevent moisture and condensation...Transformers typically radiate between 1.5% and 2% of their rating as heat, which should be removed by crossflow (low to high opposite sides) natural ventilation...The supply and extract air for an HV substation should connect directly to an external wall and should be arranged to prevent short-circuiting." – No natural cross flow ventilation is provided in the switch room the HV substations are house in.

## 2.2 Ventilation in single and multi bed rooms

### 2.2.1 Introduction

The Board believes Project Co's design for ventilation within both single and multi-bed rooms is non-compliant with SHTM guidance and the ADB database requirements with regards to both air change rates and the pressure regimes. The Board's reasoning for this is detailed below.

## 2.2.2 Compliance Clauses

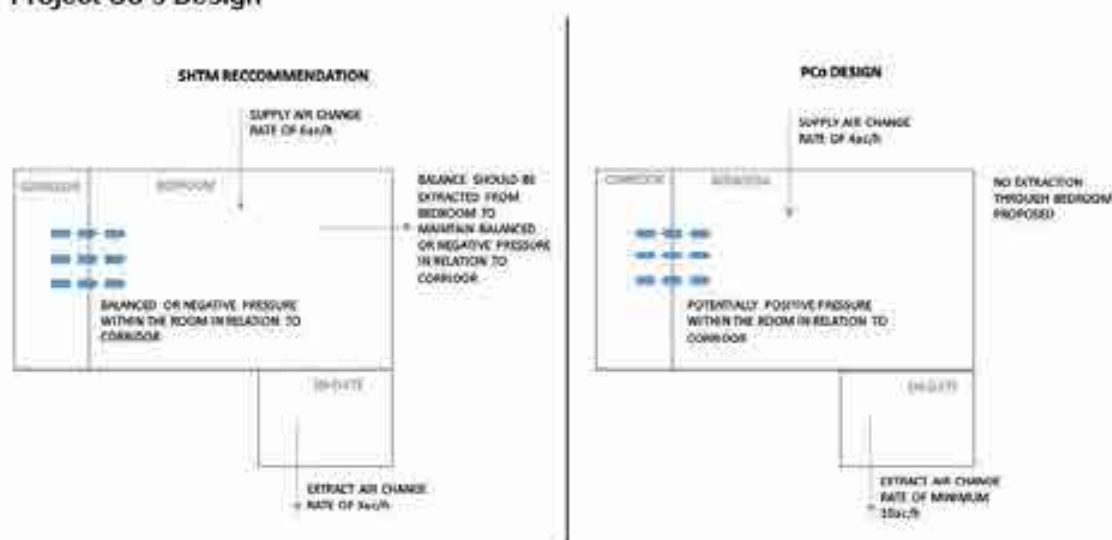
### 2.2.2.1 Single Bedrooms with ensuite

Appendix 1 of SHTM 03-01 (Please refer to Appendix C) recommends a single room requires balanced or negative pressure with 6ac/h within the single room and 3ac/h within the single room WC. Project Co's proposed air change rate is 4ac/h with an extraction through the ensuite at 10ac/h.

Therefore, Project Co's design does not align with SHTM guidance.

The Board has produced the following schematic to illustrate the principles for supply and extract ventilation as recommended in SHTM 03-01 and as per Project Co's Design.

Figure 1: Supply and extract ventilation as recommended in SHTM 03-01 and as per Project Co's Design



### 2.2.2.2 Multi-bed rooms with ensuite

Appendix 1 of SHTM 03-01 does not provide specific guidance on the design for a multi-bed room. Project Co's stated design intent is based on the criteria for a 'General Ward'.

As explained by the Board at the meeting on 23 January 2017, a "ward" constitutes the total bed complement of a designated area. Multi-bed rooms are much smaller sections within a ward that allow patients to be nursed as a small group. Within Children's Services these areas are important for the purposes of clinical safety as they allow cohorting of patients who require enhanced level of nursing observation/support either because they have the same type of infection, or are at similar stages of acute post operative recovery. Additionally, these rooms aid the normal socialisation and development of young children. Similarly, within DCN multi-bed rooms within the ward are used to cohort patients requiring enhanced levels of nursing/monitoring that is more difficult to achieve within single room environment.

Therefore, the design criteria used by Project Co for multibed areas is incorrect. Table A1 of SHTM 03-01 is an extract of the data included in the ADB Sheets (Please refer to Appendix D). The Board believe Project Co should have referred the ADB database for details relating to multi-bed rooms.

Project Co has designed the multi-bed rooms to supply 4 ac/h with an extraction within the ensuite of 10ac/h thus resulting in a positive pressure regime. The ADB sheet for a multi-bed room (4 beds) states a minimum air change of 6ac/h and a balanced or negative pressure. Therefore, Project Co's design does not comply with the requirements recorded within the Activity Database.

### 2.2.3 Summary

The fundamental concern to the Board is that in continuing with Project Co's proposed non-compliant design there is a risk of the spread of bacterial airborne infections into corridors and surrounding patient rooms.

The ventilation design was amended by Project Co, and although it still doesn't reflect the requirements of BCRs and SHTMs, it provides an operational solution. Despite the evidence provided above, Project Co is of the opinion that the changes to the ventilation design constitute a Board's Change. The Board does not believe the updates to the environmental conditions constitutes a Board Change. Without these updates, Project Co's design is not compliant with BCRs and relevant guidance, therefore, any costs associated with re-design are Project Co's responsibility. Furthermore, Project Co should submit a Project Co Change for deviation from relevant guidance.

## 2.3 MRI / IOMRI design

### 2.3.1 Introduction

The Board does not believe Project Co's design of the MRI and IOMRI (G-Q1-134 and 1-P1-064 respectively) provides a suitable environment for the MRI equipment. Following the appointment of the equipment specialist for the MRI and IOMRI rooms, the Board has been advised by the equipment specialist that the current design for these rooms does not contain the 0.5mT gauss lines for the equipment procured by the Board. Therefore, Project Co's design has not taken full account of the requirements as detailed below and the "worst case" equipment details provided by the Board prior to FC for Project Co to incorporate into the design (refer to Appendix E).

### 2.3.2 Compliance Clauses

The Board believes Project Co are non-compliant with the following clauses:

- **BCR 3.6.2 Equipment Requirements:**

*“Project Co shall provide a suitable environment for each item of equipment; this shall take into account lighting, temperature and ventilation requirements. Project Co shall design the Facilities to allow for the provision and safe use of the Group 1, Group 2A, Group 2B and Group 3 Equipment.”*

*“Irrespective of the party responsible for the supply, installation, maintenance and replacement of each item of equipment (as detailed in Appendix 1 (Equipment Schedule) of Schedule Part 11 (Equipment) of the Project Agreement), Project Co shall provide Facilities that satisfy the following criteria:*

*Allow equipment and associated systems to be installed, commissioned, operated, maintained and replaced in accordance with;*

- a) Good Industry Practice;*
- b) Manufacturer’s instructions;*
- c) The Board’s specific supplementary requirements; and*
- d) The Board’s, and statutory health and safety requirements;*

*In order to:*

- a) Allow equipment and associated systems to operate efficiently, effectively and in accordance with their intended function for the whole of its design life;*
- b) Take due account of the impact on the environmental conditions within the Facilities. For the avoidance of doubt, this obligation includes (but is not limited to) impact of heat gain and loss, and ventilation; and*
- c) Take due account of the potential impact of future equipment changes through either updating or replacement. In particular, allowance for equipment of different sizes, weights, service requirements or environmental impacts.*
- d) Allow the Board to provide their Clinical Services and Non Clinical Services with a minimum of disruption during installation, commissioning, operation, maintenance and replacement.”*

- **Sub Section D of the BCRs, Radiology Clinical Output Specification**

*“MRI rooms require specially built radio frequency cages and special consideration to distances for magnetic fields.”*

*“All Clinical room sizes should be based on the largest radiographic equipment footprint to allow a fair and consistent procurement to take place.”*

- **SHPN 06-01**

Plan 32 in SHPN 06-01 notes a nominal room area of 45m<sup>2</sup> for an MR scanning room, which is not being met in G-Q1-134.

- **PCP 4.7 – Adaptability and Flexibility**

*“1.9 Changes to the Delivery of Radio diagnostic & Specialist Services*

*Project Co has significant experience of delivering specialist healthcare facilities, and is well versed in negotiations with equipment manufacturers to ensure that the building can cope with changing the equipment type and supplier. Project Co will work with the Board to leave selection of the equipment as late as possible in the programme to ensure that the most up to date equipment can be accommodated.*

*For further details refer to Section 4.16 Commissioning and Section 4.21 Equipment Strategy.*

*Project Co shall ensure that there is sufficient flexibility built into our proposals to cope with changes in how the Board wants to provide their services.*

- *within operating theatres – robotics, remote control, and greater integration of specialist equipment*
- *advances in MRI and imaging procedures and integration*
- *staffing arrangements and work patterns*
- *expansion or contraction of facilities due to demographic changes*
- *significant increase in number of different cancer treatments*
- *potential need to completely change the nature of the building during its life*
- *impact of information technology as more diagnostic services move to a digital environment.”*

#### **“4.3 Specialist Equipment**

*Project Co acknowledge that during the life of a healthcare facility there will be a requirement for replacement of specialist facilities. Dental chairs, MRI Scanners and operating tables may have differing service requirements. Using substantial previous experience and working in collaboration with preferred specialist equipment providers, Project Co shall ensure that the room can be adapted to accommodate different manufacturers of equipment. Floor service tracks shall be formed using sacrificial screeds which can be easily broken out when required.”*

#### **2.3.3 Summary**

Project Co’s proposed non-compliant design does not allow the Board to provide clinical services safely. The extent of 0.5mT gauss lines within the IOMRI exceeds the boundary of the IOMRI room and encroaches into the space above, below and in particular into the Operating Theatre. With regards to the MRI room, the extent of gauss lines exceeds the boundary of the room into the main hospital street (however, the Board notes the effect of shielding in the MRI room is still to be assessed). The equipment procured by the Board does not exceed the parameters provided pre FC, therefore, the design should be sufficient for the installation of the Board’s chosen equipment.

The Board believes that any remedial design needed to minimise the risk of the extend of gauss lines is Project Co’s responsibility. Any alterations to design, except where already agreed, are Project Co responsibility and no further Board instruction / Change should be requested.



## Appendices

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## **A. Financial Close HV Distribution Schematic**

## **B. Reviewable Design Data HV Distribution Schematic**

## C. Extract of SHTM 03-01 Part A: Table A1

Figure 2: SHTM 03-01 Appendix 1: Recommended air-change rates

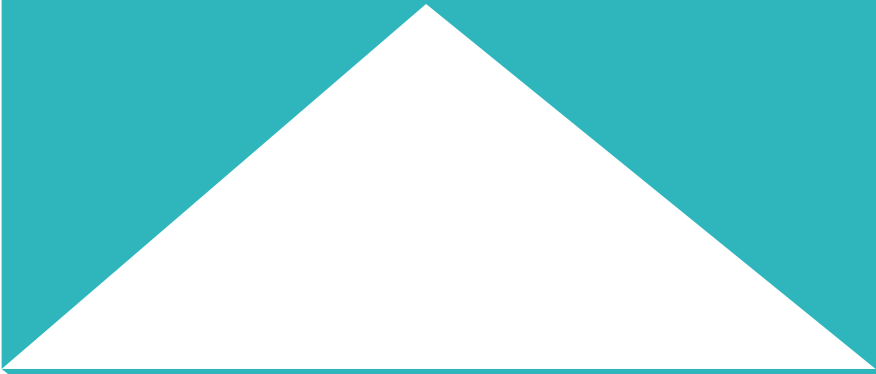
Application	Ventilation	ac/Hour	Pressure (Pascals)	Supply Filter	Noise (NR)	Temp (°C)	Comments For further information see Section 6
General ward	S / N	8	-	G4	30	18-28	
Communal ward toilet	E	10	-ve	-	40	-	
Single room	S / E / N	8	0 or -ve	G4	30	18-28	
Single room WC	E	3	-ve	-	40	-	
Clean utility	S	8	+ve	G4	40	18-28	
Dirty utility	E	8	-ve	-	40	-	
Ward Isolation room	-	-	-	-	-	-	See SHPN 4; Supplement 1
Infectious disease Iso room	E	10	-5	G4	30	18-28	Extract filtration may be required
Neutropenic patient ward	S	10	+10	H12	30	18-28	
Critical Care Areas	S	10	+10	F7	30	18-25	Isolation room may be -ve press
Birthing Room	S & E	15	-ve	G4	40	18-25	Provide clean air-flow path
SCBU	S	8	+ve	F7	30	18-25	Isolation room may be -ve press
Preparation room (Lay-up)	S	>25	35	F7*	40	18-25	*H12 if a lay-up for a UCV Theatre
Preparation room / bay sterile pack store	S	10	25	F7	40	18-25	*50NR if a bay in a UCV Theatre
Operating theatre	S	25	25	F7	40	18-25	
UCV Operating theatre	S	25*	25	H12	40	18-25	Fresh air rate; excludes re-circulation
Anaesthetic room	S & E	15	>10	F7	40	18-25	Provide clean air-flow path
Theatre Sluice/dirty utility	E	>20	-5	-	40	-	
Recovery room	S & E	15	0	F7	35	18-25	Provide clean air-flow path

Table A1

Source: SHTM 03-01 Version 2: February 2014

## D. Extract of Activity Data Base (ADB) sheet for Multi Bedroom (4 persons)

ADB	Room Environmental Data	B0405
Project:	ADB1203	Activity Database Version 1203
Department:		
Room:	B0405	Multi-Bed room, 4 beds
Room Number:		Revision Date: 03/10/2011
<b>TEMPERATURE AND VENTILATION</b>		
Permitted Basic Temperature (secondary built) (degC):	18 - 22	
Working Design Temperature (dry building) (degC):	22	
Minimum Air Change (1/h):	3	
Ventilation type:	DBA	
Pressure Relative to Adjacent Space:	50 of +ve	
Supply Air: Filter Filter Class:	M4	
Permitted Relative Humidity Range (%):		
General Notes:		
<b>LIGHTING</b>		
Type of Control:	5/4	
Daytime General Service Illuminance (Lux):	100	
Daytime Specific Service Illuminance (Lux):	300	
Nighttime General Service Illuminance (Lux):	3	
Nighttime Specific Service Illuminance (Lux):	33	
Local Task Illuminance (Lux):	300	
Colour Rendering Required:	7	
Colour Rendering Required Characteristics (Ra):	90	
Uniform Glare Rating (UGR):	19	
Emergency Escape Route Lighting Required:	19	
Emergency Lighting Grade - General Lighting:	3	
Emergency Lighting Grade - Local Lighting:	A	
General Notes:		
<b>RISK</b>		
Critical Risk Category:	2	
Non-critical Business Continuity Risk Category:		
General Notes:		
<b>NOISE</b>		
Noise Intrusion (dB) 1hr day:		
Noise Intrusion (dB) 1hr night:		
Noise Intrusion (dB) 1hr night:		
Maximum Internal Noise from M&E Services (dB):	30	
Room Sound-Insulation Parameters - Party:		
Room Sound-Insulation Parameters - Noise Separation:		
Noise Separation:		
Sound-Insulation Rating (SDI d nT, n):		
General Notes:		
<b>SAFETY/FIRE</b>		
Maximum Surface Temperature (degC):	63	
Domestic Hot Water Discharge Temperature (DegC):	63	
Maximum Cold Water Discharge Temperature (DegC):	20	
General Notes:		
Type of Automatic Fire Detection:	SPRINK	
General Notes:		
Activity DataBase		14/02/2011





**MEETING NOTE      DRAFT FOR REVIEW**

**Meeting Title:**      **Compliance with Completion Criteria - High Voltage Network and Four Bedded Room Ventilation Meeting**

**Date/ Time:**      6 December 2017 / 12.00 noon

**Location:**      MacKinlay Room, RHSC +DCN Project Office, Edinburgh

**Attendees:**

D. Anderson (DA)	Mott MacDonald
A. Clapp (AC)	IHSL
B. Currie (BC)	NHS Lothian
C. Derbyshire (CD)	Arcadis (Independent Tester)
D. Dryburgh (DD)	NHS Lothian
J. Edwards (JE)	Arcadis (Independent Tester)
R. Frame (RF)	Currie + Brown (LTA)
S. Fern (SF) (by teleconference)	Macquarie
I. Graham (IG)	NHS Lothian
G. Greer (GG)	Mott MacDonald
R. Hair (RHa)	Bouygues
R. Henderson (RHe)	NHS Lothian
J. Lewis (JL)	David Rollason Associates
D. Martin (DM)	IHSL
R. Osborne (RO) (by teleconference)	Macquarie
D. Pike (DP)	Multiplex
D. Rollason (DR)	David Rollason Associates
P. Wandless (PW)	Bouygues
W. Weir (WW)	IHSL

**Item****Action****1. Introductions and Purpose of Meeting**

BC welcomed everyone to the meeting. Introductions were made around the table.

BC outlined the purpose of the meeting which is to facilitate and conclude all parties understanding and awareness of the material technical issues allowing IHSL to re consider their position. Although a minute is being recorded it is hoped that proceedings would be relatively informal encouraging dialogue, discussion and participation by all present.

BC provided a summary background, highlighting the Board's most recent letters issued to IHSL and the Independent Tester on 3 November 2017 enclosing Independent Expert Reports regarding High Voltage and

Ventilation, subsequent discussions between the Board and Independent Tester and the Board's letter's to the Independent Tester of 29 and 30 November 2017 responding to points of clarification.

## 2. Ventilation

JE provided a summary background to four bedded room ventilation as he sees it.

JE highlighted the issue of apparent complexity with the financial close documentation in terms of stating ventilation requirements. A divergence of opinion exists between IHSL and NHS Lothian regarding compliance with these requirements.

The documentation presented at financial close, and subsequently, can support both view points in his view. However, as financial close documentation could be argued to be in conflict, the contractual process clearly gives the Board the right to choose the most onerous condition (Hierarchy of Standards Clause XXXXX). WW stated that IHSL may choose to disagree with this position.

DP and WW noted that MPX/IHSL are preparing their own technical reports for submission to the Independent Tester and the Board and will be able to present this within one week. As such, they are in attendance at this meeting in a listening capacity only and will not be making comments (with the exception of the statement above).

WW

BC asked the assembled parties if they had any questions or points of clarification. There were none.

BC asked JE if there was any further information that he required. JE responded that he was satisfied with information already supplied. JE will require the IHSL report on their position before he can proceed further.

## 3. High Voltage

JE provided a summary background to high voltage as he sees it

The issues regarding high voltage can be divided into three separate strands –

### 1. Process

2. Electrical Resilience
3. Physical Resilience

### 1. Process

JE noted issues of process, specifically that the documentation is not where he would have expected it to be in terms of designing the system to clinical requirements. Documentation regarding resilience was produced, however this was much later than expected and only after installation had commenced.

In terms of practical completion, JE confirmed that at present the process is non-compliant. Dialogue between IHSL and NHS Lothian is required to resolve this issue.

### 2. Electrical Resilience

JE noted that there is concern with the HV resilience within the system as it exists at the moment. Discussions are required between parties regarding the ability of the system to provide all areas with a high degree of resilience.

### 3. Physical Resilience

JE noted that, there does appear to be a resilience problem at the incoming switchgear room in terms of the origin of supplies. He expressed concern regarding the co-location of internal generator supplies and mains electrical supplies within a single room.

JE suggested that it may be advantageous for IHSL and the Board to agree on examples of HV Networks within contemporary acute hospitals in Scotland to provide a benchmark. BC and DP both agreed their respective organisations would provide these to JE within one week.

**BC**  
**DP**

BC asked JE if this benchmarking was to establish “Good Industry Practice”? JE responded that this was the case.

JE also expressed concern regarding the HV cable routes between the incoming switch gear room and substations, specifically in relation to cables contained within fire compartments.

JE stated that the electrical resilience, when viewed in abstract, is flexible, however this flexibility is reduced by the problems with physical resilience. JE expressed a view that, should the physical resilience issues be resolved, he anticipates that this would go a long way to also resolve the electrical resilience issues.

RHe agreed with this point in principle; however it was noted that scenario 'what if' testing would still be required as this was not carried out at financial close.

DP confirmed that construction of a "blast wall" to compartmentalise each substation into two areas from one has commenced and a formal transmittal to the Board will follow shortly. BC noted that the Board have observed this development on site; however this does not resolve concerns regarding location of cables in relation to fire compartments. JE agreed with this position.

BC asked the assembled parties if they had any questions or points of clarification. There were none.

BC asked JE if there was any further information that he required. JE responded that he was satisfied with information already supplied. JE will require the IHSL report on their position before he can proceed further.

#### **4. Actions**

- Action 1 – IHSL to provide technical reports to Independent Tester and the Board on four bedded room ventilation and high voltage.  
Timescale – one week
- Action 2 – the Board and IHSL, to furnish the Independent Tester with examples of HV systems within contemporary acute hospitals in Scotland.  
Timescale – one week.

#### **5. Close**

Wallace Weir  
HCP SOCIAL INFRASTRUCTURE (UK) LIMITED

Fwd: HV - Contentious Issues  
GENERAL CORRES

26/12/2017  
HCP UK-GC-000945

Brian Currie  
NHS Lothian

Fwd: HV - Contentious Issues  
GENERAL CORRES

26/12/2017  
NHSL-GC-002635

**RHSC and DCN**  
Little France  
Edinburgh  
Scotland United Kingdom

**HCP Social Infrastructure (UK) Limited**  
6 Middle Street  
London  
EC1A 7PH United Kingdom

MAIL TYPE  
**General Correspondence**  
REFERENCE NUMBER  
**MPX-LETTER-000140**

MAIL NUMBER  
**HCP UK-GC-000945**

## Fwd: HV - Contentious Issues

From: Mr Wallace Weir - HCP Social Infrastructure (UK) Limited  
To: Mr Brian Currie - NHS Lothian  
Cc (6): Mr Andy Clapp - Daimore Capital (+5 more...)  
Sent: Tuesday, 26 December 2017 11:36:44 AM GMT (GMT +00:00)  
Status: N/A

### FILE ATTACHMENTS (13)

File Name
 Blast Wall PR 15s (2).pdf
 Blast Wall PR15.pdf
 HV reports letter JHSL RHSC MPX 171212.pdf
 M1710-DSSR-X-XX-RP-MEP-61002-V01 - FINAL.PDF
 MS6006-V39-G1 RevB.PDF
 MS6006-V39-G2 RevA.PDF
 RDA 17-123 -01 Typical Connection Details[1].pdf
 RDA 17-123 -02 Structural Notes[1].pdf
 RDA 17-123 Full Calculations_[1].pdf
 WW-XX-XX-SC-530-A02.pdf

A47206723

<b>File Name</b>
 WW.XX.XX.SC-530-A03.pdf
 WW.XX.XX.SC-530-A04.pdf
 WW.XX.XX.SC-530-A05.pdf

**ATTRIBUTES**

Attribute 1                    Stage 3 - RHSC & DCN Construction Phase  
Attribute 2                    01 Employer's Requirements

**MESSAGE**

Brian,

Please find attached copy of letter and independent expert report in respect HV. You will note from the letter that the report has been forwarded to the IT.

Wallace  
Project Co Representative

---

**From:** O Pike  
**Sent:** 19/12/2017 9:28:50 AM GMT (GMT +00:00)  
**To:** Wallace Weir  
**Cc:** John Edwards, Georgia Villafior, Graham Coupe, Colin Grindlay, Ken Hall, David Martin  
**Mail Number:** MPX-LETTER-000140  
**Subject:** HV - Contentious Issues

Wallace  
In response to the on going discussions and correspondence around the HV system on the RHSC & DCN project, please find attached;  
Letter from Multiplex on the matter  
Report on the system from independent experts DSSR  
Details pertaining to the upgraded wall between each of the substations where they are adjacent to each other  
TUV Wallace Whittle drawings - SC-530- A02 to A05, showing proposed alterations to the system to alleviate concern over the intake switch room configuration. should this be deemed necessary.  
in order to maintain progress on the issue, we have copied John Edwards of Arcadis into this information.

Regards

Darren





**From:** Mackenzie, Janice  
**Sent:** 01 February 2018 17:56  
**To:** Hanley, Dorothy  
**Cc:** Greer, Graeme; Currie, Brian  
**Subject:** RE: 010218 EM 4 Bed Room Tracker - revised 01 Feb 18.xlsx  
**Attachments:** 010218 EM 4 Bed Room Tracker - revised 01 Feb 18.xlsx

Thanks Dorothy, I have made a few minor changes.

Janice

---

**From:** Hanley, Dorothy  
**Sent:** 01 February 2018 15:36  
**To:** Mackenzie, Janice  
**Cc:** Greer, Graeme; Currie, Brian  
**Subject:** 010218 EM 4 Bed Room Tracker - revised 01 Feb 18.xlsx

My comments and addition of rationale column for Janice's additions/ amendments

Dorothy

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RHSC + DCN - Multi-Bed Room: – 4 beds ventilation extracts from the IHSL Environmental Matrix

This Tracker has been collated using information provided in IHSL's Environmental Matrix. The tracker is intended as a collated reference document for the key ventilation parameters for the Multi-Bed Room: – 4 beds

WW-XX-XX-DC-XXX-001 Rev 10 RHSC / DCN RDS											Compromise 24/02/17 - Essential = room to be negative / balanced	Draft 01/02/18 Essential = room to be negative / balanced	Rationale
Department	Room Name	Room Function	Area (m <sup>2</sup> ) (as per current RDS information)	Height (m)	Room No.	Ventilation (type)	Supply (ac/hr)	Extract (ac/hr)	Relative pressure				
A2	Paediatric Acute Receiving Unit - 34 Beds	4 Bed Room	Multi-bed Wards	57.70	2.7	G-A2-028	Natural and Central Supply Air	4	en-suite	Positive to en-suite	Essential	Essential	medical acute receiving unit where patients with same respiratory illnesses will be cohorted to ensure ease of observation and safe care
		En-suite wheelchair-accessible WC, Shower & wash	Bathroom	5.9	2.4	G-A2-029	Central Dirty Extract	0	10	Negative			
		WC Accessible	Toilet	4.4	2.4	G-A2-030	Central Dirty Extract	0	10	Negative			
		4 Bed Room	Multi-bed Wards	57.6	2.7	G-A2-046	Natural and Central Supply Air	4	en-suite	Positive to en-suite	Essential	Essential	
		WC Accessible	Toilet	4.4	2.4	G-A2-047	Central Dirty Extract	0	10	Negative			
		En-suite wheelchair-accessible WC, Shower & wash	Bathroom	5.9	2.4	G-A2-048	Central Dirty Extract	0	10	Negative			
		4 Bed Room	Multi-bed Wards	58	2.7	G-A2-054	Natural and Central Supply Air	4	en-suite	Positive to en-suite	Essential	Essential	
		En-suite wheelchair-accessible WC, Shower & wash	Bathroom	5.9	2.4	G-A2-055	Central Dirty Extract	0	10	Negative			
B1	PICU and HDU's - 24 Beds	Open Plan Bay (4 beds)	Multi-bed Wards	115.5	2.7	1-B1-009	Natural and Central Supply Air	4	1.7	positive	Essential	Would be very useful, but not essential for current planned operational use. May compromise future Service development needs	operationally cohorting within this area is impractical due to number of access/ egress points and number of persons using through corridor
		Open Plan Bay (4 beds)	Multi-bed Wards	110.5	2.7	1-B1-031	Central Supply & Extract	4	1.8	positive	Essential	Not Essential	operationally cohorting within this area is impractical due to number of access/ egress points and number of persons using through corridor
		Open Plan Bay (4 beds)	Multi-bed Wards	102.8	2.7	1-B1-063	Central Supply & Extract	4	3	positive	Essential	Essential	patients with same respiratory illnesses will be cohorted to ensure ease of observation and safe care
		Open Plan Bay (3 cots)	Multi-bed Wards	46.8	2.7	1-B1-065	Central Supply and Extract	4	4	Balanced	Essential	Essential	pre-term babies with same respiratory illnesses will on occasion need to be cohorted to ensure ease of observation and safe care
C1.1	Medical Inpatients - 23 Beds	4 Bed Room	Multi-bed Wards	61.4	2.7	3-C1-1-018	Natural and Central Supply Air	4	via ensuite	positive to ensuite	Essential	Essential	medical unit where patients with same respiratory illnesses will at times be cohorted to ensure ease of observation and safe care
		En-suite wheelchair-accessible WC, Shower & wash	Bathroom	6.2	2.4	3-C1-1-019	Central Dirty Extract	0	10	Negative			
		WC Accessible	Toilet	4.5	2.4	3-C1-1-020	Central Dirty Extract	0	10	Negative			
		4 Bed Room	Multi-bed Wards	61.8	2.7	3-C1-1-046	Natural and Central Supply Air	4	via ensuite	positive to ensuite	Essential	Essential	
		WC Accessible	Toilet	4.5	2.4	3-C1-1-047	Central Dirty Extract	0	10	Negative			
		En-suite wheelchair-accessible WC, Shower & wash	Bathroom	6.2	2.4	3-C1-1-048	Central Dirty Extract	0	10	Negative			
C1.2	Surgical Long Stay Inpatients - 15 Beds	4 Bed Room	Multi-bed Wards	59	2.7	3-C1-2-023	Natural and Central Supply Air	4	via ensuite	positive to ensuite	Essential	Would be very useful, but not essential for current planned operational use. May compromise future Service development needs	Ward will provide beds into which medical ward will flex during peak periods of medical activity and this may require cohorting of patients. Presence of wetroom means that both 4 bed bays require to have the same ability to cohort
		WC Accessible	Toilet	5.2	2.4	3-C1-2-024	Central Dirty Extract	0	10	Negative			
		Wetroom	Bathroom	13.7	2.4	3-C1-2-025	Central Dirty Extract	0	10	Negative			
		4 Bed Room	Multi-bed Wards	58.5	2.7	3-C1-2-026	Natural and Central Supply Air	4	via ensuite	positive to ensuite	Essential	Would be very useful, but not essential for current planned operational use. May compromise future Service development needs	
		WC Accessible	Toilet	4.6	2.4	3-C1-2-027	Central Dirty Extract	0	10	Negative			
C1.3	Neuroscience Inpatients - 12 Beds	En-suite	Bathroom	4.4	2.4	3-C1-3-010	Central Dirty Extract	0	10	Negative	Essential	Would be very useful, but not essential for current planned operational use. May compromise future Service development needs	While not essential for current planned operational use, may compromise future Service development needs
		4 Bed Room	Multi-bed Wards	58.6	2.7	3-C1-3-011	Natural and Central Supply Air	4	via ensuite	positive to ensuite			
		Wetroom	Bathroom	13.9	2.4	3-C1-3-012	Central Dirty Extract	0	10	Negative			
		4 Bed Room	Multi-bed Wards	57.7	2.7	3-C1-3-013	Natural and Central Supply Air	4	via ensuite	positive to ensuite	Essential	Would be very useful, but not essential for current planned operational use. May compromise future Service development needs	
		En-suite	Bathroom	4.8	2.4	3-C1-3-014	Central Dirty Extract	0	10	Negative			
C1.4	Haematology / Oncology Inpatients & Daycases - 17 Beds & 2 Chairs	Multi Bed Room day care, 4 beds 2 chairs	Multi-bed Wards	88.2	2.7	3-C1-4-061	Natural and Central Supply Air	4	via ensuite	positive to ensuite	Not Essential	Not Essential	clinicians have agreed pathways for patients that will ensure patients with infections will not access this area
		En-Suite Multi Bedroom	Bathroom	5.0	2.4	3-C1-4-062	Central Dirty Extract	0	10	Negative			
		Multi Bed Day Room day care	Multi-bed Wards	48.8	2.7	3-C1-4-084	Natural and Central Supply Air	4	via ensuite	positive to ensuite	Not Essential	Not Essential	
		En-Suite Multi Bedroom	Bathroom	4.8	2.4	3-C1-4-085	Central Dirty Extract	0	10	Negative			
C1.8	Surgical Short Stay Inpatients - 14 Beds	4 Bed Room	Multi-bed Wards	58.7	2.7	3-C1-8-016	Natural and Central Supply Air	4	via ensuite	positive to ensuite	Not Essential	Not Essential	medical patients will not be boarded into this area. Residual risk associated with confusion for staff around having some areas that can be cohorted and some where this is not possible, will have to be managed operationally
		En-suite Shower / WC / WHB	Bathroom	6.4	2.4	3-C1-8-017	Central Dirty Extract	0	10	Negative			
		WC Wheelchair Accessible	Toilet	4.6	2.4	3-C1-8-018	Central Dirty Extract	0	10	Negative			
		4 Bed Room	Multi-bed Wards	57.6	2.7	3-C1-8-027	Natural and Central Supply Air	4	via ensuite	positive to ensuite	Not Essential	Not Essential	
		WC Wheelchair Accessible	Toilet	4.5	2.4	3-C1-8-028	Central Dirty Extract	0	10	Negative			
		En-suite Shower / WC / WHB	Bathroom	6	2.4	3-C1-8-029	Central Dirty Extract	0	minimum 10	Negative			
D9	Medical Day Care Unit - 5 Beds	Multi Bed Room day care, 3 beds	Multi-bed Wards	40.4	2.7	3-D9-022	Natural and Central Supply Air	4	via ensuite	positive to ensuite	Essential	Would be very useful, but not essential for current planned operational use. May compromise future Service development needs	potentially limited need to use this as a cohort area as spaces are designed for treatment chairs rather than beds
		En-suite wheelchair-accessible WC, Shower & wash Multi	Bathroom	4.6	2.4	3-D9-023	Central Dirty Extract	0	10	Negative			
L1	DCN Acute Care - 24 Beds	4 Bed Room	Multi-bed Wards	65.1	2.7	1-L1-097	Natural and Central Supply Air	4	via ensuite	positive to ensuite	Not Essential	Not Essential	there is no need for a cohort area within DCN due to the number of single rooms
		En-suite	Bathroom	7.5	2.4	1-L1-099	Central Dirty Extract	0	10	Negative			
		4 Bed Room	Multi-bed Wards	65.6	2.4	1-L1-100	Natural and Central Supply Air	4	via ensuite	positive to ensuite	Not Essential	Not Essential	
		En-suite	Bathroom	7.5	2.4	1-L1-101	Central Dirty Extract	0	10	Negative			

Information class: Standard

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<b>MULTIPLEX</b>	<b>Contractors Change Proposal</b>
	<b>MPX-CCP-050</b>
<b>Single Bedroom Ventilation</b>	<b>21/02/17</b>
Subject to Schedule Part 16 Section 5, BM proposes the following change as described below.	
<b>1.0 Detail of Change (Sch16:Pt5 2.1)</b>	
<p>The mechanical air change ventilation rate within single bedrooms has been decreased from 6 air changes per hour (6 ac/hr) to 4 air changes per hour (4 ac/hr).</p> <p>The BCRs require the facilities to adopt a natural ventilation strategy wherever possible, this reduction in mechanical ventilation, supplemented via openable windows within each single bedroom, is consistent with the vision to reduce energy consumption, ultimately reducing the overall carbon footprint. The ventilation design for single bedrooms is referred to as "mixed mode" ventilation. Where single bedrooms do not have openable windows, 6ac/hr has been provided.</p> <p>The mechanical extract ventilation air change rate has been increased within the single bedrooms ensuite from 3ACH to 10ACH (minimum) to provide a fresh environment for patients. This ensuite extract provides a balanced air change rate to the bedroom.</p> <p>The design intent and figures noted above are reflected within the environmental matrix previously submitted through RDD.</p>	
<b>2.0 Reasons (Sch16:Pt5 2.2)</b>	
<p>Contractors change has been proposed to align with the environmental matrix submitted through RDD.</p> <p>Whilst SHTM 03-01 ventilation in Healthcare Premises notes 6 ac/hr there is no reference made within the standards to mixed mode ventilation design. To align with the environmental matrix a contractors change has been proposed.</p> <p>Where ensuites have been provided with a ventilation dirty extract rate of 10ACH (min). The noted figure within the standards of 3ac/hr for is considered low for modern day facilities containing both shower and WC facilities within the room.</p> <p>There is no change to the above figures noted from Financial Close.</p>	
<b>3.0 Implications (Sch16:Pt5 2.3)</b>	
<p>Reduced energy consumption by providing reduced mechanical ventilation rates within each single bedroom.</p> <p>Providing the ensuite within a minimum 10 ac/hr ensures the extract performance duty has sufficient capability for both the wc and shower extracting, and ultimately provides the balanced ventilation rate required between the bedroom and the ensuite.</p> <p>Bouygues have been made aware of this change, confirmation received no impact to the overall FM operational plan.</p>	
<b>4.0 Indicate Savings (Sch16:Pt5 2.4, 2.4.1 + 2.4.2)</b>	
Not Applicable	
<b>5.0 Critical Date Decision Required (Sch16:Pt5 2.5)</b>	
Principles as noted within the environmental matrix and design drawings. Works constructed in line with this Contractors change.	
<b>6.0 Previous Related Correspondence</b>	
<ul style="list-style-type: none"> <li>(i) Aconex BMCE-RTRFI-000792 dated 03.06.16</li> <li>(ii) Aconex BMCE-RFI-001145 dated 08.08.16</li> </ul>	
<b>7.0 Attachments</b>	
None	
<b>8.0 Derogation Required?</b>	
No	

Kelly Bain  
MOTT MACDONALD LTD (HEAD OFFICE UK)

RHSC+DCN: Board Response to Contractor Cha... 14/03/2018  
GENERAL CORRES... MM-GC-003877

David Martin  
R.A.M. ASSET MANAGEMENT LIMITED

Fwd: RHSC+DCN: Board Response to Contracto... 14/03/2018  
GENERAL CORRES... R.A.M.GC.000477

Overdue

RHSC and DCN  
Little France  
Edinburgh  
Scotland United Kingdom

Mott MacDonald Ltd (Head Office UK)  
20-26 Wellesley Rd  
Croydon  
Surrey CR9 2UL United Kingdom  
Ph: +44 20 87742000

MAIL TYPE  
General Correspondence  
REFERENCE NUMBER  
MM-GC-003877

MAIL NUMBER  
MM-GC-003877

## RHSC+DCN: Board Response to Contractor Change Single Bedroom Vent

From Mrs Kelly Bain - Mott MacDonald Ltd (Head Office UK)  
To (2) Mr Wallace Weir - HCP Social Infrastructure (UK) Limited  
Mr David Martin - R.A.M. Asset Management Limited  
Cc (1) Mr Richard Hair - Bouygues E&S FM (+6 more...)  
Sent Wednesday, 14 March 2018 9:24:45 AM GMT (GMT +00:00)  
Status N/A

### MESSAGE

WITHOUT PREJUDICE TO LOTHIAN HEALTH BOARD'S WHOLE RIGHTS, REMEDIES AND PLEAS WHICH ARE RESERVED

David,

Further to the Principals Meeting on 20 and 21 February 2018 between the Project Co, MPX and the Board, please note the following Board comments on the Single Bedroom Ventilation change submitted on the 21 Feb18;

#### Detail of the Change

- The Board do not agree with the detail of the Change
- Could Project Co please clarify the proposal at Financial Close, and what are Project Co requesting to Change
- Are Project Co requesting a change from the BCR's, or a change from Project Co Proposals?
- Assuming Project Co are requesting relief from compliance with the SHTM 03-01 with respect air change rates, can Project Co please state that in the change.
- The Board understands that the Change is required for deviation from the BCRs/SHTMs and that drafting should accurately reflect this.

- Can Project Co please also confirm which rooms they are wanting relief from relative to the air change rates.
- Please remove information that is not relevant to the Project Co Change

#### Reason

- The Board do not agree with the reasons provided.
- The Board understand Project Co altered the air change intake and extract rates to achieve the pressure regime required by the SHTM 03-01.
- Discussion required on the Project Co comment that an extract rate of 10ach/hr 'low for modern day facilities'?

#### Implications

- The Board do not agree with the implications noted
- An implication of a reduced air change rate is reduced air quality for the occupants of the room.
- The statement "*ultimately provides the balanced ventilation rate required between the bedroom and the ensembles*" is incorrect. Bedrooms should be positive to the ensuite and balanced/negative to the corridor.

Additionally, although not part of the normal agreed informal review of the Contractor Change (i.e. only reviewing 1.0 Detail of the Change, 2.0 Reasons and 3.0 Implications) the Board would like to highlight that the Aconex transmittals referenced in section 6.0 Previously Related Correspondence do not accurately reflect the full correspondence between the Board and Project Co. i.e. BMCE-RTRFI-000792 and BMCE-RFI-001145 both relate to the issue of draft derogations the Board rejected, however, this rejection is not referenced.

Please note the following when reviewing the attached;

1. The Board have provided the above comments to try and clarify the change that MPX are proposing.
2. As agreed the review has focused on the Detail of Change, Reasons and Implications sections only, however, highlights a concern relating to the previous correspondence.
3. As noted above, the Board comments are an attempt to clarify the technical elements of the Project Co Changes in order that the Board can undertake its diligence on the proposed Project Co Changes.

The Board would like to confirm that participation in this collaborative exercise with MPX and IHSL is not an indication or confirmation that the Board intends to accept a Project Co Change. The process is being undertaken to ensure that when the Project Co Change is received formally by the Board the detail and content is sufficient to allow the Board to fully review the proposal.

Kind Regards  
Kelly Bain

Please note that this email is issued entirely without prejudice to Lothian Health Board's whole rights, remedies and pleas and may not be referred to or founded upon in any circumstances whatsoever without our express consent.



**From:** Currie, Brian [REDACTED]  
**Sent:** 23 March 2018 13:08  
**To:** Greer, Graeme; Sansbury, Jackie; Mackenzie, Janice; Henderson, Ronnie  
**Cc:** Graham, Iain; Jennifer McKay  
**Subject:** RHSC + DCN - Information to inform a meeting with IHSL  
**Importance:** High

The Board are minded to invite IHSL to a meeting on Tuesday 27th March to discuss the basis of a commercial negotiation.

The following information has been asked for by cop on Monday 26th March:

1 Post Completion Activities essential for Hospital Operation with timescales and contractual status and which there is a reliance on IHSL and MPX. Also, likely impact on commissioning activities if ventilation remedials undertaken in this commissioning period.

- Board Changes
- ATD Works
- Equipment inc Quench Pipes
- Hospital Square Landscaping Works

any others?

2 Unresolved Contractual Matters essential for certification of completion by the Independent Tester:

- PCo Changes
- RDD status "C"
- Rights for Infrastructure outside boundary (SA1)
- Credit due to board for Board and PCo Changes (circa £750k)

3 Current possible non compliances:

Latest Schedule discussed yesterday pm.

4 Team view on credibility of a 5th June 2018 Completion date (assume for this satisfactory resolution on all non compliances discussed at "Sheraton" with exception of HV and 4 Bed Vent).

5 MPX vent proposals. A bit more Graeme on your initial comments received this morning to get a sense of how realistic the timings are:

- *Ventilation proposals – I need to review with Colin, however a few notes;*
  - *Ventilation Option 1 – £3.36m at 17 weeks (14 rooms reduced air change rate)*
  - *Ventilation Option 2 – £4.66m at 30 weeks (14 rooms at 4 ac/hr air change rate) – suggested 15% increase in the use of ventilation, that should be fine if 25% spare capacity has been provided? – need to understand the programme in more detail, and why longer and more expensive. Suspect because insufficient spare capacity has been provided.*
  - *Ventilation Option 3 – £6.54m at 40 weeks*

6 Check our correspondence with MPX on Quench Pipe to hopefully confirm that we have not at any time been deficient in communicating our reqs?

Review progress with all of this on Monday morning.

Many thanks

Brian

Brian Currie  
Project Director - NHS Lothian  
RHSC + DCN Site Office  
Little France Crescent  
Edinburgh  
EH16 4TJ



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Quality | Dignity and Respect | Care and Compassion | Openness, Honesty and Responsibility | Teamwork

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**Project Co Changes as of 22 August 17****Summary**

30 Project Co changes, broken down as follows;  
 27 Project Co Changes have been issued to date,  
 15 Project Co Changes are closed,  
 2 Project Co Changes are to be withdrawn,  
 10 Project Co Changes are live of which;  
     3 are with the Board to review  
     7 are with Project Co to provide more information

	Title	Issue Date	Status
1	Fold Down Beds	13/04/2016	CLOSED
2	Tree Omissions	23/09/2015	CLOSED
		10/11/2015	
3	Window Omissions	23/09/2015	CLOSED
		10/11/2015	
4	Ceiling Types	23/09/2015	CLOSED
		10/11/2015	
5	Spine Wall	23/06/2016	CLOSED
6	Basement Walls	10/02/2016	CLOSED
7	Floor Finishes	10/02/2016	CLOSED
8	IT Node Room Ceilings	23/09/2015	CLOSED
		10/11/2015	
9	Spandrel Panels	31/03/2016	CLOSED
10	Gable end picture frame	16/03/2016	CLOSED
11	Not issued	Not yet issued	Not yet issued
12	Co-locating wardrobe with fold down bed	12/04/2016	CLOSED
13	Natural Vent to Atrium	16/03/2016	Withdrawn
14	LTHW	31/03/2016	Project Co Change – non compliant with the PCP's – with the Board to review.
15	Energy Centre	31/03/2016	CLOSED
16	Basement Ceiling	31/03/2016	CLOSED
17	Helipad	31/03/2016	Project Co Change – non compliant with the BCR's and PCP's - Reviewing additional information issued to support the Change
18	Zone A Brickwork	18/04/2016	CLOSED
19	Flood Wall Penetration	11/07/2016	Asked Project Co to withdraw and process as RDD
20	Zone A Plant Rooms	16/08/2016	Project Co Change – non compliant with the PCP's. Waiting for further information
21	2 in 1 toilet seat	07/02/2016	CLOSED
22	Level Difference at link building	20/12/2016	Project Co Change – non compliant with the BCR's and PCP's – waiting to see on site
23	Gas Meter Housing	26/05/2017	Project Co Change – non compliant with the BCR's and PCP's.
24	Barrier matting	31/07/2017	Project Co Change – non compliant with the BCR's and PCP's – under review
25	BREEAM Certification	13/09/2017	Project Co Change – non compliant with the BCR's
26	To be advised	Not yet issued	Not yet issued
27	Movement Joint	31/07/2017	Project Co Change – non compliant with the BCR's – under review
28	To be advised	Not yet issued	Not yet issued
29	Curtain Tracks	31/07/2017	Project Co Change – non compliant with the BCR's – under review
30	Car Park E	31/07/2017	Project Co Change – non compliant with the BCR's – under review

### Non exhaustive list of Anticipated Project Co Changes to be considered by the Board

The list below is a non exhaustive list of Project Co Change, provided by Project Co but still to be submitted. Before the Board can consider / clarify the merits of the Project Co change, the Board requires the detailed Project Co change to be submitted.

Item	Title
<b>Original List</b>	
1	Temperature control valves and monitoring
2	Node rooms in basement
3	Post Completion As Built Energy Model
4	Post Completion NACCOSS Certificate
5	Post Completion Audiology Acoustic tests
6	Post Completion Medical gas Testing
7	Removable overhead door panels to corridors
8	Standing Seam roof finish
9	Skirting Change
10	Ceiling type spec change Plasterboard to grid
11	Amendments to walls in basement - Plant segregation
12	Post Completion Toucan crossing - design and coordinate outwith blue line boundary. Possible Board Change to remove from IHSL scope.
13	Bed Lift Core 3
14	Fire strategy relative to the removal of the sprinkler
15	Provision of gas store to level four
16	provision of two shower trays and pumping
17	FCU traps
18	Lifts
19	Post Completion Seasonal commissioning
20	Helipad - fitness certificate
21	Single bedroom & ensuite ventilation rates
22	Isolation Rooms - 2 way interconnection between bedroom / nurse station . Review against SHPN.
23	Water services (drainage and other services above clinical areas)
24	Void Detection installed below soffit.
25	Isolation room ceilings
26	Service yard wall movement / changes
27	Removal of WC (G-Q1-068)
<b>New items on the Project Co list</b>	
28	Warning Lights
29	HV distribution
30	ATD projects - need added
31	Amend void areas level 3 core 8.
32	Environmental Matrix -
33	Demarcation reports
34	Routing of services. Corridor layouts against any non compliance with standards to be tabled.
35	Flexible hose on Janitorial sink. Believe this cannot be hard piped and flex hose is required.
36	Integrated Nurse Call. Review if PCo Change required against SHTMs given standards written around stand alone systems.
<b>Items no longer appearing on Project Co list</b>	
37	DB cupboards
38	Medical Gases
39	Post Completion Thermal and Energy Efficiency Testing Procedure tests
40	WHB reduction - suggested as closed however no paperwork in place.
41	Waterless Traps
42	Post Completion - Certification relative to the remediation to Petrol station land
43	Chiller Compound shown outside red line boundary and relocated.

Issues
The list below is a collation of issues identified during the Board's room reviews and M+E site visits as well as those picked up by IHSL as recorded on Zutec, BYES as identified in their risk register issued to the Board Monthly and the IT in the Key Issues report. This list contains design issues that have not yet been resolved (i.e. are not a compromise), do not fall under a 'non-compliance' or are issues on site that are waiting to be resolved.
With regards to IHSL, BYES and IT issues this list is not an exhaustive list of all issues, only those identified as being of significant concern to the Board. For the full list of issues please refer below links:

formatting: x

IHSL site observations	BYES Monthly Risk Register	IT Key Issues Report

Title	Location	Design Issues	Raised by	Action	H&S	Non-Compliance	Poor Construction	Construction Co-ordination	Design Issue	Work in Progress
		Medirails fixed in the incorrect locations due to bedhead trunking not being installed in some rooms as expected with the medical gases always nearest to the bedroom door. Also clashes with TCT sockets and some curtain rail stops need moved.	Board	Board to review rooms with MPX on an individual basis to ensure the correct solution is achieved. MPX may just fit additional rails as the easiest solution.				x		
		Audiology	Board	Review cancelled until January. The Board to review the rooms before CG's walk round. AE to arrange for JM/DS to see the rooms as soon as possible.						
		DCN Adult wardrobes current have white finish. This was sigend off during RDD as timber finish.	Board	MPX reviewing on site. Raised in Monday morning meeting 16/10/17 - AE confirmed that the doors will be changed to a wood effect finish.		x		x		
		A number of reception desks do not have the graphics applied	Board	AE confirmed that the missing graphics will be fitted.						
		TV bracket and whiteboard clash.	Board	Whiteboards to be moved. Raised in Monday morning meeting 16/10/17				x	x	
		Lack of screws to door hinges.		Raised in Monday morning meeting, MPX should have loaded to Zutec			x			x
		Screw caps missing, Required for infection control	Board	Raised in Monday morning meeting 16/10/17 and in discussions with Project Co to resolve.			x			
		Door stops not installed and this is causing damage to walls	Board	Raised in Monday morning meeting 16/10/17 and in discussions with Project Co to resolve.						x
		Easy clean keepers not installed	Board	Raised in Monday morning meeting 16/10/17 and in discussions with Project Co to resolve.				x		
		Shaver sockets are not installed in en-suites	Board	Raised in Monday morning 16/10/17 meeting and in discussions with Project Co to resolve.				x		
		Poor finish to wall / architrave joints around doors. Requires sanding or wider architraves	Board	Raised in Monday morning meeting 16/10/17 and in discussions with Project Co to resolve.			x			
		Panic alarm pulls - are the upside down?		Raised in Monday morning meeting 30/10/17. AE to review with KH. - now urgent			x			x
		Theatre Doors: MPX (LES) to review Aconex re Obscure glass and laser issues.		MPX have confirmed they will comply with Board requirements		x				x
		The solution for door clashes during design has not materialised on site.	Board	Raised in Monday morning meeting and noted that 11 issues can not be rectified. En-suite door swings to be reviewed on site today. Note: En-suite doors swings resolved post meeting on 20/11/17 - DCN rooms to be reviewed 28/11/17 - DH to feed back any comments				x		
		Some ensuite doors open onto the toilet	Board	Raised in Monday morning meeting 23/10/17 and in discussions with Project Co to resolve.				x		
		Movement joint proposed solutions not being actioned on site and Board has not reviewed what has been constructed	Board	Raised at Monday morning meeting 23/10/17 and PMG						
		Metal grills to Recovery bays / Anaesthetic rooms in Theatres have a small square finish. This will be difficult to clean.	Board	AE to review specification. Raised at Monday Morning Meeting 23/10/17. AE to review specification - MPX currently requesting a change			x			
		Why have IPS units been installed in the prep room?	Board	Raised in Monday morning meeting 23/10/17 and in discussions with Project Co to resolve. AE to check with M&E team why 100% IPS sockets have been installed.				x		
		Outstanding query whether panic alarm pulls are upside down.	Board	Raised in Monday morning meeting 23/10/17 and in discussions with Project Co to resolve.			x			
		Sloping Tops to be added to CDC's.	Board	Sloping tops will be added						
		Still to be installed: ➤ Shelf in en-suites ➤ Shaver sockets. ➤ Toilet backrests. ➤ Bed bump rails.	Board	Raised at Monday morning meeting 06/11/17 and PMG						
		Back plates to Gel dispensers.	Board	Raised at Monday morning meeting 06/11/17 and PMG						
		Infection control concerns re on site newly installed wc's being used by the workforce. AE/SJ to use all efforts to stop this action. - Board have also now found plastic bottles of fluid behind an IPS panel, which had been removed.	Board	Raised at Monday morning meeting 06/11/17 and PMG: AE/SJ to use all efforts to stop this action. MPX to lock down areas wherever possible.	x					
		Nurse Call Pulls being installed in visitors wc's (Example C1.1-070)	Board	Raised in Monday morning meeting 20/11/17 - AE to stop this happening				x		
		Curtain tracking and ceiling hoise clashes	Board	Raised in Monday morning meeting 20/11/17 - To be reviewed on site on a room by room basis.			x	x	x	
		Corridor service doors - installed pull handles are not acceptable as advised by the board 30/01/17 MM-GC-002483	Board	Raised in Monday morning meeting 20/11/17 - LES reviewing		x				
		Children's Parents beds: Infills to be installed. MPX awaiting materials.	Board	Raised in Monday morning meeting 28/11/17 - MPX awaiting materials.						x







	Air pressure stabiliser within casing. Confirmation on cleaning requirements required.	Board	Raised in M+E visits						
	Theatre entrance from anaesthetic room, no air pressure stabiliser or transfer grille apparent.	Board	Raised in M+E visits			x	x		
	Core from theatre ceiling to plant room above for cable way, not good practice with potential for spillages in plant room to contaminate theatre suite.	Board	Raised in M+E visits			x			
	Planting and vegetation around air intake louvres should be removed to comply with SHTM 03-01 p1.42.	Board	Raised in M+E visits		x				
	Dead leg in water supply to helipad fire fighting system with no apparent backflow prevention device.	Board	Raised in M+E visits		x				x
	2nd floor plant room: Duct configuration does not appear to leave sufficient space for two quench pipes	Board	Raised in M+E visits				x		
	IPS cabinets G & H located adjacent to drainage access point Permanent labelling detailing the areas served to be fitted IPS cabling not terminated No evidence of IPS CPC / bonding conductors at the IPS cabinets Electrical Supply to IPS cabinets not installed	Board	Raised in M+E visits			x			x
	No evidence of IPS circuit bonding conductors at the IPS cabinets. The Main Bonding conductor between the IPS & the ERB is present.	Board	Raised in M+E visits		x				x
	Cardboard used to protect cables against edge of containment. Fire alarm cabling appears to be installed with IT cabling / on IT basket. Fire alarm cable fixings incorrect type used.	Board	Raised in M+E visits			x			
	Theatre recovery: No evidence of nurse call, medical gas or IPS alarm panels, despite the apparent completion of this area.	Board	Raised in M+E visits						x
	Theatre Corridor: No line valves are provided at major branches in distribution network No evidence of cross bonding between medical gas pipework & local electrical containment.	Board	Raised in M+E visits			x			
	Radiology: Door frame packed out in door opening, not in accordance within manufacturer's limits to maintain fire resistance of doorset.	Board	Raised in M+E visits		x				
	UPS output Switchboard 2 Switchboard is supposedly a Form 4 type 6 board. Schneider state that to achieve Form 4 type 2 or 6 that the incoming devices should be 4 poles. The incoming devices are three poles with un switched neutral.	Board	Raised in M+E Report WK 43		x				
	Incoming Supply to UPS Switchboard 2 not installed.	Board	Raised in M+E Report WK 43						x
	UPS Plantroom unlocked, live electrical supplies,	Board	Raised in M+E Report WK 43	x					
	Switchgear has not been protected when carrying out coring of slab above. Busbar end Termination box & rising bus bar require to be cleaned & checked.	Board	Raised in M+E Report WK 43			x			
	Section Board A1/B located at substation 2 end of building served by pair of 4c 185 mm2 cables from substation 1A & 1B. Appears to be an excessive cable size for load supplied.	Board	Raised in M+E Report WK 43					x	
	Rainwater Plantroom Floor wet, approx. 25mm deep.	Board	Raised in M+E Report WK 43			x			
	Incoming gas main, no electrical earth bonding present in Rainwater Plant Room	Board	Raised in M+E Report WK 43	x					
	Fire alarm cable not supported in Rainwater Plantroom	Board	Raised in M+E Report WK 43			x			x
	Open trunking lid with energised distribution board in theatres	Board	Raised in M+E Report WK 43	x					
	Difficult access to dry riser valve in theatre	Board	Raised in M+E Report WK 43			x			
	Smoke Detector installed in theatres is too close to wall. Heat and smoke detectors should not be mounted within 500 mm of any walls/partitions	Board	Raised in M+E Report WK 43		x				
	Warning light for X ray & Laser - Confirm what sockets are provided for the X ray socket & Laser. Confirm if door interlock provided when Laser in use.	Board	Raised in M+E Report WK 43						
	Insufficient quantity of bonding points provided. Minimum of 4 per patient location required in Group 2 area.	Board	Raised in M+E Report WK 43		x				
	There are 4 x waterproof sockets in the IPS panel, however, ordinary double sockets have been installed below	Board	Raised in M+E Report WK 43			x			
	Confirm if light switches in CAMHS are to be same finish as sockets i.e. brushed metal finish with tamperproof screws. If so this installation is incorrect.	Board	Raised in M+E Report WK 43		x				
	In CAMHS there is a clash between ventilation ductwork and electrical tray	Board	Raised in M+E Report WK 43			x			
	Medical gas outlets not labelled circuit A or B despite we understand that this area has been tested. IPS sockets not coloured blue on bedhead. There should be a minimum of 4 no supplementary earthing points provided per patient location.	Board	Raised in M+E visits		x				

		Basement HV Plant Room Lobby This area has been classified as HV. This lobby has an LV section board and should be designated LV and the inner doors to the HV areas should be the HV areas.	Board	Raised in M+E visits							
	G-X1-002 – Plant room 2	Generator room, no apparent light switches and no lighting shown on drawing ME-Z5-00-PL-541-001 Rev B.	Board	Raised in M+E Report WK 44						x	x
	G-X1-001 – Plant room 1	Very poor housekeeping with toxic liquid containers. Risk of leakage or spillage.	Board	Raised in M+E Report WK 44	x						x
	G-X1-001 – Plant room 1	IT Node cabinet located in boiler plant room with no plinth or bund. This will increase the risk of damage if flooding occurs. Dust and heat from boiler plant will have detrimental effect on lifecycle of this equipment. Shown on drawing as wall mounted.	Board	Raised in M+E Report WK 44						x	
	G-COR-011 - Corridor	Corrosive liquids stored in un-bundled containers. Any spillage would be contained in a bund.	Board	Raised in M+E Report WK 44 - MPX manager advised onsite	x						
	2-PLANT-003 – Theatre plant room 02	Area previously reported to be reconfigured to make space available for MRI quench pipes, has now been fire stopped before reconfiguration work carried out.	Board	Raised in M+E Report WK 44						x	x
	2-PLANT-003 – Theatre plant room 02	During site walkthrough, drainage pipework incurs movement as water flows. Possible source of future leaks.	Board	Raised in M+E Report WK 44						x	
	2-PLANT-003 – Theatre plant room 02	Duplex AGSS pumps appear to be duty pump manual changeover instead of automatic. If automatic would allow lead pump changeover when not in use.	Board	Raised in M+E Report WK 44						x	
	2-PLANT-003 – Theatre plant room 02	UPS distribution panel not sufficiently supported. Top bolts seen to be missing	Board	Raised in M+E Report WK 44							x
	2-PLANT-003 – Theatre plant room 02	Double stacked AHU with light switch on upper unit, out of reach without access equipment.	Board	Raised in M+E Report WK 44						x	
	G-COR-001 - Atrium	Example of access equipment required for maintenance work in Atrium. Future maintenance work will be a health & safety concern.	Board	Raised in M+E Report WK 44	x						
	1-H2-029 - Corridor	Damaged power supply wiring to temporary supply units. Test label indicates last test carried out 15th May 2016.	Board	Raised in M+E Report WK 45	x						
	4-H1-034 – Switch Cupboard	Poorly fitted trunking lids, missing trunking lid	Board	Raised in M+E Report WK 45 - project progression - no action							x
	4-plant-002 – Central AHU plant room 2	Un-used distribution cabinet located within riser.	Board	Raised in M+E Report WK 45							x
	4-RF-008 – External Plant 02	Helipad ramp now includes lighting however HBN 15-03 recommends that the luminaire should be installed no higher than 25 cm from the bottom of the ramp and pointing down toward ramp. Calculations have not been submitted for lighting levels to cannot ascertain if this complies with relevant standards.	Board	Raised in M+E Report WK 45	x					x	
	4-RF-008 – External Plant 02	Cable route to chillers from inside the building now have wired but still causing a potential route for water ingress as water will run down sheath of cables (Top photo: Week 41 Report. Bottom photo: Current). Current protective covering is not tied down and could open with high winds.	Board	Raised in M+E Report WK 45							x
	4-PLANT-001 – Central AHU Plant Room 01.	Control panels are placed in reduced access areas. This should be designed in conjunction SHTM 00 – Best Practice for Healthcare Engineering – Chapter 9 Engineering services. Checks should be made to make sure this area aligns with Access and Maintenance strategy. Access to isolating switches poor, permanent labelling to be fitted.	Board	Raised in M+E Report WK 45						x	x
	4-PLANT-001 – Central AHU Plant Room 01.	No evidence for equipotential bonding within the plant room which does not comply with BS 7671. Access to isolating switches & control panels should be installed / designed in line with SHTM 00 – Best Practice for Healthcare Engineering – Chapter 9 Engineering services. Checks should be made to make sure this area aligns with Access and Maintenance strategy. Permanent labelling to be fitted.	Board	Raised in M+E Report WK 45	x						x
	4-R1-013 – 1:1 Room	Damaged power supply wiring out of temporary supply units while being used. Should be removed from site.	Board	Raised in M+E Report WK 45	x						
	3-C1.8-015 – Treatment Room (Surgical short stay)	Gap between trunking and wall surface. Could cause potential problems in regards to HAI-SCRIBE and should be monitored to see if works progress.	Board	Raised in M+E Report WK 45 - not immediate H&S risk	x						
	3-CORE-008A - Switch cupboard	Lift and changeover control panels located in reduced access spaces. This should be designed in conjunction SHTM 00 – Best Practice for Healthcare Engineering – Chapter 9 Engineering services. Checks should be made to make sure this area aligns with Access and Maintenance strategy. Permanent labelling to be fitted.	Board	Raised in M+E Report WK 45	x						x
	3-COR-015 – Lift Lobby	Pipework valves located at high level above plasterboard ceiling. This raises concerns of access and maintenance when fully finished. No evidence of cross bonding of pipework services (incl. medical Gas) & containment.	Board	Raised in M+E Report WK 45						x	x
	External Service Strip	Water meter has been fitted but there is no evidence of housing being built to protect water meter and valves. Allowances should be made to protect against frost.	Board	Raised in M+E Report WK 47							x
	External	Temporary building supply into the building. Fire mains is no longer in use within the building which may indicate water mains have been connected.	Board	Raised in M+E Report WK 47							x





		The IT understands that the wrong fitting was installed on some internal drainage connections through slabs resulting in connections being made in the thickness of the slab and that discussions regarding a warranty from the installers in respect of joints in the slab were being discussed between Multiplex and the suppliers. The IT	IT	TBC						
		The IT noted the window installation on the curved end of the Blue Zone, has a poor cill drip detail, due to the curvature of the wall, which could lead to rain water tracking back under the cill.	IT	TBC						
		The IT identified significant random cracking to the lightweight screed covering the under floor heating in the Blue zone atrium. Whilst some of the cracking appears to follow construction joints the IT is concerned that others follow a random path. Details of making good the item is requested from Multiplex.	IT	TBC						
		The IT has raised concerns regarding the alignment of duct connections to AHUs particular in the main 2nd floor plant room. The angle of transformation is steeper than that recommended by CIBSE and the IT is concerned that to obtain the correct air volumes against the resistance imposed by these transformation pieces noise could be generated that in turn will be noticeable in clinical areas.	IT	Noise issues to be monitored by IT during commissioning						
		During the witnessing of fire alarm panel test on 9th August, we found the current location of the fire alarm panel is inside a cupboard together with the electric distribution board (400V) which is non-compliant. The fire alarm panel needs to be located in an accessible and safe location and in accordance with section 2 of BS 5839-1:2013	IT	TBC						
		The positioning of electrical distribution boards and other equipment within riser cupboards does not allow for doors to be opened through 90o in some cases and in others will require any person working on the equipment to reach into the riser cupboard due to the position and height of the partition below the access doors. The revision of the access arrangements and locations of these items is being actively reviewed by Multiplex however further examples were identified during July.	IT	TBC						
		There is insufficient room to access the lighting control panels, mounted on the return partition wall, from inside the riser cupboards. The revision of the access arrangements and locations of these items is being actively reviewed by Multiplex.	IT	TBC						



## Non exhaustive list of Potential Non Compliances

The list below is a non exhaustive list of Potential Non-compliances still to be fully investigated.

Item	Title	Issue	RAG	Action	MPX response
1	Lighting in Fire Fighting Stairwells	The lighting within the 7 fire fighting shafts / stairwells and associated lobby has been installed with single circuit from the local lighting distribution boards that are not supplied by the fire rated cables.  The Board believes all fire fighting stairwells should be supported by a primary and secondary fire rated power supplies from dedicated distribution boards and automatic changeover for dual fire rated supplies.		Action with IT/MPX	Position: NHSL have responded to Arcadis IT.  Current Action(s): Arcadis to provide feedback and guidance back to NHSL (MPX).  Close Out Date: 28th Feb (dependent on outcome) Outstanding from Arcadis – No Movement for 2 weeks.
2	Non Fire Rated IPS / UPS cabling	For compliance with BS 7671 and Guidance Note 7, and also BS 8519 circuits associated with essential life-support services should be either fire-rated or fire-protected. The implication of this is, in the event of a fire, power may be lost to essential life safety medical equipment in critical areas.  Current Project Co's design consist of non fire rated cables to IPS bards serving critical areas.		Action with MPX/MER	Position: MERCURY INSTRUCTED  Current Action(s): MERCURY reviewing data. Scope meeting held today to close out any outstanding info. Site Start within 2 weeks.
3	No earth bonding in certain required areas.	No equipotential bonding has been installed 144 Group 1&2 rooms. Equipotential bonding is required to prevent electric shock to patients, staff and visitors.  A sample room has been offered by Project Co to the Board for witnessing indicating installation of equipotential bonding boxes. The Board understands this will now be installed in all 144 Group 1&2 rooms.		Project Co have installed the equipotential bonding boxes. (Closed) - Board to review on site	Position: WORKS ONGOING (MER COST)  Current Action(s): Mercury confirmed works will be completed by end of March.
4	Bedroom ventilation pressure regime and air change rate in rooms for neutropenic patients	Neutropenic Patients - As per SHTM and Clinical Specs, the rooms for neutropenic patients should be designed as isolation rooms (+10 positive pressure). However, there are 10 single rooms which Project Co have designed to balanced pressure.		with MPX to review compliance argument	Position: NHSL believe all single bedrooms should be able to cater for Neutropenic patients. MPX believe the department design meets the brief.  Current Action(s): NHSL replied on 08 March 2018 15:19. MPX collating response.  Close Out Date: Date 28th March (await Tuv-Sud to formulate response / HLM received)
5	25% spare capacity	The 25% spare capacity should be provided by Project Co in terms of main and sub main distribution containment, UPS boards, AHU, physical space in voids and ceilings, risers.  Its apparent from site visits, the spare capacity has not been provided.		Action with MPX/WW - report to be submitted	Position: NHSL believe there is insufficient spare capacity within building services.  Current Action(s): Walkround held on 8th March with NHSL. Agreed list of comments for MPX to review.  MPX providing evidence per NHS request from walk round.  Close Out Date: Friday 23rd March 2018 for MPX response. MPX currently collating evidence, from walkround the work scope to cover was more than anticipated. Target date for release 30th March 2018.
6	HV distribution	In relation to system resilience, the Board believes Project Co's design for HV Distribution is non-compliant with the Board's Construction Requirements (BCR's), Project Co Proposal's (PCP's) and SHTM Guidance for the following elements: 1. Resilience of the HV main intake switch room, 2. HV cable distribution, 3. HV / LV substations.  The Board believes the design currently creates single points of failure at the HV side of the electrical distribution network.  The Board understands Project Co are working on a revised design.		Work in progress action with MPX and Board.	Position: Energy Centre Technical Element Closed. Basement NHSL have raised issue with IT.  Current Action(s): Await IT to provide clarification on compliance. Verbally received confirmation there are no more comments. MPX have minuted (PMG held on 8th March 2018) to IHSL regarding the considerable timescale it has taken Arcadis (John Edwards) to respond to MPX regarding compliance confirmation. It was highlighted this response is critical to progress works forward. We understand the NHSL have given John Edwards additional information for his consideration which may be the reason for the delayed response. No movement made in 2 weeks.  MPX have instructed Mercury to proceed with the works we are aware of (DSSR report).
7	4 bed ventilation	In relation to ventilation pressure regimes, the Board believes Project Co's design for ventilation is non-compliant with the Board's Construction Requirements (BCR's), Project Co Proposal's (PCP's), SHTM Guidance and RDD FC comments.  In addition, the Board believe the intake air change rate and the extract air change rate are non-compliant.  From a clinical perspective, the principal concern to the Board in continuing with Project Co's proposed pressure regime design means there is an unacceptable risk of the spread of bacterial airborne infections into corridors and surrounding patient rooms (positive to the corridor)  The Board requires the pressure regime to be balanced or negative to the corridor.		Board waiting for response from Project Co	Close Out Date: Tuesday 27th February 2018 (Outstanding from IT) Position: MPX have QC opinion on contractual position. Subject to further discussion next week. NHS have changed their position on what is acceptable and reverted to all 20 rooms at 4 AC/H. This will have major consequences.  Current Action(s): subject of further letter and discussion by the parties.  Close Out Date: 2nd March 2018 (Dependent on Outcome)
8	Bedhead trunking earth bonding points	All bedhead trunking installed in Group 2 Medical Locations is provided with only 2 supplementary equipotential bonding points. This is not in compliance with GN7, which requires minimum 4 for medical IT sockets (IPS sockets).		Tied to item 12	Position: MERCURY PROGRESSING WORKS  Current Action(s): MER progressing with agreed solution.
9	Lack of non IPS sockets in theatres	All sockets outlets within these departments except for Cleaners outlets and a limited number of "raw power" sockets in some areas, are Medical Equipment blue sockets. No provision has been made for equipment that should be plugged into an RCB protected outlet whilst in the patient zone.  Also, no x ray sockets (dedicated socket).		Work in progress action with MPX	Position: MERCURY BEING INSTRUCTED  Current Action(s): MERCURY reviewing data. Scope meeting held today to close out any outstanding info. Site Start within 2 weeks.
10	Drainage above IPS rooms / above IPS panels	PCo have installed drainage above exclusion zones, electrical equipment and other high risk locations except above MRI rooms where this has been completely removed.		MPX actions (make note of three points)	Position: MERCURY BEING INSTRUCTED  Current Action(s): MERCURY reviewing data. Scope meeting held today to close out any outstanding info.
11	Cable discrimination and cable calculations (electrical issue)	Project Co has not submitted cable calculations through RDD for Board's review. This is required as per 4.23.2 (Mechanical & Electrical Specification) Project Co Proposal. The Concern is that the selection, grouping, rating and fault levels of cables is inappropriate and non-compliant with BS 7671.  As evidenced on site, there are several instances of cables being double and triple banked, as well as being grouped tightly together.		Calculations issued, under review	Current Action(s): Tuv-Sud preparing schedule of calculations due no later than 16th March 2018. Schedule received from Tuv-Sud on 16th March, MPX have sent back with comments as level of information insufficient.  Tuv-Sud confirmed this would be available 23rd March for distribution to NHSL once re checked. Prior to this we have sat with the NHSL and reviewed various output data and factors which have been Tuv-Sud to review. Close Out Date: 23rd March
12	Lack of tamper proof flush fitted sockets in CAMHs	Sockets not installed as per small power layout drawings. i.e. flush fitted tamper proof sockets.		Closed - Board issuing change for areas not previously requested	Position: NHSL require metal clad sockets in CAHMS rooms.  Current Action(s): MPX to complete sample room for sign off. NHSL to raise BOARD CHANGE for items as discussed at CAHMS workshop (i.e. trunking to be removed, data to be removed, nurse call to be removed, etc)  Close Out Date: Sample room to be ready by 23rd March 2018 (Await deliver of blank plates)
13	Single Bedroom Ventilation air changes	Air change rates proposed by Project Co for single bedrooms are not in compliance with SHTM 03-01 and Board's comments. 4ac/h supply provided to the bedrooms instead of the required 6ac/h. The ensuite extract rate proposed in excess of 10ac/h where requirements of SHTM 03-01 is 3ac/h.		Project Co Change	Position: NHSL have rejected change. Albeit it was discussed and agreed in principle at mediation.  Current Action(s): Board to confirm position on this change and whether fundamentally it will or will not accept 4 air changes per hour in the single bedroom.  MPX reviewing its position on resubmitting the change or withdrawing.
14	Smoke clearance in fire fighting stairwells	As per the Non Domestic Technical Handbook and project specific Fire Strategy, all fire fighting stairwells shall be provided with appropriate ventilation for heat and smoke control. Currently only a percentage of stairwells appear to have openings for high level ventilator. No details of electrical connections including fire rated cables for fire fighting plant as per BS 8519.		Action with MPX	Position: NHSL have provided comments back to MPX for review.  Current Action(s): MPX currently reviewed. Issue plan to board & IT Close Out Date: Friday 23rd March
15	access hatches	Proliferation of Access hatches have been installed within theatre suites which is non-compliant with BCR clause 8.14 Service Routes and "Good Industry Practice".		Board to query	Position: LINEAR PROGRESSING WORKS  Current Action(s): Works ongoing onsite.
<b>AL ITEMS RAISED BY THE BOARD (Detail provided by the Board on 31 Jan 18 - minus Principals meeting items).</b>					MPX response comment up to 06.02.17 (Text in italics is commentary received from NHSL)
16	Reductions to ceiling heights	In addition to the Project Co Change 016 (Basement Ceiling Heights), further Height reduction in basement areas/service yard appear to have been reduced 2100 without the agreement of the Board.		Item currently closed	Board confirmed no further comment 31.01.2018
17	Duct Cleaning	Duct cleaning - SHTM states all ducts must be cleaned unless they have been protected. MPX not proposing to clean all ducts as believe they have sufficiently protected the ducts following installation. IT advised MPX will have to do a check to confirm ducts aren't dirty		Action with MPX to evidence clean ducts on site	MPX current providing confirmation of compliance. No change anticipated.
18	Number of lift stops	Number of lift stops - BCR 8.8.11 - "RHSC Lifts should not stop at DCN floors, and DCN lifts should not stop at RHSC floors". Board in agreement with the Project Co change, however change required to clarify.		Bed lift Change to be submitted	Bed lift change submitted
19	Helipad fire fighting system (Water Pressure)	Helipad fire fighting system does not comply with the guidance of HBN 15-03 Hospital Helipads clause 5.22. There does not appear to be a pressurised main supply, nor is there a system of inert gas to pressurise the system.		Action with MPX to respond	Under review Helipad fire fighting system does not appear to comply with the guidance of HBN 15-03 Hospital Helipads clause 5.22. There does not appear to be a pressurised main supply, nor is there a system of inert gas to pressurise the system.



20	Vegetation around air intakes in Neuroscience Courtyard	Landscape design around intake vents in Neuroscience Courtyard is potential non-compliant with SHTM 03-01 which states:  Air Intake 1.42 An uncontaminated air supply to the system is essential. In order to achieve this, the air intake will be positioned so that air discharged from extract systems or other dubious sources cannot be drawn in. Exhaust fumes from vehicles can present particular problems. The area surrounding the intake will need to be kept clean and free of vegetation and waste material in order to reduce the possibility of biohazards or fire. The intake itself will be protected by a louvre and mesh screen to prevent rainwater, vermin and insects etc from entering the system.		Closed - move to compromise list	This has been resolved with NHSL, CCP 053 covers.
21	"Do not use" labels removed from Medical Gas Outlets before commissioning.	Medical gas outlet "Do Not Use" labels removed before commissioning, non compliance with SHTM02-01.		Closed	This is being rectified, no change is required.
22	Isolation Room supply ventilation relative to low building.	Isolation room ventilation is non-compliant for a 'low' building. There should be a separate supply and a contractors change will be needed.		Action with IT	No change anticipated.
23	Drainage joints in slabs	Drainage outlets - Drainage joints have been installed in the slab between floors with no access for maintenance or repair. This means there is no manufacturer warranty for the drainage connection.		MPX rectified - Action with IT to confirm	This is being rectified, no change is required.
24	Fire Collar installation	Fire collars for drainage are not directly connected to the slab+C19		Action with IT	more information required Update required by the Independent Tester. The Board understands the fire collars for drainage are not directly connected to the concrete slab.
25	Level and position of smoke detectors	Smoke detectors mounted at low levels above the ceiling i.e. not installed at the heights specified for void detectors		Rectified by MPX - with MPX/BYES	This is being rectified, no change is required.
26	Ventilation in IPS	ventilation in IPS - PCo have shown 3ac/h extract ventilation in the EM but not all - Potential heat gain issue.		there is evidence this has been actioned on site. MPX to confirm	This is being rectified, no change is required.
27	Hot and Cold water supply pipe configuration	Hot and cold water supply pipes are crossed behind the sink in some rooms and in some instances the cold pipe is above the hot water pipe or touching the pipe meaning the will be heat transferred to the cold water supply. Not best practice and non compliance with SHTM 04-01		Action with IT	design is compliant. No change anticipated.
28	Windows/Partition in 1-B1-055	The GA and C sheet illustrates a 3 panel window however, in construction one panel appears to be 'false' with a partition behind it. From the inside it appears to be only 2 windows.		Closed and moved to compromise list.	Board confirmed no further comment 31.01.2018
29	Mounting heights for clinical lights	The heights clinical lights have been mounted at cause and obstruction		Closed	This is being rectified, no change is required.
30	Lightning Protection	Potentially deviated from design agreed with Consort		Expected to revert to original design - to be confirmed during commissioning	No change currently anticipated, currently being discussed with project teams.
31	Gas supply to bedhead trunking	Supply has not been installed on site as per Board comments during RDD process.		Closed - move to compromise list	Board confirmed no further comment 31.01.2018
32	Concealed ceiling grids	Ceiling Grids are not concealed and not constructed in line with RDD drawings		Check Project Co Change 033	CCP 033.
33	Soft Landscaping planting specification	Planting on site not as per planting schedule. i.e. Clematis appears to be climbing but should be bush/ground variety		MPX to confirm - Board to arrange further review that includes the courtyards	Under Review PMCGPlanting on site not as per planting schedule. e.g. clematis appears to be climbing but should be bush/ground variety.
34	Wrong terminators fitted in warning lights	Warning Lights: - Terminal strip connector in theatres to be removed and correct terminations provided, all warning light boxes. - light box deformed where glanded		Closed - raised on zutec	Installation is compliant
35	No evidence of IPS circuit bonding conductors	No evidence of IPS circuit bonding conductors at the IPS cabinets. The Main Bonding conductor between the IPS & the ERB is present.		Work in progress	Board confirmed no further comment 31.01.2018
36	Fire resistance of radiology door frame	Radiology: Door frame packed out in door opening, not in accordance with manufacturer's limits to maintain fire resistance of doorset.		Closed	Board confirmed no further comment 31.01.2018
37	UPS output switchboard with incorrect poles	UPS output Switchboard 2 Switchboard is supposedly a Form 4 type 6 board. Schneider state that to achieve Form 4 type 2 or 6 that the incoming devices should be 4 poles. The incoming devices are three poles with un switched neutral.		MPX to confirm	Currently being reviewed. UPS output Switchboard 2 is a Form 4 type 6 board. Schneider state that to achieve Form 4 type 2 or 6 that the incoming devices should be 4 poles but the incoming devices are 3 poles with un switched neutral.
38	Corridor service door handles	Corridor service doors - installed pull handles are not acceptable as advised by the board 30/01/17 (MM-GC-002483) during room review (corners of handles at childrens head height)		Rectified - closed	Board confirmed no further comment 31.01.2018
39	Outstanding Status C RDD	Numerous outstanding RDD		Ongoing with Project Co to resubmit for Board review	Why does this require a change? It needs to achieve A or B status.
40	Remaining Permanent Infrastructure outside the red line boundary (CCTV etc)	Still waiting for legal agreement for infrastructure outside the site boundary.		SA1 to be agreed	Project Co do not have a legal agreement to install the permanent infrastructure outside red line. Until this is obtained, Project Co are unable to provide compliant design as per Financial Close position.
41	Seasonal Commissioning	Potential for some seasonal commissioning tests to be complete post hand over.		Project Co Change	CCP049
42	Environmental Matrix	EM reflects M&E issues currently considered non compliant		ongoing	See Item A above.
43	Routing of services. Corridor layouts against any non compliance with standards to be tabled.	services are currently running through clinical areas that were not included within the original Project Co derogation.		Project Co Change 055 - Do MPX need to update change to include all services	See Item N above.
44	Nurse call in WC	There is evidence from the site (room C1.1-070) that nurse call pull cords have been installed in some visitor's WCs. However no nurse call should be installed in visitor's WCs.		MPX to undertake survey of visitor WC's - ongoing	Compliance. Change required from Board to deviate. There is evidence from the site (room C1.1-070) that nurse call pull cords have been installed in some visitor's WCs. However no nurse call should be installed in visitor's WCs.
45	Unidentified Circuits	Electrical circuits are not identified or labelled at terminal rail inside trunking. Consequently, there is no way to identify which cables enter and leave the circuit terminal strips.		TBC on site	Under Review Electrical circuits are not identified or labelled at terminal rail inside trunking. Consequently, there is no way to identify which cables enter and leave the circuit terminal strips.
47	Fire alarm cable bands	Cable bands for fire alarms are plastic rather than metal. Metal ties are required by BS and are proposed by Project Co M&E specifications (4.23.3 of Section 4 of Schedule Part 6).		Action with MPX	being rectified. Cable bands for fire alarms are plastic rather than metal. Metal ties are required by BS and are proposed by Project Co M&E specifications (4.23.3 of Section 4 of Schedule Part 6).
48	IPS units earthbar termination - 1-B1-044 - IPS Room				Under review. Currently some of the IPSs show the inside of an IPS unit. Earth bar at the top of the unit is empty. CPCs from IPS circuits should be terminating at this bar.
49	IPS sockets supplying non medical equipment	IPS socket found on site providing power for the television, scale of the issue still to be determined.		Closed	IPS socket found on site providing power for the television, scale of the issue still to be determined.
46	Interleaved circuits	As per SHTM 06-01 and note 7 on design drawings, all sockets including pendants supplies, for Cat 3, 4 and 5 should be interleaved. However, the evidence from site suggests this has not been installed.		Tied to IPS/UPS - discussions ongoing	As per SHTM 06-01 and note 7 on design drawings, all sockets including pendants supplies, for Cat 3, 4 and 5 should be interleaved. However, the evidence from site suggests this has not been installed.
<b>SED BY THE BOARD THROUGH THE REVIEW PROCEDURE</b>					
50	Access and Maintenance Strategy	Access and Maintenance Strategy - lack of clear access and maintenance strategy submitted to date. Recent RDD submission currently being reviewed by the Board.		Action with MPX	
51	Lux levels in clean utilities	Lux levels in clean utilities rooms. Currently LG2 150 lux but this is not sufficient. There is a potential this is compliant but not practical. Lighting Guide 2 suggests 150 hence it meets requirements. Suggest remove from this list.		Board to check the light levels	
52	Fire stopping	Fire stopping has been carried out but subsequent installation had breached fire stopping. Do we have any examples? It might have been caused by installation of other services once the fire stopping was formed. Nothing wrong with that assuming the fire stopping will be reinstated.		subject to building control and IT	
53	Egg crate Grilles in clinical areas	Egg box grid is not suitable for cleaning. Although compliant the Board do not believe suitable. A sample of the grid was not issued through the review procedure.		Review undertaken with MPX - Board anticipate this to be changed.	
54	Curtain track and ciling Hoist clashes	Hoists and curtain tracks clash and will need to be reviewed on a room by room basis.		MPX to resolve	
55	Wrong room configurations	G-Q1-074 not constructed in line with C-Sheet (wrong sequence for data points and socket outlets)		Closed - raise on Zutec	
56	Helipad Ramp Lights	Helipad ramp now includes lighting however HBN 15-03 recommends that the luminaire should be lower than 25 cm and pointing down toward ramp. Calculations have not been submitted for lighting levels to cannot ascertain if this complies with relevant standards.		Comment to be raised with IT	
57	Reduced access to electrical panels	Electrical panels are placed in reduced access areas. This should be designed in conjunction SHTM 00 - Best Practice for Healthcare Engineering - Chapter 9 Engineering services. Checks should be made to make sure this area aligns with Access and Maintenance strategy. Access to isolating switches poor, permanent labelling to be fitted. (4-PLANT-001 - Central AHU Plant Room 01, 3-CORE-008A - Switch cupboard)		Action with MPX	
58	Lighting in Service yard	Lighting levels within service yard have been designed at an average of 23 lux levels (i.e. the level required for a car park as per SLL Lighting Guide)		Action with MPX	
59	Lighting in B-COR-014	L14 luminaires are missing in the corridor. There is general concern that this corridor is not being constructed as per design including ceiling and door height, lighting and door access.		Action with MPX	
60	3-T2-018: QP - Riser door missing	Riser wall should have a door to access pipework.		Action with MPX	
61	Provision of 360o CCTV Coverage	As illustrated in external CCTV drawing (ME-EW-XX-PL-571-001 Rev D) there are gaps within CCTV coverage on approach to the NW elevation of the Facility. Non Compliant with BCR Clause 7.6 (n) (Hard Landscaping).		Closed	
62	Hazard classification and fire stopping in MRI suits	MRI Suits currently non functional as hazard classification in fire strategy prevents MRI equipment penetrating the 30min fire partition as they can not be fire stopped.		Discussions ongoing with WSP - Board to provide information - still outstanding issue as to who changes fire strategy	
63	Entrance to Service Yard for Large Vehicles	As witnessed at the trail on 17th Feb 2018, due to the location of the barrier, large vehicles extend into the blue light route (by Approximately 3ft) when waiting for access through the barrier.		Action with ARUP	
64	Quench Pipe Route	Project Co have not left a clear route for the quench pipes to run.		Survey to be carried out, date TBC	
65	CAMHS/PICU Glazing/DCN Acute	Project Co have not effectively designed glazing in PICU and CAMHS and DCN Acute to allow for adequate patient privacy from public spaces. As per Clinical Output Specifications and BCR Clauses 2.2/3.2.1/3.5.2/3.5.4/3.5.6/5.12/5.16.2			
66	Design Note 5 - void detection				
67	Ventilation extract for Sump and basement sump issues				
68	Security for CAHMS courtyards	Fencing currently not sufficient to prevent access to the CAHMS courtyards			
69	Service Yard Gate	MPX unable to demonstrate that the automatic gate will work and if induction loop will cause an obstruction			
70	ED Drugs store ventilation				
71	Movement Joint outstanding action				
72	Heating pumps pressure	Issue with heating pumps pressure to distribute hot water around the Facility			
73	Fridge Spaces	spaces for fridges mid unit are too small for the equipment		Asbuilt surveys need to be completed	
74	Incline in L2				
75	Row of work benches too close together - D6 first floor				
76	Pot wash ceiling, not correct - should be the same as the high spec ceiling in restaurant				



## Resolved through RDD process

1	Non-fire rated power cables to Evacuation lifts	
2	Non-fire rated Power supplies to Medical Air plant	

## Closed

1	Finish to DCN wardrobes	DCN Adult wardobes curret have white finish. This was sigend off during RDD as timber finish.	CLOSED - PCo are changing the finish
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## Compromise list

The following list details some of the items the Board has had to / is currently considering compromising during the Construction Phase of the project. The impact of the compromise has been split into the following categories:

1. Financial  
2. Operational

Key:   Project Co Change Expected  
  Project Co Change Received

Item	Title	Reason for Compromise	Technical Solution	Description of Compromise	Impact	Consulted	Status
1	Ventilation in Single Bedrooms	Project Co's design is not in line with SHTM guidance in relation to air changes. Currently the only extract is via the ensuite, meaning this is 'dirty extract' which can't be used for heat recovery.	Single bedrooms have reduced air supply rates to maintain correct pressure regime. There is no solution proposed to provide heat recovery from the bedrooms.	Less air supply to the bedroom than recommended by SHTM and increased extract through en-suite which will affect running cost of the Facility. No ability to recover heat from en-suite dirty extract.	Operational	Ronnie Henderson Dorothy Hanley Janice Mackenzie Fiona Halcrow Janette Richards Pota Kalima Haem/onc Clinical Team	Under Review
2	Neutropenic Patients	As per SHTM and Clinical Specs, the rooms for neutropenic patients should be designed as isolation rooms (+10 positive pressure). However, there are 10 single rooms which Project Co have designed to balanced pressure.	No Solution proposed	NHS took a decision to operationally manage the department rather than asking Project Co to change the design.	Operational	Ronnie Henderson Dorothy Hanley Janice Mackenzie Fiona Halcrow Janette Richards Pota Kalima Haem/onc Clinical Team	Under Review
3	Drainage Exclusion Zone	Project Co were unable to divert drainage from certain exclusion zones requested within the BCRs.	1. Some drainage stacks still appear in the rooms. The stacks were boxed out and diverted to adjoining corridor. 2. Some redesign has taken place to divert drainage pipes which has included in some shower trays being fitted in ensuites. 3. Some rooms needed to be redesigned to accommodate drainage requirements. Note some drainage still appears in MRI rooms which has to be removed.	The Board have had to accept the following: 1. Boxed out drainage stacks - Additional pipework (bends, joints etc) potentially create weak points of the pipework where leakage may occur. More onerous maintenance regime required. 2. Shower trays in some ensuites require a different cleaning and maintenance regime. 3. Accepted changes in the layout of a small number of rooms making the layout different from same type of rooms within other department/s. 4. There are some less critical rooms where the drainage could not be re-designed.	Operational	Ronnie Henderson Janice Mackenzie Fiona Halcrow Dorothy Hanley CAMHS Lead	Ongoing review as issues arise
4	Theatre Canopy	Project Co did not provide remote air handling within the design for the canopy leading to an increase in the size of the canopies from what was reviewed by the Board during PG reviews.	No Solution proposed	Increased size of canopy in two of the RHSC theatres has resulted in a change of location of surgeon pendants meaning they are further from operating table, impacting on how theatre teams will work. The Board have also had to compromise the location of the anaesthetic pendants in other theatres and the separate monitor arms in RHSC theatres.	Operational	Patrick Macaulay Ashley Hull Fiona Halcrow All signed off by the Clinicians	Agreed
5	CAMHS intensive nursing suite external area	Project Co's Courtyard design drawings did not illustrate the covered section of the courtyard.	Project Co are currently looking at alternative screens to maximise light coming into the space and extending the size of the courtyard to allow some space that is not covered. The bricks will also be painted. There is no solution for removing the cover.	The intensive nursing suite external area in CAMHS is (unexpectedly) covered, and therefore unsuitable for use by patients without redesign as there is no part of the courtyard open to sky - The Board and Project Co have now reached a compromise and are awaiting an updated drawing and spec to confirm Project Co have proposed a solution to resolve the issue.	Operational	Janice Mackenzie Sorrel Cosens	Under Review
6	No Lift to basement in Core 3	Project Co did not construct lift core 3 to accommodate a lift access to the basement.	There is no alternative solution.	The Board had to accept the lift within core 3 will not serve the basement, however, this compromises the FM routes as it requires DCN beds to be brought down the RHSC lifts or the FM lift and reduces contingencies.	Operational	Brian Currie Jackie Sansbury Jane Campbell	Project Co Change still to be issued
7	Removal of WC (G-Q1-068)	Project Co are having to increase the size of one of the switch cupboards.	MPX request to relocate one of the switch cupboards in the radiology department to WC (G-Q1-068) to support the increase in size of switch cupboard (G-Q1-156) and the resuscitation trolley	To optimise patient safety and operational functionality the Board have agreed for the WC (G-Q1-068) to be removed to accommodate the resuscitation trolley (G-Q1-064). There will be a new arrangement for both the resuscitation and linen bay (G-Q1-063)	Operational	Janice Mackenzie Fiona Halcrow Dorothy Hanley Mike Conroy Radiology Representatives	Project Co Change still to be issued
8	Location of MRI Chillers	Project Co's original design had chillers located outside the red line boundary without legal rights to do so.	The chillers have been relocated to the roof above Department C2.	The pipe run has increased making it more expensive to install and replace and harder to maintain. It will also have an effect on the operation of the chillers by adding extra strain on the system due to the pipework's length, also requiring an additional resilience chiller. After extensive discussion on access, maintenance and replacement the solution has been proposed that includes the use of lifts.	Financial and Operational	Jackie Sansbury Dougie Coull Mike Conroy	Under Review
9	Gauss Lines in IOMRI	Project Co did not consider the Gauss lines in the original design of the room and are currently not contained within the IOMRI room	1. The lobby between MRI and OT had to be created to ensure the extend of gauss lines do not protrude to operating theatre. - suitable access for maintenance for faraday cage door. 2. Some sockets in the anaesthetic room need to be relocated as they are within the fringe field. The room will have to be re-designed, however, the implications of this are still being discussed.	1. The Board will have to change procedures within the area below and above the MRI to 'controlled access'. BYES will need to implement a procedure for this to ensure safety of their staff. 2. It reduces the size of the theatre adjacent to the MRI machine. 3. Currently unknown if the area and room redesign will work.	Operational	Jackie Sansbury Dougie Coull Mike Conroy	Under Review
10	Removal of Sprinklers	Project Co have removed the sprinklers from the Pod and Atrium to allow the proposed ATD design within the Pod to be accommodated.	Project Co's solution is to minimise the allowable fire load in the POD/Atrium area to 2.5MW.	Maximum allowable fire load strategy implemented in the POD restricting the future usage of the public space. Therefore, the Board are compromised in terms of flexible use of the space due to restrictions on the fire load including limitations on the type and size of Christmas tree.	Operational	Clive Armstrong Billie Hamilton Jim Gardner	Under Review
11	Movement Joint	Through lack of coordination between the Architects and Structural Designers, Project Co has designed the movement joint through the key exclusion zones identified in the BCR's.	Project Co are currently working on solutions including moving internal partitions so the joint falls within the partition wall and installing special seals within the clinical areas.	The maintenance and lifecycle implications are still to be confirmed with the Board but it is likely to be more onerous. Therefore, the affected rooms will likely be unavailable more often and will require more intensive cleaning regime	Financial and Operational	Brian Currie Jackie Sansbury Janice Mackenzie Fiona Halcrow Stuart Davidson Jane Campbell Janette Richards Dorothy Hanley	Project Co Change still to be issued
12	New Facility constructed at different level to the existing RIE.	Project Co used incorrect levels when constructing the facility. As a result there is a difference in level between the link building and the existing RIE.	There are 4 locations within the link building and 1 within the RIE there are steps within the floor slab and screed is having to be built up to form slopes to account for the change in level	Not best practise to have slopes within hospital corridors. Potentially more difficult to move trollies around in this area.	Operational	Brian Currie Janice Mackenzie Fiona Halcrow Jane Campbell Jackie Sansbury	Project Co Change Under Review
13	Trolley Area in the Lift lobby in Energy Centre Ground floor	The size of the trolley area was reduced by Project Co, only allowing for 5 trollies (instead of 6)	There is no solution.	The Board need to change operational procedures to account for fewer trollies which will lead to inefficiencies.	Operational	Jane Campbell Stuart Davidson Jackie Sansbury	Agreed
14	Waste Area in Service Yard	Project Co has designed the area in the service yard too small to allow the full facility to use standard clinical bins because of storage space in the service yard	No solution to reduction in size.	The Board have had to change their operational policy for bins that are now smaller, will need emptied more frequently and will need to tip smaller bins into larger. This meant that the Board needed to buy both a bin tipper and bin washer	Operational and Financial	Jane Campbell Stuart Davidson Jackie Sansbury	Agreed
15	Turning circle in Service Yard	Due to the size of the service yard and the additional requirement for a bin washer and tipper, delivery lorries do not have a full turning circle to change direction and must reverse to accommodate delivery unloading.	Delivery vehicles will need to perform reverse manoeuvre with use of a reversing assistant and timed delivery slots.	Designed solution not available, service yard to be tightly managed with software for timed deliveries to be procured and reversing assistants trained and available.	Operational	Jackie Sansbury Jane Campbell Stuart Davidson	Agreed
16	Basement Transformer Replacement	Project Co have located Transformers in the basement which makes it difficult for them to be moved as they can't be taken out via the lifts due to size and weight restrictions.	Project Co's solution includes opening a hole in the concrete slab in the lift lobby	This closes the area in the ground floor and basement area in the energy centre. Therefore the Board will not be able to use this area while the replacement is undertaken. This time period is still to be confirmed. There is no alternative so all deliveries and some FM operations will stop during this period. This has not yet been covered by the access and maintenance strategy.	Operational	Stuart Davidson	Agreed
17	Height reduction in basement areas/service yard	The height within the service yard was meant to be no less than 2400mm, however, there are areas within the service yard and basement Project Co have constructed with a reduced height of 2100mm.	There is no alternative solution.	There will be a negative affect on the atmosphere within the enclosed area of the service yard with a much more enclosed space. There is also restrictions with the movement and handling within the basement.	Operational	Ronnie Henderson Jane Campbell	Under Review
18	Vents in Courtyards (Neuroscience)	Following FC, Project Co introduced vents in some of the courtyards	Project Co are enhancing the landscaping within the affected courtyards	The Board have reduced useable space within the courtyards.	Operational	Sorrel Cosens Janice Mackenzie	Agreed
19	Odours from helipad entering RIE and RHSC clinical areas including theatres.	Project Co had not assessed the effect of helicopter emission during the design of the helipad. Project Co then revised the design and lowered the helipad which may have worsened the situation.	Project Co are still to propose a solution to manage the emissions.	unknown until Project Co confirm their solution.	Operational	Brian Currie Jackie Sansbury Janice Mackenzie Fiona Halcrow Stuart Davidson	Project Co Change still to be issued
20	Foul Pump at Kitchen Door in the basement	Project Co's foul drainage design in the basement locates the pump within the corridor outside the kitchen area. This has the potential to create a uncomfortable odours in an area where food is being prepared and a frequent thoroughfare to those using the basement.	There is no solution proposed by Project Co but design must be HAI scribe compliant.	Maintenance of the pump will close off this section of the corridor and affect FM activities. On a more general note staff will potentially have to work in an uncomfortable odour that again affects the overall atmosphere of the basement working environment.	Operational	Stuart Davidson Jane Campbell	Agreed
21	no concealed grid for ceilings	Project Co changed the ceiling grid and tile specification and installation of same without consultation with Board after original specification has been reviewed as RDD.	In all areas of suspended ceiling with the exception of the kitchen, revised spec with exposed grid and Bio guard Acoustic tiles is being installed.	Board presented with a fait accompli when rooms presented for review. The compromise is an aesthetic issue.	-	Janice Mackenzie Fiona Halcrow	Awaiting Project Co Change
22	Lift Size too small for Angio Installation and Replacement	The lifts within the facility are too small to allow installation and replacement of Angio Equipment	An access door has been constructed in the 1st floor of link building and angio will need craned/raised into position from a platform.	This procedure will cost more and will introduce restriction in the area.	Financial	Stuart Davidson Jackie Sansbury	Agreed
23	Attenuation system under car parks	Project Co have not provided disabled parking signs at the end of each individual disable space as required in the British Standards	No solution as Project Co advise that the attenuation system under the car park stops foundations being constructed at the parking bays and the reference does not meet British Standards.	Against best practice and not consistent across Campus site.	Operational	Jackie Sansbury Stuart Davidson Steven Alderson	Agreed

24	Access to fire dampers	Project Co has located fire dampers in a position obstructed by services making them difficult to access.	Project Co are re-designing access to fire dampers	Due to the location of some fire dampers the access will take considerable amount of time to re-set following annual drop tests or in the event of actual alarm.	Operational	Ronnie Henderson	Project Co Change Under Review
25	Parents Beds	Project Co's original parent bed design did not allow enough circulation space to get to the patient or on the other side of the bed to clean and make up the bed	The bed has been made smaller	The Parent bed may be too small for some parents and therefore they may not be able to sleep comfortably beside their child.	Operational	Janice Mackenzie Fiona Halcrow Dorothy Hanley Jackie Sansbury Jane Campbell RHSC Nursing Team Reps	Agreed
26	Neuroscience Courtyard						
27	Inconsistencies between Design and Construction	The Board are finding a lot of instances where items have been constructed / fitted in the wrong space. For example: 1. BMS control (BMS999) and Cleaner sockets (OUT005s) are not where they are illustrated on the drawings. 2. Cupboard in the wrong place in Sphere 3. In Sphere an observation window was higher than designed.	In order to minimise impact or reworks the Board take a view at the time the issue is raised whether the mistake needs to be corrected by Project Co.	The Board considered that some mistakes could be accommodated with some having no impact and others needing slight changes to operational procedures.	Operational	Janice Mackenzie Fiona Halcrow Dorothy Hanley	Under Review
28	Entrance Matting	Project Co did not provide entrance matting at all doors to external areas however, it is not possible to change the floor slab to incorporate recessed floor mats in all areas.	Project Co have provided several different details including: 1. Fixed but raised matting 2. Locating recessed mats outside 3. Board supplying some mats as group 3 that can be removed when not needed.	The Board are having to provide some mats as group 3.	Operational and Financial	Jackie Sansbury Jane Campbell Stuart Davidson	Agreed
29	Restricted delivery times to service yard	Project Co agreed restricted working times with the Council so deliveries can only be made to the service yard between 7am and 11pm	No Solution	The Board are having to review operational procedures.	Operational and Financial	Jackie sansbury	-
30	Single room and en-suite room door clashes	Door hangings resulted in clashes in a small number of single rooms with ensuites	Double hinged swing door to be installed in the ensuite	When both leafs of the door are required to be open the door will be more cumbersome for staff to use.	Operational	Fiona Halcrow Janice Mackenzie Jackie Sansbury	Agreed
31	Service Yard gate access width	Access to the gate is not wide enough for two vehicles to pass at the same time	No solution proposed as yet.	Management of the service yard would need to be closely monitored to prevent vehicles clashing while entering and exiting the service yard			
32	Service Yard manholes	SW manholes are elevated in the service yard	No solution proposed as yet.	tbc			
33	General x-ray G-Q1-012	An area of the ceiling above G-Q1-012 is extremely congested.	To install the unistrut ceiling in the general x-ray Project Co need to avoid the last 1.05m of the room. This would enable the ceiling height of 3100mm to be maintained throughout this room.	tbc			
34	CLAH Autoclave	The autoclave could not be accommodated in original position	Relocate autoclave in the original position of the whb.	Within the tissue culture store a wash hand basin and associated equipment was removed. Wall moved.	Operational	Fiona Halcrow Jackie Sansbury Paul Fitch (UoE)	
35	Bedhead trunking in RHCYP & DCN bedrooms and 4 bedded bays	As part of the RDD process we had discussion with Mercury that the 'treatment' side i.e the gasses and suction outlets would always be nearest to the door side which would ensure a consistent approach across the facility. However this has not universally happened in all areas which means that there are instances where the medirail and suction catheter holder are now not in the correct location. All of the bedhead trunking has been manufactured and many have already been installed so it is not possible to change this at this late stage	Where the bedhead trunking does not have the gasses and suction outlets nearest to the door and the medirail and catheter holder is now not in correct location they will need to be moved. We have agreed with MPX that where the medirail is in the incorrect position they will install an additional medirail in the correct position. The requirement for moving the catheter holder will be assessed. The locations of the medirail and catheter rack will be assessed on an individual basis and feedback provided to MPX	In a proportion of single bedrooms and 4 bedded bays the gasses and suction outlets will not be on the door side so there will not be uniformity in layout and the oxygen outlets will not always be the first outlet nearest to the door. Ward clinical staff will need to be aware of this and this will be picked up as part of their local familiarisation.	operational	Janice Mackenzie Fiona Halcrow Dorothy Hanley David Stillie Ronnie Henderson	
	Lack of required signage due to attenuation system under car parks						
36	Temperature Control Valves	Project Co have not provided electronically actuated valves to individual radiant panels that allows BMS control of temperature.	Thermostats are located in each room that allow slight changes to localised room temperature	The Board could not incorporate temperature control into enhancements to the patient bedside environment	-	Ronnie Henderson Janice Mackenzie Fiona Halcrow Sorrel Cosens	



Project Technical Completion Schedule													
Revision 1		Date 05-Apr-18 Author - Liane Edwards-Scott											
Principals Issue	Ref	Item	Title	Description	Latest Agreed Action 04/04/18 or CLOSE OUT Statement	Status	Owner					Final Close Out Action	
							MPX	NHSL	IHSL	BYES	IT		
	PTC	1	Lighting in fire fighting stairwells	The lighting within the 7 fire fighting shafts / stairwells and associated lobby has been installed with single circuit from the local lighting distribution boards that are not supplied by the fire rated cables.  The Board believes all fire fighting stairwells should be supported by a primary and secondary fire rated power	Additional confirmatiuon sent back to IT. Await IT to respond and conclude compliance.	IMMINENT	CG	RH				YES	
	PTC	2	Non Fire Rated IPS / UPS cabling	For compliance with BS 7671 and Guidance Note 7, and also BS 8519 circuits associated with essential life-support services should be either fire-rated or fire-protected. The implication of this is, in the event of a fire, power may be lost to essential life safety medical equipment in critical areas.  Project Co's has installed non fire rated cables to IPS boards serving critical areas.	MPX to issue technical solution reflection outcome of workshops. NHSL to 'Speedy RDD'.	OPEN	KH	RH					
	PTC	3	No earth bonding in certain required areas.	No equipotential bonding has been installed 144 Group 1&2 rooms. Equipotential bonding is required to prevent electric shock to patients, staff and visitors.  A sample room has been offered by Project Co to the Board for witnessing indicating installation of equipotential bonding boxes. The Board understands this will now be installed in all 144 Group 1&2 rooms.		CLOSED	CG	RH					MPX confirmed to NHSL all works are complete following meeting. NHSL to review sample locations onsite to close out.
	PTC	4	Bedroom ventilation pressure regime and air change rate in rooms for neutropenic patients	Neutropenic Patients - As per SHTM and Clinical Specs, the rooms for neutropenic patients should be designed as isolation rooms (+10 positive pressure). However, there are 10 single rooms which Project Co have designed to balanced pressure.	NHSL to draft proposed wording for MPX review and incorporation into change.	OPEN	LE	JS					
	PTC	5	25% spare capacity	The 25% spare capacity should be provided by Project Co in terms of main and sub main distribution containment, UPS boards, AHU, physical space in voids and ceilings, risers.  Its apparent from site visits, the spare capacity has not been provided.	Report and updated statement to be reissued for NHSL review (completion criteria not RDD)	OPEN	KH	RH					
YES	PTC	6	HV distribution	In relation to system resilience, the Board believes Project Co's design for HV Distribution is non-compliant with the Board's Construction Requirements (BCR's), Project Co Proposal's (PCP's) and SHTM Guidance for the following elements; 1. Resilience of the HV main intake switch room, 2. HV cable distribution, 3. HV / LV substations.  The Board believes the design currently creates single points of failure at the HV side of the electrical distribution network.	IT has confirmed compliance. Electrical workshop to take place next week. NHSL to propose date.	OPEN	CG DP	RH BC					
YES	PTC	7	4 bed ventilation	In relation to ventilation pressure regimes, the Board believes Project Co's design for ventilation is non-compliant with the Board's Construction Requirements (BCRs), Project Co Proposal's (PCPs), SHTM Guidance and RDD FC comments.  In addition, the Board believe the intake air change rate and the extract air change rate are non-compliant.  From a clinical perspective, the principal concern to the Board in continuing with Project Co's proposed pressure regime design means there is an unacceptable risk of the spread of bacterial airborne infections into corridors and surrounding patient rooms (positive to the corridor)  The Board requires the pressure regime to be balanced or negative to the corridor.	14 rooms at 4 a/c confirmed. Room numbers to be confirmed and updated on drawings. Issued to NHSL for comment	OPEN	CG	BC					
	PTC	8	Bedhead trunking earth bonding points	All bedhead trunking installed in Group 2 Medical Locations is provided with only 2 supplementary equipotential bonding points. This is not in compliance with GN7, which requires minimum 4 for medical IT sockets (IPS sockets).	Drawings to be resubmitted this week for 'speedy' RDD.	IMMINENT	CG	RH					
	PTC	9	Lack of non IPS sockets in theatres	All sockets outlets within these departments except for Cleaners outlets and a limited number of "raw power" sockets in some areas, are Medical Equipment blue sockets. No provision has been made for equipment that should be plugged into an RCB protected outlet whilst in the patient zone.  Also, no x ray sockets (dedicated socket).	Drawings to be resubmitted this week for 'speedy' RDD.	IMMINENT	CG	RH					
	PTC	10	Drainage above IPS rooms / above IPS panels	PCo have installed drainage above exclusion zones, electrical equipment and other high risk locations except above MRI rooms where this has been completely removed.	Drawings to be resubmitted this week for 'speedy' RDD.	IMMINENT	CG	RH					
YES	PTC	11	Cable discrimination and cable calculations (electrical issue)	Project Co has not submitted cable calculations through RDD for Board's review. This is required as per 4.23 2 (Mechanical & Electrical Specification) Project Co Proposal. The Concern is that the selection, grouping, rating and fault levels of cables is inappropriate and non-compliant with BS 7671.  As evidenced on site, there are several instances of cables being double and triple banked, as well as being grouped tightly together.	Workshop to take place 05/04/18. Outcome to be reported.	OPEN	CG	RH					
	PTC	12	Lack of tamper proof flush fitted sockets in CAMHs	Sockets not installed as per small power layout drawings. i.e. flush fitted tamper proof sockets.	Technical solution agreed.	CLOSED							Outstanding on site actions to be raised in Monday meeting
	PTC	13	Single Bedroom Ventilation air changes	Air change rates proposed by Project Co for single bedrooms are not in compliance with SHTM 03-01 and Board's comments. 4ac/h supply provided to the bedrooms instead of the required 6ac/h. The ensuite extract rate proposed in excess of 10ac/h where requirements of SHTM 03-01 is 3ac/h.	Technical solution agreed at 4a/c. Change wording to be concluded (via change list)	CLOSED	LE	JM					LE to resubmit change wording

PTC	14	Smoke clearance in fire fighting stairwells	As per the Non Domestic Technical Handbook and project specific Fire Strategy, all fire fighting stairwells shall be provided with appropriate ventilation for heat and smoke control. Currently only a percentage of stairwells appear to have openings for high level ventilator. No details of electrical connections including fire rated cables for fire fighting plant as per BS 8519.	MPX to issue status update confirming compliant solution.	IMMINENT	LE	RH						
PTC	15	Access hatches	Proliferation of Access hatches have been installed within theatre suites which is non-compliant with BCR clause 8.14 Service Routes and "Good Industry Practice".	Technical solution agreed. Any onsite observations to be concluded via Monday meeting or via Zutec	CLOSED								
PTC	16	Reductions to ceiling heights	In addition to the Project Co Change 016 (Basement Ceiling Heights), further Height reduction in basement areas/service yard appear to have been reduced 2100 without the agreement of the Board.	Board confirmed no further comment 31.01.2018.	CLOSED								
PTC	17	Duct Cleaning	Duct cleaning - SHTM states all ducts must be cleaned unless they have been protected. MPX not proposing to clean all ducts as believe they have sufficiently protected the ducts following installation. IT advised MPX will have to do a check to confirm ducts aren't dirty	Meeting set up with MPX & NHLS 5th April 2018 to agree scope.	OPEN	CG	RH						
PTC	18	Number of lift stops	Number of lift stops - BCR 8.8.11 - "RHSC Lifts should not stop at DCN floors, and DCN lifts should not stop at RHSC floors". Board in agreement with the Project Co change, however change required to clarify.	Change submitted and wording to be agreed. This is on the change list so closed on this list.	CLOSED								
PTC	19	Helipad fire fighting system (Water Pressure)	Helipad fire fighting system does not comply with the guidance of HBN 15-03 Hospital Helipads clause 5.22. There does not appear to be a pressurised main supply, nor is there a system of inert gas to pressurise the system.	MPX have previously responded and will re-issue response. NHSL to review their position as CAA have signed off.	OPEN	CG	RH						
PTC	20	Vegetation around air intakes in Neuroscience Courtyard	Landscape design around intake vents in Neuroscience Courtyard is potential non-compliant with SHTM 03-01 which states:  Air Intake 1.42 An uncontaminated air supply to the system is essential. In order to achieve this, the air intake will be positioned so that air discharged from extract systems or other dubious sources cannot be drawn in. Exhaust fumes from vehicles can present particular problems. The area surrounding the intake will need to be kept clean and free of vegetation and waste material in order to reduce the possibility of biohazards or fire. The intake itself will be protected by a louvre and mesh screen to prevent rainwater, vermin and insects etc from entering the system.	CCP 053 issued. On change list so closed here.	CLOSED								
PTC	21	"Do not use" labels removed from Medical Gas Outlets before commissioning.	Medical gas outlet "Do Not Use" labels removed before commissioning, non compliance with SHTM02-01.	MPX rectifying. Technically closed.	CLOSED								
PTC	22	Isolation Room supply ventilation relative to low building.	Isolation room ventilation is non-compliant for a 'low' building. There should be a separate supply and a contractors change will be needed.	IT to confirm compliance	OPEN	CG					YES		
PTC	23	Drainage joints in slabs	Drainage outlets - Drainage joints have been installed in the slab between floors with no access for maintenance or repair. This means there is no manufacturer warranty for the drainage connection.	IT to confirm compliance	OPEN	CG					YES		
PTC	24	Fire Collar installation	Fire collars for drainage are not directly connected to the slab+C19	IT to confirm compliance	OPEN	CG					YES		
PTC	25	Level and position of smoke detectors	Smoke detectors mounted at low levels above the ceiling i.e. not installed at the heights specified for void detectors	Technical solution agreed. Any onsite observations to be concluded via Monday meeting or via Zutec	CLOSED								
PTC	26	Ventilation in IPS	ventilation in IPS - PCo have shown 3ac/h extract ventilation in the EM but not all - Potential heat gain issue.	Technical solution agreed. Any onsite observations to be concluded via Monday meeting or via Zutec	CLOSED								
PTC	27	Hot and Cold water supply pipe configuration	Hot and cold water supply pipes are crossed behind the sink in some rooms and in some instances the cold pipe is above the hot water pipe or touching the pipe meaning the will be heat transferred to the cold water supply. Not best practice and non compliance with SHTM 04-01	IT to confirm compliance	OPEN	CG					YES		
PTC	28	Windows/Partition in 1-B1-055	The GA and C sheet illustrates a 3 panel window however, in construction one panel appears to be 'false' with a partition behind it. From the inside it appears to be only 2 windows.	Board confirmed no further comment 31.01.2018.	CLOSED								
PTC	29	Mounting heights for clinical lights	The heights clinical lights have been mounted at cause and obstruction	MPX have altered on site	CLOSED								
PTC	30	Lightning Protection	Potentially deviated form design agreed with Consort	MPX installed per original submission	CLOSED								
PTC	31	Gas supply to bedhead trunking	Supply has not been installed on site as per Board comments during RDD process.	MPX have rectified on site	CLOSED								
PTC	32	Concealed ceiling grids	Ceiling Grids are not concealed and not constructed in line with RDD drawings	Board to review CCP 033 and confirm any further issues.	OPEN								
PTC	33	Soft Landscaping planting specification	Planting on site not as per planting schedule. i.e. clematis appears to be climbing but should be bush/ground variety		OPEN								
PTC	34	Wrong terminators fitted in warning lights	Warning Lights: - Terminal strip connector in theatres to be removed and correct terminations provided, all warning light boxes. - light box deformed where glanded	NHSL have raised on zutec. Not required on this list.	CLOSED								
PTC	35	No evidence of IPS circuit bonding conductors	No evidence of IPS circuit bonding conductors at the IPS cabinets. The Main Bonding conductor between the IPS & the ERB is present.	Board confirmed no further comment 31.01.2018.	CLOSED								
PTC	36	Fire resistance of radiology door frame	Radiology: Door frame packed out in door opening, not in accordance within manufacturer's limits to maintain fire resistance of doorset.	Board confirmed no further comment 31.01.2018.	CLOSED								
PTC	37	UPS output switchboard with incorrect poles	UPS output Switchboard 2 Switchboard is supposedly a Form 4 type 6 board. Schneider state that to achieve Form 4 type 2 or 6 that the incoming devices should be 4 poles. The incoming devices are three poles with un switched neutral.	The switch disconnctors for supply A&B are 4 pole as detailed on Schneider drawing on Zutec 3DE/52853	OPEN	CG	RH						
PTC	38	Corridor service door handles	Corridor service doors - installed pull handles are not acceptable as advised by the board 30/01/17 (MM-GC-002483) during room review (corners of handles at childrens head height)	MPX rectified on site.	CLOSED								
PTC	39	Outstanding Status C RDD	Numerous outstanding RDD	NHSL to issue list of stat Cs for MEP. Arch and Structural numbers of stat C's agreed.	OPEN	CG	LE	KK					
PTC	40	Remaining Permanent Infrastructure outside the red line boundary (CCTV etc)	Still waiting for legal agreement for infrastructure outside the site boundary.	SA1 progressing.	OPEN				WW				
PTC	41	Seasonal Commissioning	Potential for some seasonal commissioning tests to be complete post hand over.	Closed here as exists on change list for closure there.	MOVED								
PTC	42	Environmental Matrix	EM reflects M&E issues currently considered non compliant	Closed here as any updates will come from outcome of other issues such as 4 bed bays.	CLOSED								
PTC	43	Routing of services. Corridor layouts against any non compliance with standards to be tabled.	services are currently running through clinical areas that were not included within the original Project Co derogation.	NHSL to identify areas where they believe further non-compliance. Change to be updated?	OPEN	LE	KK						
PTC	44	Nurse call in WC	There is evidence from the site (room C1.1-070) that nurse call pull cords have been installed in some visitor's WCs. However no nurse call should be installed in visitor's WCs.	All agreed to raise in Monday meetings. Closed in this forum.	MOVED								
PTC	45	Unidentified Circuits	Electrical circuits are not identified or labelled at terminal rail inside trunking. Consequently, there is no way to identify which cables enter and leave the circuit terminal strips.	MPX rectified on site.	CLOSED								
PTC	46	Fire alarm cable bands	Cable bands for fire alarms are plastic rather than metal. Metal ties are required by BS and are proposed by Project Co M&E specifications (4.23 3 of Section 4 of Schedule Part 6).	MPX rectified on site.	CLOSED								
PTC	47	IPS units earthbar termination - 1-B1-044 - IPS Room			CLOSED								
PTC	48	IPS sockets supplying non medical equipment	IPS socket found on site providing power for the television, scale of the issue still to be determined.		CLOSED								





## Message

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**From:** Matthew Templeton [REDACTED]  
[REDACTED]  
**Sent:** 25/05/2018 15:49:29  
**To:** Wallace Weir [REDACTED]  
[REDACTED]  
[REDACTED] Andy Clapp  
[REDACTED]  
**Subject:** FW: RHSC + DCN - Little France - Draft Tech Schedule  
**Attachments:** RHSC DCN Tech Schedule at 25 May 2018 WIP.pdf

FYI.

Sent from my Windows 10 phone

**From:** Currie, Brian  
**Sent:** 25 May 2018 15:07  
**To:** Matthew Templeton  
**Cc:** 'Darren Pike'; 'Greer, Graeme'  
**Subject:** RHSC + DCN - Little France - Draft Tech Schedule  
**Importance:** High

Matt

As just discussed, please find attached our wip half of the technical schedule. The RAG tracker is the current status of information available, as we see it.

A combined MPX/NHSL version will be developed next week and forwarded to you.

Regards

Brian

Brian Currie  
Project Director - NHS Lothian  
RHSC + DCN Site Office  
Little France Crescent  
Edinburgh  
EH16 4TJ



PROUD HISTORIES | NEW CHAPTERS

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**From:** Currie, Brian [REDACTED]  
**Sent:** 01 June 2018 11:31  
**To:** Greer, Graeme; Sansbury, Jackie  
**Subject:** FW: RHSC + DCN - Little France - Commercial Agreement - Tech Schedule/Access Protocol/  
Programme

**Importance:** High

My notes from yesterday's meeting below which I have shared with colleagues.

Actions should be self explanatory however we will need to prioritise resource to deal with them given the time scale pressures.

I have asked Ronnie to review MPX mark up with Kamil today (when received) as Ronnie is on leave next week.

Another play for the team though. We need to gather together all documents and thoughts we have collectively on compromises, residual risks we have made to date and extract from this what issues we could theoretically categorise as a dispute (potentially take to DRP/ Court).

I will explain more but stress this is a theoretical exercise and is linked to satisfying State Aid criteria. IHSL are seemingly to do the same from their side (listing what issues they could have with us and take to DRP/Court). We then need to price the cost of these issues and then risk assess and conclude that it is better value for money to the taxpayer to settle these out with DRP/ Court.

Regards

Brian

Brian Currie  
Project Director - NHS Lothian  
RHSC + DCN Site Office  
Little France Crescent  
Edinburgh  
EH16 4TJ

[REDACTED]

PROUD HISTORIES | NEW CHAPTERS

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**From:** Currie, Brian  
**Sent:** 01 June 2018 08:33  
**To:** Crombie, Jim; Goldsmith, Susan  
**Cc:** Graham, Iain; Pryor, Michael  
**Subject:** RHSC + DCN - Little France - Commercial Agreement - Tech Schedule/Access Protocol/ Programme  
**Importance:** High

My notes from a meeting with IHSL (Matt Templeton and Wallace Weir) and MPX (Darren Pike and Colin Grindlay) yesterday afternoon:

### **Technical Schedule**

I suggested that allocating one of the four following criteria (established PA mechanisms) might be an approach to defining accurately and providing verifiable evidence to each of the 81 items particularly as a number of the items were already categorised as such:

- 1 PCo Change
- 2 Board Change
- 3 RDD (Status A or B)
- 4 As per Completion Criteria)

This was rejected as unworkable by IHSL given the timescales to conclude the "settlement" and that there can be no further recourse to other documents not accepted by either party at the time of settlement.

IHSL explained that the "settlement" is a SA to the PA and as such stands alone and not subject to other agreements.

All parties discussed in detail each line item with remaining actions on MPX to continue to populate item description and outcome installed with NHSL populating evidence of such.

It is hoped that MPX and NHSL will conclude this in the early part of next week. IHSL stressed that it is imperative that both parties achieve this.

### **Access Protocol (during enhanced early access period pre completion)**

MPX are to document all discussions had with NHSL over last 4 weeks and share with NHSL on Monday next week for their input.

### **Programme**

MPX and NHSL to identify key milestones and document early next week.

Regards

Brian

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Project Director - NHS Lothian  
RHSC + DCN Site Office  
Little France Crescent  
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**From:** Greer, Graeme  
**Sent:** 04 June 2018 15:03  
**To:** Currie, Brian [REDACTED]  
**Cc:** Peace, Richard  
**Subject:** RE: RHSC + DCN - Little France - Commercial Agreement - Tech Schedule/Access Protocol/ Programme

Brian,

Further to your emails below, a few additional thoughts from last Thursday meeting with IHSL.

The main comment of concern from the meeting were those from IHSL requesting that “the Board to confirm that all BCR clauses have been met” and also comments that I think implied there can be no recourse for the Board once the settlement agreement has been signed.

I think the intentions from IHSL were constructive (we all just wanted to close the technical issues), and I think we are all agreed that “all items are to be defined with precision”, however the comment about the BCRs is concerning. As you have described in your email, in effect we had thought the process would conclude in the Board removing any further objections to the design solutions proposed and recorded via one of the mechanisms already established in the Contract.

The risk allocation set out in Clause 12 of the PA is clear, and I am concerned that if the Board agreed to write the above BCR statements, it could significantly alter the PA risk allocation in IHSL’s favour. Furthermore, I don’t think the Board is in a position to fully confirm compliance with the BCRs, the burden of responsibility should always remain with Project Co. As we are not the designers, Mott MacDonald would not be in a position to provide that design assurance to NHSL.

If we were to take the HV example, if the Board were to state – “The Board confirm that all BCR clauses relevant to the HV design have been met”, I think this goes beyond our level of design understanding (bearing in mind the Board and MM are only reviewing the design outputs) and also the current risk allocation in Clause 12.

We are concerned that the consequence of this HV statement could be the following;

- The Board are effectively taking on Design Responsibility for all elements of the HV design, and removing all liability from IHSL and their contractors / designers,
- If there are any other design issues in the HV system that have not previously been disclosed to the Board, the Board may be required to issue a Board Change to fix them,
- If for example in the main intake switch room, there was failure that led to no power to the Facility, and this was tracked back to a flawed design, the Board could be liable for any repairs and potentially could not apply deductions, however more importantly the Facility would be without power and no contractual mechanism to resolve.

Hopefully our understanding of this could be clarified with a quick discussion with the legal team (4.30 today), particularly how the settlement agreement interacts with the PA? Or is it possible that we have misinterpreted some of the subtlety of IHSL’s statements during the meeting?

Hope the above is helpful,

Kind Regards  
Graeme

**Graeme Greer**

Associate

  
[redacted].com

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**From:** Currie, Brian [redacted]  
**Sent:** 01 June 2018 11:31  
**To:** Greer, Graeme [redacted]; Sansbury, Jackie [redacted]  
**Subject:** FW: RHSC + DCN - Little France - Commercial Agreement - Tech Schedule/Access Protocol/ Programme  
**Importance:** High

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Regards

Brian

Brian Currie  
Project Director - NHS Lothian  
RHSC + DCN Site Office

A47206723

Little France Crescent  
Edinburgh  
EH16 4TJ



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**Sent:** 01 June 2018 08:33  
**To:** Crombie, Jim; Goldsmith, Susan  
**Cc:** Graham, Iain; Pryor, Michael  
**Subject:** RHSC + DCN - Little France - Commercial Agreement - Tech Schedule/Access Protocol/ Programme  
**Importance:** High

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Brian

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RHSC + DCN

**Schedule Part 01 - Technical Schedule to the Settlement Agreement**

**WITHOUT PREJUDICE**

**17 July 2018 - Rev 01**

Note: Given that the technical schedule does not expressly set out all necessary amendments to the Project Agreement, Clause 7.1 of the PA Settlement Agreement will require adjustment as follows:

“7.1 The Parties agree that in order to give effect to this Agreement, the provisions of the Project Agreement and other documents referred to in Part [ ] of the Schedule shall be:

(a) supplemented and amended as set out in Part [ ] of the Schedule; and/ or

(b) (where no express supplement or amendment is set out in Part [ ] of the Schedule) deemed to have been supplemented and amended in order to give effect to the agreed resolution set out in the [third column] of Part [ ] of the Schedule;

with effect from the date of this Agreement.

The Parties agree that all such supplements and amendments as set out in this Agreement:

(a) shall, in the event of any inconsistency with the provisions of the Project Agreement or other document referred to in Part [ ] of the Schedule, take precedence over the Project Agreement or other such document; and

(b) shall be deemed to have been agreed in accordance with the Project Agreement, and that the entry into of this Agreement shall not constitute a breach by either Party of the Project Agreement.”



Re m	Dispute	Description of Agreed Resolution
1	<p><del>Emergency / Firefighting</del> lighting in fire fighting stairwells</p> <p>The Board believes Project Co have designated the 7 fire fighting shafts / stairwells for Emergency Evacuation as well as Fire Fighting. The Board believes this is confirmed in Project Co's Fire Strategy and MPX-FC1-002374.</p> <p>From a fire fighting perspective, the Board believes that as well as providing lighting for emergency evacuation, lighting is also required for life safety and fire fighting applications in accordance with BS 7671 and BS 5819. Project Co have not provided this lighting. The light within the 7 fire fighting shafts / stairwells of associated lobby has been installed with the exception of the lowest fire-rated lobby that is not supplied by the fire-rated cables.</p> <p>The Board believes that the 7 fire fighting shafts / stairwells should be supported by emergency and secondary fire-rated power supplies from the central fire-rated boards and external emergency fire-rated power supplies.</p> <p>Project Co's position is that the design and installation of the emergency lighting within the 7 fire fighting shaft / stairwells meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>Project Co to procure approval to their proposal for the emergency lighting in the 7 fire fighting shafts/stairwells from the Building Control Officer, Scottish Fire and Rescue and the Independent Tester and Project Co will address any compliance requirements from the Building Control Officer, Scottish Fire and Rescue and the Independent Tester in accordance with the Project Agreement.</p> <p>Proposal and approval all as specified in [MPX-GC-027173] Aconex chain of correspondence as set out in Schedule <del>insert schedule reference attaching all Aconex documentation</del>.</p> <p><del>For the avoidance of doubt, Project Co will be responsible for implementing and meeting all costs incurred in relation to any lighting requirements which are specified by Building Control or Scottish Fire and Rescue Service or the Independent Tester relative to life safety and fire fighting applications and the requirements of BS 7671 and BS 5819.</del></p> <p><del>Board awaiting issue of correspondence from Project Co</del></p>
2	<p><del>Non Fire rated</del> UPS / UPS cabling</p> <p>For compliance with BS 7671 and Guidance Note 7, and also BS 5819 circuits associated with essential life-support services should be either fire-rated or fire-protected. The implication of this is, in the event of a fire, power may be lost to essential life safety medical equipment in critical areas.</p> <p>The Board believes that Project Co has installed non fire rated cables to UPS boards serving critical areas.</p>	<p>The agreed resolution of the Dispute submitted by Project Co through the Schedule Part 8 (Review Procedure) and agreed by the Board is set out below and has been given status Level A or Level B.</p> <p>Following a collaborative review of the design between the Board and Project Co, Project Co made changes to 11 Number sub mains cables from UPS switchboard to UPS distribution boards changing these to fire rated.</p>

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Re m	Dispute	Description of Agreed Resolution
	<p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>For the avoidance of doubt, this Dispute only relates to the UPS output board in the basement to the UPS distribution board. All other UPS / UPS cabling is excluded from this Dispute.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The remaining UPS submains cables <u>from UPS output board in the basement to the UPS distribution board</u> were agreed by the Board and Project Co to be left unaltered. All as noted within Aconex chain of correspondence MPX-Transmit-010735 as set out in Schedule <u>[insert schedule reference attaching all Aconex documentation]</u>.</p> <p>WW-S2-B1-PL-S31-101 Rev 1 UPS 1 Cable Route RDD Status A (13/4/18)</p> <p>WW-S2-B1-PL-S31-102 Rev 1 UPS 2 Cable Route RDD Status B (13/4/18)</p> <p>WW-S2-B1-PL-S31-103 Rev 1 UPS 3 Cable Route RDD Status B (13/4/18)</p> <p>WW-S2-B1-PL-S31-104 Rev 1 UPS 4 Cable Route RDD Status A (13/4/18)</p> <p>WW-S2-B1-PL-S31-105 Rev 1 UPS 5 Cable Route RDD Status B (13/4/18)</p> <p>WW-S2-B1-PL-S31-106 Rev 1 UPS 6 Cable Route RDD Status B (13/4/18)</p> <p>WW-S2-B1-PL-S31-107 Rev 1 UPS 7 Cable Route RDD Status A (13/4/18)</p> <p>WW-S2-B1-PL-S31-108 Rev 1 UPS 8 Cable Route RDD Status A (13/4/18)</p> <p>WW-S2-B1-PL-S31-109 Rev 1 Helipad Cable Route RDD Status A (13/4/18)</p> <p>WW-S2-B1-PL-S31-112 Rev 1 UPS 12 Cable Route RDD Status B (13/4/18)</p> <p>WW-S2-B1-PL-S31-114 Rev 1 UPS 14 Cable Route RDD Status A (13/4/18)</p> <p>WW-XX-XX-DC-XXX-010 Rev 3 UPS / UPS Cable Alternative RDD Status B (13/4/18)</p> <p>WW-XX-XX-SC-539-001 Rev G UPS System Schematic RDD Status A (13/4/18)</p>

Re m	Dispute	Description of Agreed Resolution
3	<p><b>No earth bonding in certain required areas</b></p> <p>The Board's position is that no equipotential bonding has been installed in 180 Group 1&amp;2 rooms. Equipotential bonding is required to prevent electric shock to patients, staff and visitors.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>In accordance with Schedule Part 8 (Review Procedure) the Room by Room Risk Profile as set out in [Schedule ] produced by Project Co has been given status Level B, and the correct grouping and categorisation has been applied to the original 144 rooms mentioned in the description.</p> <p>In accordance with Schedule Part 8 (Review Procedure), the Board / Project Co agreed that a further 36 rooms will be modified <u>35</u> to Group 1 Category 2, and 1 No Group 1 Category 3 in relation to providing equipotential bonding.</p> <p>Aconex MPX-TRANSMIT-010801 as set out in Schedule [insert schedule reference attaching all Aconex documentation] contains the Room by Room Risk Profile document at rev F and WW-S2-SL-S4-S00-011 Rev F Room by Room Risk Profile Reviewable Design Data Status B (4/5/18).</p> <p>Project Co to ensure all rooms are correctly categorised and grouped per SHTM 06-01 and BS 7671 Table 9.1 of Guidance Note 7.</p>
4	<p><b>Bedroom ventilation pressure regime and air change rate in rooms for neutropenic patients</b></p> <p>The Board's position is that the rooms for neutropenic patients should be designed as isolation rooms (+10 positive pressure). However, there are 12 single rooms which Project Co have designed to balanced pressure.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The design and construction solution for 12 single bed rooms within the Haematology and Oncology Department has been approved through Schedule Part 8 (Review Procedure) and agreed by Project Co and the Board as resolving the Dispute, as set out in [insert Schedule reference].</p> <p><b>Project Co to issue document for the Board's review</b></p>
5	<p><b>25% spare capacity</b></p> <p>The Board's position is that 25% spare capacity should be provided by Project Co in terms of main and sub main distribution containment, UPS boards, AHU, physical space in voids and ceilings, risers.</p> <p>The Board are of the opinion that it is apparent from Site visits that the spare capacity has not been provided.</p>	<p>The Board and Project Co have reviewed and commented upon the Spare Capacity Statement as set out in [insert Schedule reference - NHSL.pdf and MGPS Spare Capacity Statement.pdf]</p> <p>Medical Gas report dated 19 June 2018 as set out in [insert Schedule reference] was prepared by Project Co to respond to Board's comments. No adverse comments have been received from the Board in relation to this Report.</p> <p><b>The Board and Project Co have reached agreement on this matter</b> as recorded within Aconex MPX-GC-026751, NHSL-GC-003075 and MPX-GC-027180 as set out in Schedule [insert schedule reference attaching all Aconex documentation].</p>

Re m	Dispute	Description of Agreed Resolution
	<p>Project Co's position is that the design and installation meets the requirements of the Project Agreement, was based on the package approved through Schedule Part 8 (Review Procedure), and spare capacity had been allowed in compliance with the BCRs.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	

Re m	Dispute	Description of Agreed Resolution
6	<p><b>HV distribution</b></p> <p>In relation to system resilience, the Board believes Project Co's design for HV Distribution is non-compliant with the Board's Construction Requirements (BCR's), Project Co Proposal's (PCP's) and SHTM Guidance for the following elements; 1. Resilience of the HV main intake switch room, 2. HV cable distribution, 3. HV / LV substations.</p> <p>The Board believes the design currently creates single points of failure at the HV side of the electrical distribution network.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure), which was based on the Board's reference design.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p><del>The agreed resolution of the Dispute submitted by Project Co through the Schedule Part B (Review Procedure) and agreed by the Board, was for changes to be made to the switch panels within the energy centre to capture the generator panel as part of the ring. Fire protection has been applied to the fire hazard rooms.</del></p> <p><del>Drawings and schedules were updated and submitted through Schedule Part B (Review Procedure). Details of modifications to be carried out by Project Co are specified in the documents noted below.</del></p> <p>The Reviewable Design Data as set out below for this item has been given status Level A or Level B in accordance with Schedule Part B (Review Procedure), with the exception of Gas Suppression where more detailed information is to be submitted by Project Co in accordance with Schedule Part B (Review Procedure).</p> <p><del>The agreed resolution of the Dispute submitted by Project Co through the Schedule Part B (Review Procedure) and agreed by the Board, was for changes to be made to the switch panels within the energy centre to capture the generator panel as part of the ring. Fire protection has been applied to the fire hazard rooms.</del></p> <p><del>Drawings and schedules were updated and submitted through Schedule Part B (Review Procedure). Details of modifications to be carried out by Project Co are specified in the documents noted below.</del></p> <p>Gas suppression has been agreed to be provided within SS2A and SS2B, and through the Board Change 154 provided within SS1A and SS1B.</p> <p>As set out within Aconex MPX-Transmit 010823 and MPX-GC-027179 as set out in Schedule [insert schedule reference attaching all Aconex documentation] and in the following drawings:-</p> <p>WW-XX-XX-SC-530-001 Rev 1 HV Distribution Schematic RDD Status B (11/5/18)</p> <p>WW-XX-XX-SC-530-102 Rev 1 Multiplex Alternative HV Room Configuration RDD Status A (11/5/18)</p> <p>WW-XX-XX-SC-530-103 Rev 1 Multiplex Alternative HV Ring Configuration RDD Status B (11/5/18)</p> <p>WW-XX-XX-SC-530-104 Rev 1 Multiplex Alternative HV Ring Configuration Protection System Schematic RDD Status A (11/5/18)</p> <p>WW-XX-XX-SC-530-105 Rev 1 Multiplex Alternative HV Ring Configuration Protection System Blocking Diagram RDD Status A (11/5/18)</p> <p>WW-XX-XX-SC-530-106 Rev 1 MV Cable Routing As Installed RDD Status B (11/5/18)</p>

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Re m	Dispute	Description of Agreed Resolution
		<p>WW-XX-XX-SC-530-107 Rev 1 G59 Connections RDD Status B (11/5/18)</p> <p>WW-XX-XX-SC-530-108 Rev 1 Generator System RDD Status A (15/5/18)</p> <p>WW-SZ-SL-SH-531-204 Rev 1 RHSC &amp; DCN Gas Suppression Basement Substations <del>(not closed for RDD)</del></p> <p><del>gas suppression specification through the Review Procedure</del></p>

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Re m	Dispute	Description of Agreed Resolution
7	<p><b>4 bed ventilation</b></p> <p>In relation to ventilation pressure regimes, the Board believes Project Co's design for the 4 bed ventilation is non-compliant with the Board's Construction Requirements ("BCRs"), Project Co Proposal's ("PCPs"), SHTM Guidance, and also non-compliant with comments made by the Board on the Environmental Matrix in the Reviewable Design Data schedule at Financial Close.</p> <p>The Board also notes the Environmental Matrix was altered during Preferred Bidder to Financial Close period and was therefore not a direct copy of the reference design environmental matrix.</p> <p>In addition, the Board believe the intake air change rate and the extract air change rate are non-compliant.</p> <p>From a clinical perspective, the principal concern to the Board in continuing with Project Co's proposed pressure regime design means there is an unacceptable risk of the spread of bacterial airborne infections into corridors and surrounding patient rooms (positive to the corridor)</p> <p>The Board requires the pressure regime to be balanced or negative to the corridor.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement, was based on the package approved through Schedule Part 8 (Review Procedure) which included the environmental matrix which had been discussed and was agreed pre Financial Close.</p> <p>The environmental matrix was a direct copy of the reference design environmental matrix developed during the preferred bidder period. No adverse comments were received prior to or at Financial Close.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Reviewable Design Data noted below for this item has been given status Level B in accordance Schedule Part 8 (Review Procedure).</p> <p>The resolution of the Dispute submitted by Project Co through the Schedule Part 8 (Review Procedure) and agreed by the Board, is for 14 No 4 bed rooms to be balanced or negative to the corridor at 4 ac/hr. The remaining 6 No 4 bed wards remain as per the environmental matrix, WW-XX-XX-DC-XXX-001 Rev 11, and rev 07 of the schedule WW-S2-XX-DC-XXX-010.</p> <p>All as noted within Aconex MM-GC-003999, MPX-TRANSMIT-010829, MPX-TRANSMIT-010807 &amp; MPX-TRANSMIT-010869 as set out in Schedule <a href="#">[insert schedule reference attaching all Aconex documentation]</a>.</p> <p>All as noted on drawings:-</p> <p>WW-23-03-PL-524-001 Rev G Zone 23 Level 03 Ventilation Distribution Sheet 1 of 2 RDD Status B (3/5/18)</p> <p>WW-24-00-PL-524-001 Rev K Zone 24 Level 00 Ventilation Distribution Sheet 1 of 2 RDD Status B (3/5/18)</p> <p>WW-24-00-PL-524-002 Rev L Zone 24 Level 00 Ventilation Distribution Sheet 2 of 2 RDD Status B (3/5/18)</p> <p>WW-24-01-PL-524-001 Rev J Zone 24 Level 01 Ventilation Distribution Sheet 1 of 2 RDD Status B (3/5/18)</p> <p>WW-24-03-PL-524-001 Rev G Zone 24 Level 03 Ventilation Distribution Sheet 1 of 2 RDD Status B (3/5/18)</p> <p>WW-24-03-PL-524-002 Rev G Zone 24 Level 03 Ventilation Distribution Sheet 2 of 2 RDD Status B (3/5/18)</p> <p>WW-S2-XX-DC-XXX-010 Rev 07 General Ward - Ventilation Amendments Proposal - RDD Status B (31/5/18)</p> <p><a href="#">Additional revision to 4 of the above drawings were issued by Project Co 15/06/18 - Project Co to confirm changes made and if Board is review for the settlement agreement.</a></p>

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Re m	Dispute	Description of Agreed Resolution
8	<p><b>Bedhead trunking earth bonding points</b></p> <p>The Board's position is that all bedhead trunking installed in Group 2 Medical Locations is provided with only 2 supplementary equipotential bonding points. This is not in compliance with GN7, which requires minimum 4 for IPS sockets.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Reviewable Design Data noted below for this item has been given status Level A or B in accordance with Schedule Part 8 (Review Procedure).</p> <p>The resolution to the Dispute agreed by the Board and Project Co required Project Co to provide a minimum 4 supplementary earthing points for medical IT sockets.</p> <p>All as noted within MPX-TRANSMIT-010733 &amp; MPX-TRANSMIT-010714 as set out in <a href="#">Schedule reference</a></p> <p>All as per drawings:-</p> <p>WW-52-SL-SH-500-021 Rev F Room by Room Risk Profile RDD Status B (4/5/18)</p> <p>WW-23-00-PL-S31-001 Rev M Zone 23 Level 00 Small Power Layout Sheet 1 of 2 RDD Status B (13/4/18)</p> <p>WW-23-00-PL-S31-002 Rev M Zone 23 Level 00 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-23-01-PL-S31-001 Rev J Zone 23 Level 01 Small Power Layout Sheet 1 of 2 RDD Status A (13/4/18)</p> <p>WW-23-01-PL-S31-002 Rev P Zone 23 Level 01 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-24-00-PL-S31-002 Rev O Zone 24 Level 00 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-24-01-PL-S31-001 Rev K Zone 24 Level 01 Small Power Layout Sheet 1 of 2 RDD Status A (13/4/18)</p> <p>WW-24-01-PL-S31-002 Rev K Zone 24 Level 01 Small Power Layout Sheet 2 of 2 RDD Status A (13/4/18)</p> <p>WW-24-03-PL-S31-002 Rev I Zone 24 Level 03 Small Power Layout Sheet 2 of 2 RDD Status A (13/4/18)</p> <p><a href="#">Additional revision to one of above drawings, was issued by Project Co 15/08/18. Request Co to confirm changes made and if Board to resolve for the settlement agreement.</a></p>

Re m	Dispute	Description of Agreed Resolution
9	<p><b>Lack of non IPS sockets in theatres</b></p> <p>The Board's position is that all socket outlets within these departments except for Cleaners outlets and a limited number of "raw power" sockets in some areas, are Medical Equipment blue sockets. No provision has been made for equipment that should be plugged into an RCB protected outlet whilst in the patient zone.</p> <p>Also, no x ray sockets (dedicated socket).</p> <p>Project Co's position is the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Reviewable Design Data as set out below for this item has been given status Level A or B in accordance with Schedule Part 8 (Review Procedure).</p> <p>Resolution of the Dispute agreed by the Board and Project Co includes provision for the equipment requiring to be plugged into RCB protected circuits.</p> <p>All as recorded within MPX-TRANSMIT-010733, MPX-TRANSMIT-010714 &amp; MPX-GC-026898 as set out in [redacted schedule reference].</p> <p>All as per drawings:-</p> <p>WW-23-00-PL-531-001 Rev M Zone 23 Level 00 Small Power Layout Sheet 1 of 2 RDD Status B (13/4/18)</p> <p>WW-23-00-PL-531-002 Rev M Zone 23 Level 00 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-23-01-PL-531-001 Rev J Zone 23 Level 01 Small Power Layout Sheet 1 of 2 RDD Status A (13/4/18)</p> <p>WW-23-01-PL-531-002 Rev P Zone 23 Level 01 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-24-00-PL-531-002 Rev D Zone 24 Level 00 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-24-01-PL-531-001 Rev K Zone 24 Level 01 Small Power Layout Sheet 1 of 2 RDD Status A (13/4/18)</p> <p>WW-24-01-PL-531-002 Rev K Zone 24 Level 01 Small Power Layout Sheet 2 of 2 RDD Status A (13/4/18)</p> <p>WW-24-03-PL-531-002 Rev I Zone 24 Level 03 Small Power Layout Sheet 2 of 2 RDD Status A (13/4/18)</p>
10	<p><b>Drainage above IPS rooms / above IPS panels / Node Rooms</b></p> <p>It is the Board's position that Project Co has installed drainage above exclusion zones, electrical equipment and other high risk locations except above MRI rooms where this has been completely removed.</p>	<p>The following rooms are examples where Project Co have installed drainage and water services above IPS rooms / IPS panel / electrical distribution services. The resolution for these examples have been identified and the resolution of the Dispute agreed by the Board and Project is outlined below:</p> <p><b>Basement</b></p> <p>1 - Node room B-T1-001 Drainage will change to HDPE within the room and extend for at least a metre out with either wall.</p> <p>2 - Node room B-T1-002 HDPE drainage will be fusion welded and will extend into the office up until the first joint.</p>

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Re m	Dispute	Description of Agreed Resolution
	<p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>For the avoidance of doubt this Dispute relates to the drainage in following areas only:</p> <p><b>Basement</b>            1 - Node room B-T1-001            2 - Node room B-T1-002 HDPE            3 - Switch cupboard B-S3-030            4 - UPS room</p> <p><b>Ground floor</b>            5 - UPS room in basement to ground floor and connecting into CWST tank room stack.            6 - Drainage pipework through switch cupboard G-F1-095            7 - Drainage pipework in IPS room G-Q1-002</p> <p><b>Level 1</b>            8 - Drainage to HDPE in IPS room 1-B1-044            9 - Drainage to HDPE in Switch cupboard 1-L1-107</p> <p><b>Level 3</b>            10 - Vent pipe in switch cupboard 3-k2-083</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>3 - Switch cupboard B-S3-030 will be installed in HDPE as shown within agreed sketches within MPX-GC-026626 as set out in <a href="#">[insert schedule reference]</a>.</p> <p>4 - UPS Drainage will be routed once the walls are opened up where we have recesses to suit the best requirements. Drip trays will be installed under any drainage within the UPS room as noted on Drainage Changes.pdf as set out in <a href="#">[insert schedule reference]</a>.</p> <p>5 - Drainage re-routed from UPS room in basement to ground floor and connecting into CWST tank room stack.</p> <p>6 - Drainage pipework already running through switch cupboard G-F1-095 will be changed to HDPE</p> <p>7 - Drainage pipework with no joints in IPS room G-Q1-002 can stay if joints are not directly next to wall either side of the cupboard ( corridor and Nappy change )</p> <p><b>Level 1</b>            8 - Drainage to change to HDPE in IPS room 1-B1-044 with the tundish moving into cylinder store and boxed in with access hatch.</p> <p>9 - Drainage to change to HDPE in Switch cupboard 1-L1-107 only needs to extend 1 mtr into the disposal hold room and not as shown on the Drainage Changes.pdf.</p> <p><b>Level 3</b>            10 - Vent pipe in switch cupboard 3-k2-083 (with no electrical equipment ) can stay while drainage pipe will re-route as Drainage Changes.pdf.</p> <p>The above resolutions are noted within Aconex reference MPX-GC-026626 as set out in Schedule <a href="#">[insert schedule reference attaching all Aconex documentation]</a> and Drainage Changes.pdf, and are deemed to have Reviewable Design Data status Level B.</p>
11	<p><b>Cable discrimination and cable calculations (electrical issue)</b></p> <p>Project Co has not submitted cable calculations through Schedule Part 8 (Review Procedure) for the Board's review. This is required as per Part 3 of the Reviewable Design Data Schedule, and offered by Project Co in paragraph 4.23.3 as set out in the Mechanical &amp; Electrical Specification of Project Co Proposals.</p> <p>The Board's concern is that the selection, grouping, rating and fault levels of cables are inappropriate and non-compliant with BS 7671.</p> <p>As evidenced on Site, there are several instances of cables being double and triple banded, as well as being grouped tightly together.</p>	<p><a href="#">Work in progress awaiting cable layout issue of cable calculations</a></p> <p>Revised cable calculations were issued to the Board 15 June 18 as set out in <a href="#">[insert schedule reference]</a>.</p> <p>The Board and Project Co agree that this Dispute can be resolved, if the following four questions are answered positively:</p> <ol style="list-style-type: none"> <li>1. <a href="#">Verify all design loads are accurate with specific focus on large fixed equipment loads and the blanket application of 40A to final DB's</a></li> <li>2. <a href="#">Cable temperature formula to be transposed to give maximum current carrying capacity that will not exceed 70degC</a></li> <li>3. <a href="#">Protective device settings to be adjusted to meet the max current carrying capacity</a></li> <li>4. <a href="#">Discrimination study to be carried out using new PD settings</a></li> </ol>

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Re m	Dispute	Description of Agreed Resolution
	<p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>The Reviewable Design Data list of documents was agreed at Financial Close, and there is no requirement to submit cable calculations through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>Project Co to answer the above four questions and any resulting areas of concern to be analysed and dealt with on an individual basis</p>
12	<p><b>Lack of tamper proof flush fitted sockets in CAMHS</b></p> <p>In the Board's opinion, sockets are not installed as per small power layout drawings. I.e. flush fitted tamper proof sockets.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the technical sub package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The resolution of the Dispute agreed by the Board and Project Co was for plastic faceplates to be replaced with metal flush fitted tamperproof sockets.</p> <p>In addition to the above, the Board issued Board Charge 137 - CAMHS Anti-Lig M&amp;E and Fixtures.pdf. as set out in [insert schedule reference] for additional requirements.</p>
13	<p><b>Single Bedroom Ventilation air changes</b></p> <p>In relation to ventilation air change rates, the Board believes Project Co's design for the single bed ventilation is non-compliant with the Board's Construction Requirements ("BCRs"), Project Co Proposal's ("PCPs"), SHTM Guidance, and also non compliant with comments made by the Board on the Environmental Matrix in the Reviewable Design Data schedule at Financial Close. 4ac/h supply provided to the bedrooms instead of the required 6ac/h. The ensuite extract rate proposed in excess of 10ac/h where requirements of SHTM 03-01 is 3ac/h.</p> <p>The Board also notes the Environmental Matrix was altered during Preferred Bidder to Financial Close period and was therefore not a direct copy of the reference design environmental matrix.</p>	<p>The Board / Project Co agree this item is closed, and the agreed technical solution, approved through Schedule Part 8 (Review Procedure) and, agreed by the Board and Project Co as resolving the Dispute is as set out in [insert schedule reference].</p> <p>Project Co to Issue document for the Boards review</p>



Re m	Dispute	Description of Agreed Resolution
	<p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure) which included the environmental matrix which had been discussed and agreed pre Financial Close.</p> <p>The environmental matrix was a direct copy of the reference design environmental matrix developed during the preferred bidder period.</p> <p>Comments were received pre Financial Close and these were documented and the design amended to reflect the Board's comments.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	
14	<p><b>Smoke clearance in fire fighting stairwells</b></p> <p>As per the Non Domestic Technical Handbook and project specific Fire Strategy, all fire fighting stairwells shall be provided with appropriate ventilation for heat and smoke control. Currently only a percentage of stairwells appear to have openings for high level ventilator. No details of electrical connections including fire rated cables for fire fighting plant as per BS 6519 have been provided.</p> <p>Project Co do not dispute the Board's position.</p>	<p>The remote activation and minimum free area opening is as noted in MPX.GC.026280:</p> <p>"In line with clause 2.14.6 (and table 2.16) of the NDTH, each of the stairs are designed with a mix of 'ventilators' achieving 1sqm ea. to the top of the stair (either smoke vents or windows). The strategy to each stair is noted below:</p> <ul style="list-style-type: none"> <li>• Stair 1 – Openable window to stair (1sqm window to top of stair) CHSL</li> <li>• Stair 2 – Openable window to stair (1sqm window to top of stair), mechanical ventilation to the bed evac lobby. Push buttons to topmost storey and access level as per 2.14.6 CHSL</li> <li>• Stair 3 – Openable (mechanical) roof vent to stair, mechanical ventilation to the bed evac lobby. Push buttons to topmost storey and access level as per 2.14.6</li> <li>• Stair 4 – Openable (mechanical) roof vent to stair, Push buttons to topmost storey and access level as per 2.14.6</li> <li>• Stair 5 – Openable window to stair (window at each level, however topmost floor window to have local automated actuator allowing the window to open under actuation to achieve 1m2) Velfac</li> <li>• Stair 6 – Openable window to stair (window at each level, however topmost floor window to have local automated actuator allowing the window to open under actuation to achieve 1m2) Velfac</li> <li>• Stair 7 – Openable (mechanical) vent to stair- exhausts via plant room area at 104. Push buttons to topmost storey and access level as per 2.14.6</li> </ul>

Re m	Dispute	Description of Agreed Resolution
		<p>In order to comply with section of 5.12 of the BCRs, all opening windows (including those to stairs 1, 2, 5 and 6) are lockable and fitted with restrictors.</p> <p>The CHSL Schuco Windows are provided with 'Custodian Handle Housings' with 'Custodian Keys' as per CHSL Technical Submittal no. 13 allowing the windows to the top of stairs 1 and 2 to open fully and achieve in excess of the min 1sqm requirement of the building regulations.</p> <p>The Velfac WT-022 windows to stairs 5 and 6 are provided with 'Espagnolette handle with Lock' with 'Allen Key Lockable Restrictor'. The topmost window in each stair is to be fitted with localised actuation. This only allows opening by operatives as the locks and restrictors must be omitted. The actuators shall be activated locally by button control at 2m above floor level so as not easily accessible to public. This is in accordance with NDTM 2.14.6.</p> <p>The fire service carry the tool required to operate the CHSL windows and the key shall also be stored in a secure location near the windows ie break glass.</p> <p>All as noted within Aconex MPX-GC-026280, MM-GC-003950 and MPX-GC-026538 as set out in Schedule [insert schedule reference attaching all Aconex documentation] the above actions are agreed by the Board and Project Co to resolve this Dispute.</p>
15	<p><b>Access hatches:</b></p> <p>It is the Board's position that a proliferation of Access hatches has been installed within theatre suites which is non-compliant with BCR clause 8.14 Service Routes and "Good Industry Practice".</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>Project Co agreed to the reduction of hatches in theatres, as noted within Aconex MPX-GC-027183 and as set out in Schedule [insert schedule reference attaching all Aconex documentation]. This will be reflected in the as-built documentation.</p> <p>Updated versions of the following Reflected ceiling to be included in the As Built: HLM-23-01-PL-332-410;411;412;413.</p>
16	<p><b>Reductions to ceiling heights:</b></p> <p>In addition to the Project Co Change 016 (Basement Ceiling Heights), further Height reduction in Room Number 4-COR-007 and Room Number G-A1-062 appears to have been reduced without the agreement of the Board.</p> <p>Project Co do not dispute the Board's position.</p>	<p>The Board / Project Co agree this item is closed, and the agreed technical solution approved through Schedule Part 8 (Review Procedure) and, agreed by the Board and Project Co as resolving the Dispute is as set out in [insert Schedule reference].</p> <p>Project Co to issue document for the Boards review</p>



Re m	Dispute	Description of Agreed Resolution
17	<p><b>Duct Cleaning</b></p> <p>The Board's position is that SHTM states all ducts must be cleaned unless they have been protected.</p> <p>The Contractor is not proposing to clean all ducts as believe they have sufficiently protected the ducts following installation.</p> <p>Independent Tester advised the Contractor will have to do a check to confirm ducts aren't dirty</p> <p>Project Co's position is that ducts were being protected, and will be sampled at commissioning stage - any failing the test will then being cleaned.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p><del>It is agreed by the Board and Contractor that this Dispute Item shall be resolved through witnessing and testing of the system, to demonstrate compliance with the BCR's / PCP's / Completion Criteria.</del></p> <p>The extent of ductwork requiring to be cleaned <u>at this stage</u> has been captured within the following document;</p> <ul style="list-style-type: none"> <li>• Duct Cleaning – Aconex MM-GC-004106, MPX-GC-027187 as set out in Schedule <b>[insert schedule reference attaching all Aconex documentation]</b>.</li> </ul> <p><del>It is agreed by the Board and Contractor that this Dispute Item shall be resolved through witnessing and testing of the system, to demonstrate compliance with the BCR's / PCP's / Completion Criteria.</del></p> <p><del>For the avoidance of doubt, any other ducts that fail any checks or tests, shall be appropriately cleaned by Project Co.</del></p>
18	<p><b>Bed Lift to Basement of Core 3</b></p> <p>The Board's position is the Financial Close submission (HSL-XX-XX-DC-4.15 Vertical Transportation) stated that the bed lift in core 3 would serve 5 floors.</p> <p>The Board notes the installed bed lift in core 3 only serves 4 floors.</p> <p>Project Co Position_____</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Board / Project Co agree this item is closed, and the agreed technical solution approved through Schedule Part 8 (Review Procedure) and, agreed by the Board and Project Co as resolving the Dispute is as set out in <b>[insert Schedule reference]</b>.</p> <p><b>Project Co to issue document for the Board's review</b></p>

Re m	Dispute	Description of Agreed Resolution
19	<p><b>Helipad fire fighting system (Water Pressure)</b></p> <p><u>The Board's position is the</u> Helipad fire fighting system does not comply with the guidance of HBN 15-03 Hospital Helipads clause 5.22. There does not appear to be a pressurised main supply, nor is there a system of inert gas to pressurise the system.</p> <p>Project Co's position is that a pressurised main supply and a system of inert gas to pressurise the system is not required.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>In relation to Helipad fire fighting system (Water Pressure), the Board and Project Co note the CAAI has certified the helipad is fit for purpose as installed.</p> <p>Reference is made to letter received by the Contractor from CAAI dated 07 March "it is with pleasure that we can issue this letter of completion which, subject to certain conditions outside of Multiplex's control being met before the helipad commences operations, confirms the rooftop helipad at RHSC &amp; DCN is regarded as fit for purpose."</p> <p>Documentation is noted within Aconex MPX-GC-027315 as set out in Schedule [insert schedule reference attaching all Aconex documentation].</p>
20	<p><b>Vegetation around air intakes in Neuroscience and Staff Courtyards</b></p> <p>It is the Board's position that Landscape design around intake vents in Neuroscience Courtyard is potentially non-compliant with SHTM 03-01 which states:</p> <p><b>Air Intake</b> 1.42 An uncontaminated air supply to the system is essential. In order to achieve this, the air intake will be positioned so that air discharged from extract systems or other dubious sources cannot be drawn in. Exhaust fumes from vehicles can present particular problems. The area surrounding the intake will need to be kept clean and free of vegetation and waste material in order to reduce the possibility of biohazards or fire. The intake itself will be protected by a louvre and mesh screen to prevent rainwater, vermin and insects etc from entering the system.</p> <p>Project Co's position is that the design has been approved by the Board through RDD.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Board / Project Co agree the Reviewable Design Data for this item has been given status Level A or B in accordance with Schedule Part B (Review Procedure).</p> <p>The following design measures proposed by Project Co and agreed with the Board to resolve the dispute, limit planting in the area surrounding the intake vents. This satisfies SHTM 03-01A Clause 1.42 in so far as it allows the area surrounding the vents to be clean and free of vegetation and waste material in order to reduce the possibility of biohazards or fire.</p> <p><b>Neuroscience Courtyard</b> Project Co have replaced the planting around the air intake vents with artificial grass with the exception of one area which has been planted with sedum as per the Board's request.</p> <p><b>Staff Courtyard</b> Project Co have incorporated a 600mm 'no plant zone' to the perimeter of the air intake vents."</p> <p>All as noted within Drawing HLM-20-03-PL-700-002 Rev E; Drawing HLM-20-00-PL-700-026 Rev E; and Aconex MM-GC-003873 as set out in Schedule [insert schedule reference attaching all Aconex documentation].</p>
21	<p><b>"Do not use" labels removed from Medical Gas Outlets before commissioning.</b></p> <p>It is the Board's position that Medical gas outlet "Do Not Use"</p>	<p>Through discussion it was agreed by Project Co and the Board that this Dispute will be resolved by the Medical gas outlet "Do Not Use" labels being put in place prior to commissioning, thus ensuring compliance with SHTM 02-01.</p>

Re m	Dispute	Description of Agreed Resolution
	<p>labels removed before commissioning, non compliance with SHTM02:01.</p> <p>Project Co's position is that there was no non-compliance relating to this issue.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	
22	<p><b>Isolation Room supply ventilation relative to low building.</b></p> <p>It is the Board's position that Isolation room ventilation is non-compliant for a 'low' building.</p> <p>Project Co's position is that the design and installation was based on isolation room ventilation report produced and tabled with the Board. This is compliant with the requirements of the Project Agreement.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Board / Project Co agree this item is closed, and the agreed technical solution approved through Schedule Part B (Review Procedure) and, agreed by the Board and Project Co as resolving the Dispute is as set out in <a href="#">[insert Schedule reference]</a>.</p> <p><b>Project Co to issue document for the Boards review</b></p>
23	<p><b>Drainage joints in slabs</b></p> <p>It is the Board's position that Drainage joints have been installed in the slab between floors with no access for maintenance or repair. This means there is no manufacturer warranty for the drainage connection.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>Through discussion and site review with the Independent Tester, John Edwards (Arcadis) agreement has been reached on compliance and sign off.</p> <p>Reference is made to Aconex MPX RF1-002569 and RBP-GC-002637 and the confirmation from the Independent Tester as set out in Schedule <a href="#">[insert schedule reference attaching all Aconex documentation]</a>.</p>
24	<p><b>Fire Collar installation</b></p> <p>Fire collars for drainage are not directly connected to the slab+C19</p> <p>Project Co's position is that the installation was work in progress and would comply prior to the Actual Completion Date.</p>	<p>The Board and Project Co agree this Dispute is closed and no further action is required.</p> <p>Confirmation has been received from the Board that the installation is ongoing and Project Co will procure compliance with BCRs prior to the Actual Completion Date.</p>

Commented [GG2]: Is this the correct file reference?

Re m	Dispute	Description of Agreed Resolution
	Each party disagrees with the other party's position and therefore a dispute has arisen.	
25	<p><b>Level and position of smoke detectors</b></p> <p>It is the Board's position that smoke detectors are installed at low levels above the ceiling i.e. not installed at the heights specified for void detectors</p> <p>Project Co's position is that the design and installation is in accordance with the requirements of the Project Agreement, was based on the package approved through Schedule Part 8 (Review Procedure) in compliance with the BCRs, and will be signed off by the installer as compliant.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>Following discussion and site review, in relation to the level and position of the smoke detectors, the Independent Tester has closed this item on basis of compliance.</p> <p>Summary of agreement contained with Aconex MPX-GC-027316 as set out in Schedule <a href="#">[insert schedule reference attaching all Aconex documentation]</a>.</p>
26	<p><b>Ventilation in IPS</b></p> <p>It is the Board's position that –Project Co have shown 3ac/h extract ventilation in the Environmental Matrix, but not all rooms have been provided with extract vent in the room - Potential heat gain issue.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Board and Project Co agree the Reviewable Design Data for this item has been given status Level A or B in accordance with Schedule Part 8 (Review Procedure).</p> <p>Rev 011 of the EM represents the agreed position of ventilation being provided within IPS rooms.</p> <p>Reference is made to MPX-TRANSMIT- 009971 for WW-XX-XX-DC-XXX-001 Rev 011 – status B (17/11/17) as set out in <a href="#">[insert schedule reference]</a>.</p>
27	<p><b>Hot and Cold water supply pipe configuration</b></p> <p>It is the Board's position that Hot and cold water supply pipes are crossed behind the sink in some rooms and in some instances the cold pipe is above the hot water pipe or touching the pipe meaning the will be heat transferred to the cold water supply. Not best practice and non compliance with SHTM 04-01</p>	<p>Through discussion and site review it was agreed between the Board and Project Co that Project Co shall modify the installation to maintain pipework separation and distance as per valve body so that the hot and cold water pipework doesn't touch or cross, in accordance with SHTM 04-01.</p> <p>Aconex MPX-GC-027580 as set out in Schedule <a href="#">[insert schedule reference attaching all Aconex documentation]</a> specifies details of the changes made at site.</p>



Re m	Dispute	Description of Agreed Resolution								
	Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure). Each party disagrees with the other party's position and therefore a dispute has arisen.	For the avoidance of doubt, Project Co to procure that the Agreed Resolution is applied in all requisite areas.								
28	<b>Windows/Partition in 1-B1-055</b>  It is the Board's position that the GA and C sheet illustrates a 3 panel window however, in construction one panel appears to be 'false' with a partition behind it. From the inside it appears to be only 2 windows. Project Co do not dispute the Board's position.	Agreement between the Board and Project Co was reached on this item at the Project Technical Review Meeting where it was agreed no further action was required (dated 31.01.18) as set out in <a href="#">[insert schedule reference]</a> .  As built documentation shall reflect this.								
29	<b>Mounting heights for clinical lights</b>  <u>It is the Board's position the Examination lights coded as LX958 in 3-C1-4-084, 3-C1-4-081 and 3-D9-022 have been mounted in such a way as to cause obstruction. It is the Board's position that some of the lights have been mounted in such a way as to cause obstruction.</u>  Project Co's position is that the data sheets provided in accordance with Schedule Part 8 (Review Procedure) should have caused the Board to pass comment during the review process, rather than wait until these had been constructed on Site.  Each party disagrees with the other party's position and therefore a dispute has arisen.	<u>Through discussion and agreement between the Board and Project Co, it was agreed to relocate the Examination lights coded as LX958 in 3-C1-4-084, 3-C1-4-083 and 3-D9-022 to 2100mm. Reference is made to MM-RTRF1-000315 as set out in <a href="#">[insert schedule reference]</a>.</u>  <u>Through discussion and agreement between the Board and Project Co, it was agreed to relocate the clinical lights to 2100mm. Reference is made to MM-RTRF1-000315 as set out in <a href="#">[insert schedule reference]</a>.</u>								
30	<b>Lightning Protection</b>  It is the Board's position that Project Co have potentially deviated from design agreed with Consent.  Project Co's position is that the design and installation was based on the package approved through Schedule Part 8 (Review Procedure). Project Co does not agree with the comments raised.  Each party disagrees with the other party's position and therefore a dispute has arisen.	The Board and Project Co agree the Reviewable Design Data for this item has been given status Level A in accordance with Schedule Part 8 (Review Procedure) and the Dispute has been resolved.  <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>ME-XX-XX-DC-579-002</td> <td>01</td> <td>Lightning Protection interface between new RHSC &amp; existing RIE</td> <td>A</td> </tr> </tbody> </table> Reference is made to Aconex MPX-TRANSMIT-008497 as set out in Schedule <a href="#">[insert schedule reference attaching all Aconex documentation]</a> .	File Reference	Rev	Title	Status	ME-XX-XX-DC-579-002	01	Lightning Protection interface between new RHSC & existing RIE	A
File Reference	Rev	Title	Status							
ME-XX-XX-DC-579-002	01	Lightning Protection interface between new RHSC & existing RIE	A							

Re m	Dispute	Description of Agreed Resolution								
31	<p><b>Gas supply to bedhead trunking</b></p> <p>Supply has not been installed on Site as per Board comments during Schedule Part 8 (Review Procedure).</p> <p>Project Co constructed position was that the design and installation was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Board and Project Co agree the Reviewable Design Data for this item has been given status Level A in accordance with Schedule Part 8 (Review Procedure) and the Dispute has been resolved.</p> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>ME-XX-XX-DC-400-105</td> <td>B</td> <td>Bedhead Trunking Drawings</td> <td>A</td> </tr> </tbody> </table>	File Reference	Rev	Title	Status	ME-XX-XX-DC-400-105	B	Bedhead Trunking Drawings	A
File Reference	Rev	Title	Status							
ME-XX-XX-DC-400-105	B	Bedhead Trunking Drawings	A							
32	<p><b>Concealed ceiling grids</b></p> <p>Ceiling Grids are not concealed and not constructed in line with drawings agreed in accordance with Schedule Part 8 (Review Procedure) and as set out in [insert reference].</p> <p>Project Co do not dispute this position.</p>	<p>The Board / Project Co agree this item is closed, and the agreed technical solution approved through Schedule Part 8 (Review Procedure) and, agreed by the Board and Project Co as resolving the Dispute is as set out in [insert Schedule reference].</p> <p>Project Co to issue document for the Board's review</p>								
33	<p><b>Soft Landscaping planting specification</b></p> <p>It is the Board's opinion that planting on Site was not as per planting schedule. I.e. clematis appears to be climbing but should be bush/ground variety.</p> <p>Project Co's position is that that this comment relates to unfinished works and is not relevant.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>These plants were left with the canes in them so that the Contractor could tend the bark mulch underneath before removing the canes.</p> <p>The canes will be removed so that the plant can lay on the ground.</p>								
34	<p><b>Wrong terminators fitted in warning lights</b></p> <p>It is the Board's opinion in relation to Warning Lights that:</p>	<p>The Board / Project Co agree this Dispute is closed, and no further action required.</p>								



Re m	Dispute	Description of Agreed Resolution
	<p>- Terminal strip connector in theatres to be removed and correct terminations provided, all warning light boxes. - light box deformed where glanded</p> <p>Project Co's position is that the installation was still work in progress and will be compliant prior to the Actual Completion Date the Actual Completion Date.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	
35	<p><b>No evidence of IPS circuit bonding conductors</b></p> <p>It is the Board's opinion that there is no evidence of IPS circuit bonding conductors at the IPS cabinets. The Main Bonding conductor between the IPS &amp; the ERB is present.</p> <p>Project Co's position is that the installation is still a work in progress and will be compliant prior to the Actual Completion Date.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	The Board / Project Co agree this Dispute is closed, and no further action required.
36	<p><b>Fire resistance of radiology door frame</b></p> <p>Radiology: Door frame packed out in door opening, not in accordance within manufacturer's limits to maintain fire resistance of doorset.</p> <p>Project Co do not dispute this position.</p>	As set out within Aconex MPX-GC-026747, MPX-GC-027156 and NHSL-GC-003201 as set out in Schedule <a href="#">[insert schedule reference attaching all Aconex documentation]</a> , the door frame has been rectified.
37	<p><b>UPS output switchboard with incorrect poles</b></p> <p>It is the Board's position that the UPS output Switchboard 2 Switchboard is supposedly a Form 4 type 6 board. Schneider state that to achieve Form 4 type 2 or 6 that the incoming devices should be 4 poles. The incoming devices are three poles with unswitched neutral.</p>	The Board / Project Co agree this Dispute is closed and no further action required.

Re m	Dispute	Description of Agreed Resolution
	<p>Project Co's position is that the design and installation is in accordance with the requirements of the Project Agreement and was based on the tech sub package approved through the approval process.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	
38	<p><b>Corridor service door handles</b></p> <p>It is the Board's position that the Corridor service doors as installed include pull handles which are not acceptable as advised by the Board 30/01/17 (MM-GC-002483) during room review (corners of handles at children's head height)</p> <p>Project Co's position is that the design and installation complies with the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The solution agreed by the Board and the Contractor to resolve the Dispute was to remove the pull handles and replace them with standard flat escutcheons.</p>
39	<p><b>NOT USED</b></p>	
40	<p><b>Remaining Permanent Infrastructure outside the red line boundary (CCTV etc)</b></p> <p>Still waiting for legal agreement for infrastructure outside the Site boundary.</p>	<p>Outstanding.</p> <p>Project Co to issue Schedule 31 Notice to Board in order that SAI can be advanced and this issue can be resolved.</p>
41	<p><b>Seasonal Commissioning</b></p> <p>It is the Board position that there is potential for some seasonal commissioning tests to be completed post hand over.</p> <p>Project Co's position is that seasonal commissioning would always be required to be carried out post the Actual Completion Date.</p>	<p>The Board / Project Co agree this Item is closed, and the agreed technical solution approved through Schedule Part 8 (Review Procedure) and, agreed by the Board and Project Co as resolving the Dispute is as set out in <u>[insert Schedule reference]</u>.</p> <p>Project Co to issue document for the Board's review</p>

Re m	Dispute	Description of Agreed Resolution
	Each party disagrees with the other party's position and therefore a dispute has arisen.	
42	NOT USED	
43	<p><b>Routing of services. Corridor layouts against any non compliance with standards to be tabled.</b></p> <p>It is the Board's position that services are currently running through clinical areas that were not included within the original Project Co derogation.</p> <p>Project Co's position is that the design and installation meets the Project Agreement was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>[Redacted]</p> <p>This issue potentially has operational implications and Project Co require to procure FM Contractor approval. Any additional costs incurred to be borne by Project Co.</p> <p>[Redacted]</p>
44	<p><b>Nurse call in WC</b></p> <p>It is the Board's position that there is evidence from the site (room C1.1-070) that nurse call pull cords have been installed in some visitor's WCs. However no nurse call should be installed in visitor's WCs.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p>	<p>The process agreed between the Board and Project Co to resolve the Dispute was for the Board to issue a Board Change.</p> <p>This has been received and Project Co is progressing the Board Change 142 as noted within NHS-BCP-0142 as set out in [insert schedule reference].</p>

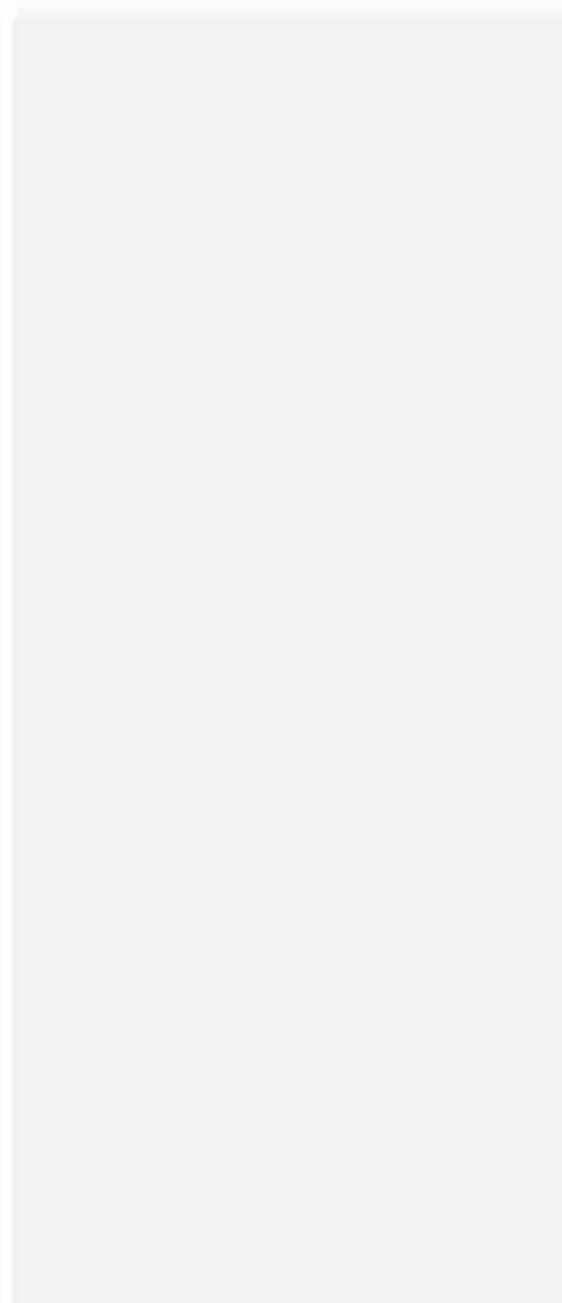
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Re m	Dispute	Description of Agreed Resolution
	Each party disagrees with the other party's position and therefore a dispute has arisen.	
45	<p><b>Unidentified Circuits</b></p> <p>Electrical circuits are not identified or labelled at terminal rail inside trunking. Consequently, there is no way to identify which cables enter and leave the circuit terminal strips.</p> <p>Project Co dispute this position and consider that the design and installation meets the requirements of the Project Agreement.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	Through discussion and site review between the Board and Project Co it was agreed that no further action required.
46	<p><b>Fire alarm cable bands</b></p> <p>It is the position that cable bands for fire alarms are plastic rather than metal. Metal ties are required by BS and are proposed by Project Co M&amp;E specifications (4.23.3 of Section 4 of Schedule Part 6).</p> <p>Project Co' position is that the installation was still work in progress and would be compliant prior to the Actual Completion Date.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	Project Co shall procure that installation is compliant with the BCRs.
47	<p><b>IPS units earthbar termination - 1-B1-044 - IPS Room</b></p> <p>Project Co's position is that the installation was still work in progress and would be compliant prior to the Actual Completion Date.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	Through discussion and site review it was agreed between the Board and Project Co that no further action required to resolve this Dispute.
48	<p><b>IPS sockets supplying non medical equipment</b></p> <p>It is the Board's position that IPS sockets have been found on Site</p>	Through discussion and site review it was agreed between the Board and Project Co that no further action is required to resolve this Dispute.

Re m	Dispute	Description of Agreed Resolution																																								
	<p>providing power for the television, scale of the issue still to be determined.</p> <p>Project Co's position that the installation was still a work in progress and will be compliant prior to the Actual Completion Date.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>																																									
49	<p><b>Interleaved circuits</b></p> <p>It is the Board's opinion, as per SHTM 06-01 and note 7 on design drawings, that all sockets including pendants supplies, for Cat 3, 4 and 5 should be interleaved. However, the evidence from Site suggests this has not been installed.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Reviewable Design Data noted below for this item has been given status Level A or B in accordance with Schedule Part 8 (Review Procedure).</p> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>WW-S2-SL-SH-500-011</td> <td>F</td> <td>Room by Room Risk Profile</td> <td>B (04/05/18)</td> </tr> <tr> <td>WW-Z3-00-PL-531-001</td> <td>M</td> <td>Zone Z3 Level 00 Small Power Layout Sheet 1 of 2</td> <td>B (13/04/17)</td> </tr> <tr> <td>WW-Z3-00-PL-531-002</td> <td>M</td> <td>Zone Z3 Level 00 Small Power Layout Sheet 2 of 2</td> <td>B (13/04/17)</td> </tr> <tr> <td>WW-Z3-01-PL-531-001</td> <td>J</td> <td>Zone Z3 Level 01 Small Power Layout Sheet 1 of 2</td> <td>A (13/04/17)</td> </tr> <tr> <td>WW-Z3-01-PL-531-002</td> <td>P</td> <td>Zone Z3 Level 01 Small Power Layout Sheet 2 of 2</td> <td>B (13/04/17)</td> </tr> <tr> <td>WW-Z4-00-PL-531-002</td> <td>O</td> <td>Zone Z4 Level 00 Small Power Layout Sheet 2 of 2</td> <td>B (13/04/17)</td> </tr> <tr> <td>WW-Z4-01-PL-531-001</td> <td>K</td> <td>Zone Z4 Level 01 Small Power Layout Sheet 1 of 2</td> <td>A (13/04/17)</td> </tr> <tr> <td>WW-Z4-01-PL-531-002</td> <td>K</td> <td>Zone Z4 Level 01 Small Power Layout Sheet 2 of 2</td> <td>A (13/04/17)</td> </tr> <tr> <td>WW-Z4-03-PL-531-002</td> <td>I</td> <td>Zone Z4 Level 03 Small Power Layout Sheet 2 of 2</td> <td>A (13/04/17)</td> </tr> </tbody> </table>	File Reference	Rev	Title	Status	WW-S2-SL-SH-500-011	F	Room by Room Risk Profile	B (04/05/18)	WW-Z3-00-PL-531-001	M	Zone Z3 Level 00 Small Power Layout Sheet 1 of 2	B (13/04/17)	WW-Z3-00-PL-531-002	M	Zone Z3 Level 00 Small Power Layout Sheet 2 of 2	B (13/04/17)	WW-Z3-01-PL-531-001	J	Zone Z3 Level 01 Small Power Layout Sheet 1 of 2	A (13/04/17)	WW-Z3-01-PL-531-002	P	Zone Z3 Level 01 Small Power Layout Sheet 2 of 2	B (13/04/17)	WW-Z4-00-PL-531-002	O	Zone Z4 Level 00 Small Power Layout Sheet 2 of 2	B (13/04/17)	WW-Z4-01-PL-531-001	K	Zone Z4 Level 01 Small Power Layout Sheet 1 of 2	A (13/04/17)	WW-Z4-01-PL-531-002	K	Zone Z4 Level 01 Small Power Layout Sheet 2 of 2	A (13/04/17)	WW-Z4-03-PL-531-002	I	Zone Z4 Level 03 Small Power Layout Sheet 2 of 2	A (13/04/17)
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Re m	Dispute	Description of Agreed Resolution





Re m	Dispute	Description of Agreed Resolution								
50	<p><b>Access and Maintenance Strategy</b></p> <p>Access and Maintenance Strategy - lack of clear access and maintenance strategy submitted to date.</p> <p>Project Co's position is that this is a work in progress and will be compliant prior to the Actual Completion Date.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Reviewable Design Data noted below for this item has been given status [Level II] in accordance with Schedule Part 8 (Review Procedure) in relation to revision 13.3 <del>with exchange of email agreeing how comments shall be addressed, see "MPX response to A&amp;M" comments on Rev 11 "A&amp;M Strategy" as set out in [insert schedule reference]</del></p> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Re</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>HLM-XX-XX-DC-450-001</td> <td>13.3</td> <td>Access and Maintenance Strategies</td> <td>[awaited]</td> </tr> </tbody> </table> <p>Meeting to take place to agree outstanding issues in order strategy can be <del>see HLM-XX-XX-DC-450-001</del> HLM-XX-XX-DC-450-001 Access and Maintenance Strategies</p>	File Reference	Re	Title	Status	HLM-XX-XX-DC-450-001	13.3	Access and Maintenance Strategies	[awaited]
File Reference	Re	Title	Status							
HLM-XX-XX-DC-450-001	13.3	Access and Maintenance Strategies	[awaited]							
51	<p><b>Lux levels in clean utilities</b></p> <p>It is the Board's position that lux levels in clean utilities rooms may not be sufficient for functionality of the space. Currently LG2 150 lux however due to the layout of the room / cupboards</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the environmental matrix approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Board and the Contractor has agreed a process to measure the lighting levels to meet the agreed Environmental Matrix lux levels recorded within WW-XX-XX-DC-XXX-001 Rev 11 as set out in [insert schedule reference].</p> <p>Aconex MPX-TRANSMIT- 009971 for WW-XX-XX-DC-XXX-001 Rev 011 as set out in Schedule [insert schedule reference attaching all Aconex documentation] details the current lighting levels signed off which the design and installation will be measured against.</p> <p>Project Co to issue Whitecroft report.</p>								
52	<p><b>Breaches of Fire stopping</b></p> <p>It is the Board's position that during the construction phase there were breaches of the fire stopping.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The process agreed is for Project Co to issue the FIRAS Certificate to show compliance in accordance with the provisions of the Project Agreement, Project Co to procure that the fire stopping complies with <del>Paragraph 6.8 (Fire &amp; Corrosion Protection) of Sub-Section C (General Requirements) of Section 3 (Board's Construction Requirements) of Schedule Part 6 (Construction Matters).</del></p>								

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Re m	Dispute	Description of Agreed Resolution
53	<p><b>Egg crate Grilles in clinical areas</b></p> <p>It is the Board's position that the Egg box grid is not suitable for cleaning. A technical submittal was issued and signed off by the Board, however a sample of the grid was not issued through the Review Procedure, hence the Board did not have a chance to view the type of product before it was installed.</p> <p>Project Co's position is that the design and installation was based on the package approved through Schedule Part 8 (Review Procedure) – photos of the products were provided which the Board should have used to raise comments at the appropriate time.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The process agreed between the Board and Project Co was for Project Co to procure Board preferred grills.</p> <p>This is set out within Aconex MPX-GC-025802 as set out in Schedule [insert schedule reference attaching all Aconex documentation].</p>
54	<p><b>Curtain track and ceiling Hoist clashes</b></p> <p>Hoists and curtain tracks clash and will need to be reviewed on a room by room basis.</p> <p>Project Co's position is that this is a work in progress and will be compliant prior to the Actual Completion Date.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>There has been a review of hoist and curtain track clashes by Project Co and Project Co to procure all clashes are resolved.</p> <p>As built documentation will record any alterations made.</p>
55	<p><b>Wrong room configuration (G-Q1-074)</b></p> <p>G-Q1-074 not constructed in line with C-Sheet (wrong sequence for data points and socket outlets)</p> <p>Project Co's position is that this is a work in progress and will be compliant prior to the Actual Completion Date.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>Project Co confirmed this room will be installed to HLM C-Sheet for G-Q1-074.</p>
56	<p><b>Helipad Ramp Lights</b></p> <p>Helipad ramp now includes lighting however HBN 15-03 recommends that the luminaire should be lower than 25 cm and</p>	<p>Through discussion between Project Co and the Board and site review it was agreed that no further action required relating to this item.</p>

Re m	Dispute	Description of Agreed Resolution
	<p>pointing down toward ramp. Calculations have not been submitted for lighting levels to ascertain if this complies with relevant standards.</p> <p>Project Co dispute the non-compliance alleged.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	
57	<p><b>Reduced access to electrical panels</b></p> <p>It is the Board's position that Electrical panels should not be placed in reduced access areas. The Board understand this should have been designed in conjunction SHM – Best Practice for Healthcare Engineering – Chapter 9 Engineering services. (For example 4-PLANT-001 – Central AHU Plant Room 01, 3-COR-008A - Switch cupboard)</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>No Agreed Resolution as yet. As noted within Aconex MPX-GC-027300 as set out in Schedule [insert schedule reference attaching all Aconex documentation], the Contractor reviewed on Site the 12 areas of concern with the independent Tester, these were captured within the sketches contained within the Aconex, and this item has now been closed by the independent Tester.</p> <p>This issue potentially has operational implications and Project Co require to procure FM Contractor approval. Any additional costs incurred to be borne by Project Co.</p>
58	<p><b>Lighting in Service yard</b></p> <p>It is the Board's position that lighting levels within service yard were initially designed at an average of 23 lux levels (i.e. the level required for a car park as per SLL Lighting Guide). This has now been corrected to 50 lux average however the uniformity is not in accordance with the requirements.</p> <p>Project Co's position was that the design and installation will comply with the Project Agreement, the BCRs, and design and calculations would be submitted through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>A process was agreed to capture the Board concern in relation to uniformity, update service yard with twin heads, and resubmit drawing, WW-EW-XX-DC-716-001 to the Board. This action is now complete.</p> <p>As noted within Aconex MPX-GC-027119 as set out in Schedule [insert schedule reference attaching all Aconex documentation]</p> <p>[REDACTED] updated [REDACTED] WW-EW-XX-DC-716-001 [REDACTED]</p>

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Re m	Dispute	Description of Agreed Resolution								
59	<p><b>Lighting in B-COR-014</b></p> <p>It is the Board's position that L14 luminaires are missing in the corridor.</p> <p>Project Co.'s position is that the design and installation meets the requirements of the Employer's Requirements and was based on the package approved through Schedule Part B (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>Project Co confirms lighting design has been amended to ensure the minimum height of 2.4m will not be impacted by the luminaires installed.</p> <p>This will be reflected within the as built information, Project Co confirms no luminaires are missing within corridor B-COR-014.</p>								
60	<p><b>3-T2-018: QP - Riser door missing</b></p> <p>It is the Board's position that the riser wall should have a door to access pipework</p> <p>Project Co's position is that the installation was still work in progress and would be compliant prior to the Actual Completion Date.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The door has now been installed.</p>								
61	<p><b>Provision of 360o CCTV Coverage</b></p> <p>It is the Board's position that as illustrated in external CCTV drawing (ME-EW-XX-PL-571-001 Rev D) there are gaps within CCTV coverage on approach to the NW elevation of the Facility. Non Compliant with BCR Clause 7.6 (n) (Hard Landscaping).</p> <p>The Board's position is not disputed by Project Co.</p>	<p>The Board and Project Co agreed that Project Co would update and resubmit drawing ME-EW-XX-PL-571-001.</p> <p>This action is now complete. Project Co is to demonstrate compliance on Site when the system is commissioned.</p> <p>Project Co confirms revision F of the aforementioned drawing was updated and issued for information.</p> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>ME-EW-XX-PL-571-001</td> <td>E</td> <td>Site Plan, External CCTV Layout</td> <td>B (23/05/18)</td> </tr> </tbody> </table>	File Reference	Rev	Title	Status	ME-EW-XX-PL-571-001	E	Site Plan, External CCTV Layout	B (23/05/18)
File Reference	Rev	Title	Status							
ME-EW-XX-PL-571-001	E	Site Plan, External CCTV Layout	B (23/05/18)							



Re m	Dispute	Description of Agreed Resolution
62	<p><b>Hazard classification and fire stopping in MRI suites</b></p> <p>It is the Board's position that the MRI Suites are currently not operationally functional as hazard classification of the MRI equipment room prevents installation of waveguides between equipment and examination rooms which cannot be fire stopped.</p> <p>Project Co's position is the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Board and Project agree that the Revised Fire Strategy drawings indicate the altered compartmentation lines. These provide the necessary FR ratings and allow the Board to install their protection as required.</p> <p>Drawing extract indicates change made on Aconex mail MPX-GC-027481 as set out in Schedule [insert schedule reference attaching all Aconex documentation].</p> <p>Board to review the latest design data</p>
63	<p><b>Entrance to Service Yard for Large Vehicles</b></p> <p>As witnessed at the trial on 17th Feb 2018, due to the location of the barrier, large vehicles extend into the blue light route (by Approximately 3ft) when waiting for access through the barrier.</p> <p>The Board's position is not disputed by Project Co.</p>	<p>It has been agreed between Project Co and the Board that a revised service yard design drawing HLM-20-00-PL-711-003 will be issued reflecting the outcome of onsite testing.</p> <p>A bespoke swan neck access control pedestal will then be designed by Project Co to alleviate the potential for vehicle overhang.</p> <p>Updated design data to be submitted for formal review  HLM-20-00-PL-711-007 Landscape GA - Service Yard Entrance  NEW-25-XX-PL-720-001 Pedestrian Gate Layout  NEW-25-XX-PL-720-002 LAYOUT AND FOUNDATIONS RAM GATES</p>
64	<p><b>Quench Pipe Route</b></p> <p>Board's position is that Project Co has not left a clear route for the quench pipes to run.</p> <p>Project Co's position is that the route meets the requirements of the Project Agreement and was based around the design and installation package approved through Schedule Part B (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>No Agreed Resolution is agreed between the parties until the installation has been completed. Position resolving the Dispute as agreed by the Board and Project Co is recorded within Aconex MPX-GC-027186, as set out in Schedule [insert schedule reference attaching all Aconex documentation].</p> <p>Reference is also made to the quench pipe work scope [insert schedule reference] and responsibility matrix for both parties [insert schedule reference].</p>

Re m	Dispute	Description of Agreed Resolution
65	<p><b>CAMHS/PCU Glazing/DCN Acute</b></p> <p>It is the Board's position that Project Co has not effectively designed glazing in PCU and CAMHS and DCN Acute to allow for adequate patient privacy from public spaces. As per Clinical Output Specifications and BCR Clauses 2.2/3.2.1/3.5.2/3.5.4/3.5.6/5.12/5.16.2</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure).</p> <p>The privacy issue was discussed prior to any review under Schedule Part B (Review Procedure) and measures introduced to eliminate Board concerns during design stage.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Board / Project Co agree to resolve the Dispute based on the email of "31 July 2018 RE: Privacy GlazingFinal Position" and "Summary of Rooms requiring privacy screening 31072018 Vers 4" as set out in [insert schedule reference].</p> <p>As built documentation will be issued by Project Co to record the agreed position.</p> <p><b>[Updated design data to be submitted for approval]</b></p>
66	<p><b>Design Note 5 - void detection</b></p> <p><del>During the Construction Phase the Board believed Project Co deleted reference to design note 5 from their Fire Strategy. This web ch describes the process for risk assessing the omission of void detection.</del></p> <p><del>Without reference to design note 5 and an associated risk assessment it is design note 5 which the Board believes void detection will should be provided throughout the Facilities in accordance with</del></p> <p>Project Co dispute the Board's position and updated design drawings can be provided to provide clarity on this issue.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p><del>Project Co have since clarified that Design Note 5 does form part of their Fire Strategy.</del></p> <p><del>Project Co to ensure all relevant spaces have detection. This was done as subject to a dispute between the two entities.</del></p> <p><del>Risk assess - to have been covered - see design with Schedule Part B (Review Procedure)</del></p> <p><del>Refer to design note 5 and the fire strategy DC 273-1186 - JMC fire strategy DC 273-1186 schedule - Clause 1 - 1.1</del></p> <p><del>Following a meeting between the two entities, updated design data to be submitted for approval</del></p>

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Re m	Dispute	Description of Agreed Resolution
67	<p><b>Ventilation extract for Sump</b></p> <p>It is the Board's position that the basement sump / basement corridor is not provided with any ventilation. Any maintenance of the sump will require the cover to be open and odours will be present in the corridor outside main kitchen. H&amp;S risk.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>For the avoidance of doubt, this does not resolve the overall drainage issues associated with the sump pump.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Board and Project Co agreed that Project Co would submit a ventilation strategy proposal that allows for a temporarily enclosure around the chamber.</p> <p>Ventilation Strategy Proposal <del>to be updated and approved</del> <del>to be</del> via Aconex as per MPX-GC-027884 as set out in Schedule <del>[insert schedule reference attaching all Aconex documentation]</del>.</p> <p>This issue potentially has operational implications and Project Co require to procure FM Contractor approval. Any additional costs incurred to be borne by Project Co.</p>
68	<p><b>Security for CAMHS courtyards</b></p> <p>The Board's position is that the height of fencing and hedge is currently not sufficient to prevent access to the CAHMS courtyards</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure). The height of the fence was discussed extensively pre-FC and the Board specifically did not want a major boundary between public and private areas.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Board / Project Co agree to resolve the Dispute based on the following:</p> <ul style="list-style-type: none"> <li>Project Co proceeding with install of 2.4m high fence to match existing install at service yard, to the length of the existing installation. Hedge to be replaced with (as close to ) 2.4m high hedge and including return up the back of the spine wall.</li> </ul> <p>Updated design data to be submitted for approval</p>
69	<p><b>Service Yard Gate</b></p> <p>The location of the induction loops for automatic gates / barriers will have to ensure there is safe and unobstructed egress from service yard.</p> <p>Project Co's position is that the installation was still a work in progress and will be compliant prior to handover the Actual Completion Date.</p>	<p>It is agreed by the Board and Project Co that Project Co will procure automated gates (both open on entry, but with capability for only the exit side gate to open on exit if size of vehicle does not require it - Service yard drawings to be updated by Project Co to reflect this position.</p> <p>This information <del>will be</del> recorded on the following drawings:</p> <p>HLM-20-00-PL-711-007 Landscape GA - Service Yard Entrance  NEW-25-XX-PL-720-001 Pedestrian Gate Layout  NEW-25-XX-PL-720-002 LAYOUT AND FOUNDATIONS RAM GATES</p>

Re m	Dispute	Description of Agreed Resolution
	<p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p><b>Review numbers to be added</b>  <b>2022-01-17-00-000-000-000-000-000-000</b></p> <p><b>Updated drawings to include the following items</b>  <b>NM-20-01-01-001-001-001-001-001-001-001</b>  <b>NM-20-01-01-001-001-001-001-001-001-001</b>  <b>NM-20-01-01-001-001-001-001-001-001-001</b></p> <p>This issue potentially has operational implications and Project Co require to procure FM Contractor approval. Any additional costs incurred to be borne by Project Co.</p>
70	<p><b>ED Drugs store ventilation</b></p> <p>It is the Board's position that current ventilation provision for drugs store is not in line with Clinical Specific Requirements for the space and therefore is not compliant.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Board and Project Co agree to proceed based on the following Board change NHSI-CCP-138 ED Drug Store Ventilation as set out in <b>[insert schedule reference]</b>.</p> <p><b>Project Co to implement Board Change</b></p> <p>This issue potentially has operational implications and Project Co require to procure FM Contractor approval. Any additional costs incurred to be borne by Project Co.</p>
71	<p><b>Movement Joint outstanding action</b></p> <p>Item 6.6 of the Boards Construction Requirements Schedule part 6; Section 3, states:</p> <p>6.6 Movement Joints  Structural movement joints shall not be located through</p> <ol style="list-style-type: none"> <li>Theatre rooms;</li> <li>Treatment and surgery rooms;</li> <li>X-ray and imaging rooms;</li> <li>Pharmacy manufacturing rooms;</li> <li>Kitchens and food preparation areas;</li> <li>Any room with (now or in the future) with ceiling mounted tracking hoists or other similar lifting equipment; and</li> </ol>	<p>The Board / Project Co agree this item is closed, and the agreed technical solution approved through Schedule Part 8 (Review Procedure) and, agreed by the Board and Project Co as resolving the Dispute is as set out in <b>[insert schedule reference]</b>.</p> <p><b>Project Co to issue document for the Board's review</b></p> <p>This issue potentially has operational implications and Project Co require to procure FM Contractor approval. Any additional costs incurred to be borne by Project Co.</p>

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Re m	Dispute	Description of Agreed Resolution
	<p>g) Any other room requiring a sterile environment; and  h) Any rooms where there is a risk of biological or other hazard, or risk of penetration by water, grease/oil, or other hazardous or detrimental substance.</p> <p>Lateral stability bracing systems shall not obstruct or hinder clinical or non-clinical operations and shall not obscure the windows or doors.</p> <p>Project Co wishes to derogate from the requirements above for the following areas:</p> <ul style="list-style-type: none"> <li>a) Gamma Camera – G-Q1-044 (ceiling only)</li> <li>b) MRI room 2 – G-Q1-110 (ceiling only)</li> <li>c) Ward Kitchen – G-A2-041 (ceiling only)</li> <li>d) Utility room 1-1-P1-041</li> <li>e) Corridor – 1-11-105</li> <li>f) Single bed – 1-11-093</li> <li>g) Corridor – 1-COR-007</li> <li>h) Exit Bay – 1-P1-040</li> <li>i) Hot toilet – 3-C1,4-07B</li> <li>j) Single Bedroom G-Q1-048</li> </ul>	
72	<p><b>Heating pumps pressure</b></p> <p>In the Board's opinion there is an issue with heating pumps pressure to distribute hot water around the Facility. Pumps may not be sized correctly.</p> <p>Project Co's position is that the installation was still a work in progress and will be compliant prior to the Actual Completion Date.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The Board and Project Agree that Project Co will capture the commissioning results and table these with the Board to confirm Contract compliance.</p> <p>All results are being uploaded to the Zutec as built document management system.</p>

Re m	Dispute	Description of Agreed Resolution
73	<p><b>Fridge Spaces</b></p> <p>Spaces for fridges mid units are too small for the equipment</p> <p>Project Co does not dispute this item.</p>	<p>The Board has agreed to reduce the sizes of some of the fridges.</p> <p>Project Co has agreed to provide adequate fridge space in line with the Board's requirements, all as recorded on Aconex MPX-GC-027104 as set out in Schedule [insert schedule reference attaching all Aconex documentation].</p>
74	<p><b>Incline in L2</b></p> <p>The floor appears to be inclined in L2 department. Project Co disputes this position.</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>Through discussion between the Board and Project Co it was agreed no further action required.</p>
75	<p><b>Row of work benches too close together - D6 first floor</b></p> <p>It is the Board's position that the location of desks in therapies adjusted due to the location of power poles. This created the space between two rows of desks of around 1100cm which is not sufficient.</p> <p>Project Co does not dispute this item.</p>	<p>It was agreed by the Board and Project Co that Project Co should amend on Site the location of work benches at D6 first Floor. This work has been completed.</p>
76	<p><b>Pot wash ceiling</b></p> <p>Incorrect ceiling installed. Should be the same as the "high spec" ceiling in restaurant. The ceiling tiles might be sufficient however the ceiling grid is non compliant.</p> <p>Project Co does not dispute this item.</p>	<p>Through discussion and site review it was agreed between the Board and Project Co that Project Co would rectify this ceiling so that the specification is equal to the restaurant; Type H K40/115H and K40/25OCR.</p> <p>This remedial work is to be captured by Project Co within the As built documentation.</p>
77	<p><b>Socket outlets in Group 2 rooms</b></p> <p>It is the Board's position; as per GN7, all socket outlets in group 2 rooms should be provided with metal plates. This however has not been provided by Project Co. Principle for plastic plates agreed in principle however Project Co Change is required.</p>	<p>Through discussion and site review between the Board and Project Co it has been agreed that plastic switchplates are acceptable.</p> <p>Aconex MPX-CCP-063 as set out in Schedule [insert schedule reference attaching all Aconex documentation] documents the agreed change.</p>

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Re m	Dispute	Description of Agreed Resolution
	<p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	
78	<p><b>Penetrations for services</b></p> <p>It is the Board's position that desks fitted at touchdown bases have no penetrations for cabling that will need to be connected to sockets under the desks.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</p> <p>Each party disagrees with the other party's position and therefore a dispute has arisen.</p>	<p>The desk penetrations have now been fitted.</p> <p>This facilitates desk mounted IT equipment to below desk sockets.</p>
79	<p><b>Pendants</b></p> <p>It is the Board's position that there no evident fibre cabling has been provided and there is no cut out to terminate cables.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure)</p>	<p>Through discussion and agreement between the Board and Project Co, the Board is to procure final patching leads direct from the Board's preferred supplier (OUT 904).</p> <p>Aconex MPX-DCP-046 OUT904 Connections as set out in Schedule [insert schedule reference attaching all Aconex documentation] documents this position.</p> <p>Updated design data to be submitted for approval</p>
80	<p><b>Handheld devices</b></p> <p>It is the Board's position that as per Delivery Area (Sub Section E) specification the handheld devices shall be provided by Project Co.</p> <p>Project Co's position is that there was a requirement for the systems to have compatibility with the hand held devices being procured by the Board.</p>	<p>Project Co (via the Contractor and Mercury) confirmed at meeting 13.06.18 that Project Co specialist(s) can provide compatibility for the provision to transmit via the Board's paging system based on a "page one" and "ASCOM" vendor. This excludes the car parking HUB where a specific APP is being provided as part of the car park barrier package.</p> <p>The Board and Project Co agree that Project Co are to provide the following:</p> <ol style="list-style-type: none"> <li>1. System(s) that are capable to provide signalling to the Page One and ASCOM devices message Gateway.</li> <li>2. Type of message being sent to the Gateway for each system based on the Page One requirements.</li> </ol>



Re m	Dispute	Description of Agreed Resolution
	Each party disagrees with the other party's position and therefore a dispute has arisen.	<p>The Board and Project Co agree that the Board are to provide the following</p> <ol style="list-style-type: none"><li>1. Handheld devices.</li><li>2. Associated integration of the message gateway.</li></ol> <p>As noted within Aconex MPX-GC-027519 as set out in Schedule [insert schedule reference attaching all Aconex documentation]</p> <p>Updated design data to be submitted for approval</p>
31	NOT USED	



**Subject:** FW: RHSC Settlement Agreement Technical Schedule  
**Attachments:** Technical Schedule - Collated Board comments 200718.docx; Technical Schedule - Collated Board comments 200718.pdf

Grainne Parkinson  
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 Please consider the environment before printing

**From:** Greer, Graeme  
**Sent:** 20 July 2018 16:35  
**To:** 'Jennifer McKay' [REDACTED]; 'Pryor, Michael' [REDACTED];  
'Graham, Iain' [REDACTED]; 'Currie, Brian' [REDACTED];  
**Cc:** 'Rod Munro' [REDACTED]  
**Subject:** RE: RHSC Settlement Agreement Technical Schedule

Dear all,

Further to a review of the latest technical schedule by the project team, I have attached initial comments for each item (also attached a pdf as sometimes easier to read the comments).

We have also tried to summarise the main themes below (some are repeats of previous emails, however thought best to collate into one email);

**1. Clause 7.1**

IHSL / MPX appear to have reverted to the Supplemental Agreement taking precedence over the PA;

“7.1 The Parties agree that in order to give effect to this Agreement, the provisions of the Project Agreement and other documents referred to in Part [ ] of the Schedule shall be:

- (a) supplemented and amended as set out in Part [ ] of the Schedule; and/ or
- (b) (where no express supplement or amendment is set out in Part [ ] of the Schedule) deemed to have been supplemented and amended in order to give effect to the agreed resolution set out in the [third column] of Part [ ] of the Schedule;

with effect from the date of this Agreement.

The Parties agree that all such supplements and amendments as set out in this Agreement:

- (a) shall, in the event of any inconsistency with the provisions of the Project Agreement or other document referred to in Part [ ] of the Schedule, take precedence over the Project Agreement or other such document; and
- (b) shall be deemed to have been agreed in accordance with the Project Agreement, and that the entry into of this Agreement shall not constitute a breach by either Party of the Project Agreement.”

Suggest further discussion is required on the interpretation / implications of the above.

**2. Project Co Position added to the Dispute Column**

“Project Co position” has been added to each item in the Dispute Column, it falls into three main categories;

Category (i) - Project Co's position is that the design and installation of the xxxxx meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).

Category (ii) - Project Co do not dispute the Board's position.

Category (iii) - Project Co wishes to derogate from the requirements above for the following areas;

The following are general comments from the above

- There is a lack of accuracy with category (i) – it is unclear which package Project Co are saying has been “approved” through the Review Procedure.
- There appears to be a lack of consistency as to how Project Co have applied the above categories.
- Some of the statements are incorrect, and confuse the actual item in dispute.

### **3. Closing of issues**

Whilst all parties want to conclude the settlement agreement, Project Co / MPX have incorrectly closed a number of items that are still pending information. For example where we had said the item was status C, this has been deleted and the item closed.

Item 50, currently this sits at status C however Project Co record it as status B.

Item 58 Lighting in Service Yard, the submission currently sits at status C. Despite we have progressed this item, we are still waiting for formal RDD submission incorporating Board's comments.

### **4. Deletion of Columns**

Project Co Obligations, Board Obligations and Changes to Project Agreement have been deleted, and the following statement has been added “The Board and Project Co agree this Dispute is closed, and no further works are required on Site”.

Similar to point 3 above, Project Co / MPX are intent on closing items that have not been fully resolved.

- Who holds the risk if Project Co have incorrectly installed item? In the short term and longer term.
- Where does the IT sit with the revised drafting of 7.1 and the above additions?
- A full review of the Project Co Obligations column will be required as some of the caveats have been lost.
- The statement sometimes contradicts Project Co / MPX statement where they say additional work is required.

I think this is a key issue through the document (and also in meetings with MPX) – items prematurely closed. Project Co / MPX response will be we are asking for too much information.

### **5. Status B drawing issued for information**

The following statement has been added to a few of the items “Status B drawings have been returned to the Board for information”. The Board do not review the for information drawings, hence suggest needs deleted.

### **6. Aconex references**

Aconex references have been added that we do not have access to, suggest a PDF of the Aconex, and a hard drive of the associated design data is required?

### **7. Reducing the list?**

Linked to item 6 above, given the time pressure on this, could we suggest again that non critical issues are removed from the list in order we can focus on the real issues?

### **8. Previously project co changes**

The items that were previously deemed project co changes have been completely re-drafted, with the only one looking remotely like a Project Co change being the Movement Joint. Suggest further discussion is required on the risks associated with this approach. The detailed information is generally available, hence why don't we still to the same format.

There are also clear non compliances with the BCR's e.g. 25% spare capacity, however Project Co / MPX appear to be disagreeing. Does not make sense.

**9. Items that have been summarised**

There are items where examples of the solutions have been provided, e.g. item 10 - Drainage above IPS rooms / above IPS panels / Node Rooms. Concerned that if the Board have not identified all instances of the issue, the Board now has no recourse if another instance were to occur in the future.

**10. Technical Content**

Generally the "direction of travel" of the technical content has not altered, however linked to previous comments, because the items have been prematurely closed by IHSL / MPX, its unclear what the final position is on certain items.

**11. Not Used Items**

End on a positive note – item 39 outstanding status C, item 42 Environmental Matrix, and 81 Intake rooms in separate parts of the building remain not used.

Hope the above helps your discussions on Monday,

Have a good weekend,

Kind Regards  
Graeme

**Graeme Greer**  
Associate



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RHSC + DCN

Schedule Part 01 - Technical Schedule to the Settlement Agreement

WITHOUT PREJUDICE

~~23 June 2017~~ July 2018 - Rev 01

Note: Given that the technical schedule does not expressly set out all necessary amendments to the Project Agreement, Clause 7.1 of the PA Settlement Agreement will require adjustment as follows:

"7.1 The Parties agree that in order to give effect to this Agreement, the provisions of the Project Agreement and other documents referred to in Part [ ] of the Schedule shall be:

- (a) [ ] supplemented and amended as set out in Part [ ] of the Schedule; and/or
  - (b) [ ] (where no express supplement or amendment is set out in Part [ ] of the Schedule) deemed to have been supplemented and amended in order to give effect to the agreed resolution set out in the [third column] of Part [ ] of the Schedule;
- with effect from the date of this Agreement.

The Parties agree that all such supplements and amendments as set out in this Agreement:

- (a) [ ] shall, in the event of any inconsistency with the provisions of the Project Agreement or other document referred to in Part [ ] of the Schedule, take precedence over the Project Agreement or other such document; and
- (b) [ ] shall be deemed to have been agreed in accordance with the Project Agreement, and that the entry into of this Agreement shall not constitute a breach by either Party of the Project Agreement."

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**Commented [GG1]:** Appears to significantly alter the risk allocation in favour of Project Co.  
Suggest further discussion required on the implications.  
If accepted, suggest additional technical mitigation measures may be appropriate.

Item	Dispute	Description of Agreed Resolution
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Item	Dispute	Description of Agreed Resolution
1	<p><b>Lighting in fire fighting stairwells</b></p> <p>The lighting within the 7 fire fighting shafts / stairwells and associated lobby has been installed with single circuit from the local lighting distribution boards that are not supplied by the fire rated cables.</p> <p>The Board believes <del>that the 2</del> fire fighting shafts / stairwells should be supported by a primary and secondary fire rated power supplies from dedicated distribution boards and automatic changeover for dual fire rated supplies.</p> <p><u>Project Co's position is that the design and installation of the lighting within the 7 fire fighting shafts / stairwells meets the requirements of the Project Agreement and was based on the approval through Schedule Part 8 (Review Procedure).</u></p>	<p><del>The Board approve</del> <u>to resolve the Dispute, the Board approved Project Co's proposal for the lighting in the fire rated power and the 7 fire fighting shafts / stairwells.</u></p> <p>Project Co <del>proposes</del> <del>to also receive</del> approval <u>to their proposal for the lighting in the 7 fire fighting shafts/stairwells</u> from the Building Control Officer and Scottish Fire and Rescue; and</p> <p><u>Project Co will address</u> any compliance requirements from the independent Tester <u>in accordance with the Project Agreement.</u></p> <p><u>Proposal and approval all as specified in MPX-SC-027173 (Aconex chain of correspondence as set out in Schedule Part 8 schedule reference attaching all Aconex documentation).</u></p> <p><u>The Board and Project Co agree this Dispute is closed, and no further works are required on site.</u></p>
2	<p><b>Non Fire rates IPS / UPS cabling</b></p> <p>For compliance with BS 7671 and Guidance Note 7, and also BS 8519 circuits associated with essential life-support services should be either fire-rated or fire-protected. The implication of this is, in the event of a fire, power may be lost to essential life safety medical equipment in critical areas.</p> <p><u>The Board believes that</u> Project Co has installed non fire rated cables to IPS boards serving critical areas.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure)</u></p>	<p><u>The design date agreed resolution of the dispute submitted by Project Co through the Schedule Part 8 (Review Procedure) and agreed by the Board is set out below</u> <del>has been given status A / B through the Review Procedure of Level A or Level B.</del></p> <p><u>Level B drawings have been returned to the Board for information.</u></p> <p>Following a collaborative review of the design <u>between the Board and Project Co</u>, Project Co made changes to 11 Number sub mains cables from UPS switchboard to UPS distribution boards changing these to fire rated. <del>Some are up</del></p> <p><u>The remaining UPS submains cables were agreed by the Board and Project Co to be left unaltered. All as noted within Aconex chain of correspondence MPX-Transmit-010735, as set out in Schedule Part 8 (Review Procedure) attaching all Aconex documentation.</u></p> <p>WW-S2-B1-PS-531-101 Rev 1 UPS 1 Cable Route RDO Status A (13/4/18)</p> <p>WW-S2-B1-PS-531-102 Rev 1 UPS 2 Cable Route RDO Status B (13/4/18)</p>

**Commented [GG3]:** Linked to points below, suggest specific drawings would need to be included – this has moved from intent to approve, to approved.

**Commented [GG4]:** The Board has not yet received any letter from Building Control or SFRS.

The Board suspect the question to Building Control and SFRS will be restricted to Emergency Lighting, and not the wider issue of life safety and fire fighting applications

**Commented [GG5]:** Aconex refers emergency lighting rather than lighting for life safety and fire fighting applications as per BS 7671.

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**Commented [GG6]:** General comment – this statement does not work, not all the items are closed, particularly this one.

**Commented [GG2]:** General comment that applies to all – "based on the package" is very vague. Which package are Project Co referring to?

We would also need to check if it was given status A or B, one of these packs may be status C.

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**Commented [GG8]:** The Board have not reviewed the "for information" drawings, hence no relevance to the Settlement Agreement?

**Commented [GG7]:** As per point above, I will not repeat same comment for all.



Item	Dispute	Description of Agreed Resolution
		<p>WW-S2-B1-PL-531-103 Rev 1 UPS 3 Cable Route RDD Status B (13/4/18)</p> <p>WW-S2-B1-PL-531-104 Rev 1 UPS 4 Cable Route RDD Status A (13/4/18)</p> <p>WW-S2-B1-PL-531-105 Rev 1 UPS 5 Cable Route RDD Status B (13/4/18)</p> <p>WW-S2-B1-PL-531-106 Rev 1 UPS 6 Cable Route RDD Status B (13/4/18)</p> <p>WW-S2-B1-PL-531-107 Rev 1 UPS 7 Cable Route RDD Status A (13/4/18)</p> <p>WW-S2-B1-PL-531-108 Rev 1 UPS 8 Cable Route RDD Status A (13/4/18)</p> <p>WW-S2-B1-PL-531-109 Rev 1 Helipad Cable Route RDD Status A (13/4/18)</p> <p>WW-S2-B1-PL-531-112 Rev 1 UPS 12 Cable Route RDD Status B (13/4/18)</p> <p>WW-S2-B1-PL-531-114 Rev 1 UPS 14 Cable Route RDD Status A (13/4/18)</p> <p>WW-XX-XX-DC-XXX-010 Rev 3 UPS / UPS Cable Alternative RDD Status B (13/4/18)</p> <p>WW-XX-XX-SC-539-001 Rev G UPS System Schematic RDD Status A (13/4/18)</p> <p><u>The Board and Project Co agree this Change is closed and no further action is required.</u></p>
3	<p><b>No earth bonding in certain required areas.</b></p> <p><del>The Board's position is that (i) equipotential bonding has been installed in 144 Group 1&amp;2 rooms. Equipotential bonding is required to prevent electric shock to patients, staff and visitors.</del></p> <p><del>As a result of further efforts by Project Co and the Board, the Board's position is that the installation and installation meets the requirements of the relevant standards. The Board understands that the original position of bonding was 144 rooms by Project Agreement and was based on the package approved through Schedule Part B (Review Procedure).</del></p>	<p><del>Through this</del></p> <p><del>In accordance with Schedule Part B (Review Procedure) the Room by Room Risk Profile as set out in Schedule Part B produced by Project Co has been given status Level B, and the correct grouping and categorisation has been applied to the original 144 rooms mentioned in the description.</del></p> <p><del>In accordance with Schedule Part B (Review Procedure), the Board / Project Co has agreed that a further 36 rooms will be modified to Group 1 Category 2, and 1 No. Group 1 Category 3 in relation to providing equipotential bonding.</del></p> <p><del>The details of the resolution of the Dispute agreed by Project Co and the Board and the modifications to be undertaken by Project Co are noted within WWHET-Transmit-001046 as set out in Schedule Part B (Review Procedure).</del></p>

**Commented [GG9]:** What happens if Project Co have incorrectly installed any of the above? In the short term and longer term.

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**Commented [GG10]:** Important caveat from the Project Obligations has been lost – full review required.

Ensure rooms are correctly categorised and grouped per SI-ITM 06-01 and BS 7671 Table 9.1 of Guidance Note 7

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**Commented [GG11]:** Not able to access this therefore cannot check, should refer to MPX-TRANSMIT-010701 instead

Item	Dispute	Description of Agreed Resolution																																								
		<p>Appendix MPX-TRANSMIT-010601 as set out in Schedule 1 (insert schedule information - detailing all Air Change Documentation) contains the Room by Room Risk Profile document at rev F and WW-52-SL-SH-500-011 Rev F Room by Room Risk Profile (ADD Reviewable Design Data Status B (4/5/18)).</p> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>																																								
4	<p><b>Bedroom ventilation pressure regime and air change rate in rooms for neutropenic patients</b></p> <p>The Board's position is that Neutropenic Patients - As per SHTM and Clinical Specs, the rooms for neutropenic patients should be designed as isolation rooms (+10 positive pressure). However, there are 10 single rooms which Project Co have designed to balanced pressure.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure).</p>	<p><del>Board to include latest drafting and relevant information.</del></p> <p><del>This agreement is subject to the following conditions: The project Co shall provide a written approved RDB to be subject to a decision with the terms of this Agreement.</del></p> <p><b>Detail of Change</b></p> <p><b>Financial Close Position</b></p> <p>All the above Project Co agreed the following design and construction solution for single bed rooms within the Haematology and Oncology Department (H&amp;O) as been approved through Schedule Part B (Review Procedure) and agreed by Project Co and the Board as resolving the Dispute.</p> <p>Refer to Environmental Matrix WW-52-SL-SH-500-011 rev 11 as set out in <del>Insert Schedule 1 (insert)</del> which records the agreed environmental criteria as follows:</p> <table border="1"> <thead> <tr> <th>Room Type &amp; Department</th> <th>FM Room Code</th> <th>Pressure (Pascals) Differential to Corridor</th> <th>Air Change / Hour</th> </tr> </thead> <tbody> <tr> <td></td> <td>3-C1.4-059</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td></td> <td>3-C1.4-057</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td></td> <td>3-C1.4-055</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td>Single Bed Rooms</td> <td>3-C1.4-046</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td></td> <td>3-C1.4-032</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td>Haematology and Oncology</td> <td>3-C1.4-018</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td></td> <td>3-C1.4-016</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td></td> <td>3-C1.4-013</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td></td> <td>3-C1.4-010</td> <td>0 (balanced)</td> <td>4</td> </tr> </tbody> </table>	Room Type & Department	FM Room Code	Pressure (Pascals) Differential to Corridor	Air Change / Hour		3-C1.4-059	0 (balanced)	4		3-C1.4-057	0 (balanced)	4		3-C1.4-055	0 (balanced)	4	Single Bed Rooms	3-C1.4-046	0 (balanced)	4		3-C1.4-032	0 (balanced)	4	Haematology and Oncology	3-C1.4-018	0 (balanced)	4		3-C1.4-016	0 (balanced)	4		3-C1.4-013	0 (balanced)	4		3-C1.4-010	0 (balanced)	4
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	3-C1.4-010	0 (balanced)	4																																							

**Commented [GG13]:** Not sure why the format has changed? This is an agreed to be a Project Co Change.

The revised wording will have to be reviewed in more detail.

**Commented [GG12]:** Is this referring to the Change through the Review Procedure or design data?

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Item	Dispute	Description of Agreed Resolution									
		<p><del>As the result of the following items, the Board and Project Co. agreed to the following items:</del></p> <table border="0"> <tr> <td>Single bed rooms</td> <td>3-CL4-074</td> <td>0 (balanced)</td> </tr> <tr> <td></td> <td>3-CL4-076</td> <td>0 (balanced)</td> </tr> <tr> <td></td> <td>3-CL4-078</td> <td>0 (balanced)</td> </tr> </table> <p><del>Resolved: The Board and Project Co. agree that the Board and Project Co. have agreed following a collaborative review of the design, however, it is noted that change alteration is to be made to the design as follows:</del></p> <p><del>As per Clause 3.1 (Approach to Design) and Clause 3 (Mechanical &amp; Electrical Engineering Requirements) of the Sub-Section D (Specific Clinical Requirements) and Sub-Section E (Specific Non-Clinical Requirements) of Part A – Design and Validation Table A1 (Appendix 1) Recommended to be changed to:</del></p> <p><del>Resolved:</del></p> <p>Project Co's Financial Close design assigned balanced pressure to the neutropenic single bedrooms. The conclusion of design workshops held throughout the Construct-in-Phase confirmed that, although not providing a neutral point view a balanced pressure regime could be managed operationally.</p> <p><del>Implications:</del></p> <p>Project Co requires all from the following:</p> <ul style="list-style-type: none"> <li>• <del>Section 3.1 (Approach to Design) of Sub-Section C (General Requirements) of Section 3 (Mechanical &amp; Electrical Engineering Requirements) of Schedule Part 2 (Construction Methods), which states Project Co shall take cognisance of all the architectural and building services implications of the requirements described in the Board's Construction Requirements in the Schedule Part 2 Section 3 Sub-Section C (Specific Clinical Requirements) and Sub-Section E (Specific Non-Clinical Requirements).</del></li> <li>• <del>Section 3 (Mechanical &amp; Electrical Engineering Requirements) of Sub-Section D (Specific Clinical Requirements) of Section 3 (Mechanical &amp; Electrical Engineering Requirements) of Schedule Part 2 (Construction Methods), which states Project Co shall take cognisance of all the building services implications of the requirements described in Clause D (Specific Clinical Requirements) and Sub-Section C (Specific Non-Clinical Requirements) of Sub-</del></li> </ul>	Single bed rooms	3-CL4-074	0 (balanced)		3-CL4-076	0 (balanced)		3-CL4-078	0 (balanced)
Single bed rooms	3-CL4-074	0 (balanced)									
	3-CL4-076	0 (balanced)									
	3-CL4-078	0 (balanced)									

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Item	Dispute	Description of Agreed Resolution																																																																																
		<p><del>Table A3 (Appendix 3) Board – agreed to allow go ahead of South Health Tech – not to be – (NHS) 01-03. Used for the healthcare premises that it – Design and installation follows</del></p> <table border="1"> <thead> <tr> <th>Application</th> <th>Year(s)</th> <th>Volume</th> <th>Pressure (Bar)</th> <th>Supply Rate</th> <th>Flow (l/min)</th> <th>Temp (°C)</th> <th>Comments for further information</th> </tr> </thead> <tbody> <tr> <td>General work</td> <td>2019</td> <td>6</td> <td>-</td> <td>0.4</td> <td>30</td> <td>15-20</td> <td></td> </tr> <tr> <td>Cybernetic work</td> <td>2019</td> <td>10</td> <td>see</td> <td>-</td> <td>30</td> <td>-</td> <td></td> </tr> <tr> <td>Single room</td> <td>2019/2020</td> <td>6</td> <td>0.2</td> <td>0.4</td> <td>30</td> <td>15-20</td> <td></td> </tr> <tr> <td>Single room WC</td> <td>2019</td> <td>3</td> <td>see</td> <td>-</td> <td>40</td> <td>-</td> <td></td> </tr> <tr> <td>Clean utility</td> <td>2019</td> <td>3</td> <td>see</td> <td>0.4</td> <td>40</td> <td>10-20</td> <td></td> </tr> <tr> <td>Only utility</td> <td>2019</td> <td>3</td> <td>see</td> <td>-</td> <td>40</td> <td>-</td> <td></td> </tr> <tr> <td>Ward isolation room</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>See BHPW 4 Supplement 1</td> </tr> <tr> <td>Inhalation chamber</td> <td>2019</td> <td>16</td> <td>0</td> <td>0.4</td> <td>30</td> <td>15-20</td> <td>Ultrapurification may be required</td> </tr> <tr> <td>Neurogenetics lab</td> <td>2019</td> <td>10</td> <td>1.0</td> <td>0.4</td> <td>30</td> <td>10-20</td> <td></td> </tr> </tbody> </table> <p>Due to the current design, the Board is required to propose good practice standard agreed up procedures for management of what we get into in the departments.</p> <p>The balanced exhaust system will be provided operationally and is workable on the basis that 9 isolation suites are provided in accordance with BS7593:2011.</p> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>	Application	Year(s)	Volume	Pressure (Bar)	Supply Rate	Flow (l/min)	Temp (°C)	Comments for further information	General work	2019	6	-	0.4	30	15-20		Cybernetic work	2019	10	see	-	30	-		Single room	2019/2020	6	0.2	0.4	30	15-20		Single room WC	2019	3	see	-	40	-		Clean utility	2019	3	see	0.4	40	10-20		Only utility	2019	3	see	-	40	-		Ward isolation room	-	-	-	-	-	-	See BHPW 4 Supplement 1	Inhalation chamber	2019	16	0	0.4	30	15-20	Ultrapurification may be required	Neurogenetics lab	2019	10	1.0	0.4	30	10-20	
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Neurogenetics lab	2019	10	1.0	0.4	30	10-20																																																																												
5	<p>25% spare capacity</p> <p>The Board's position is that 25% spare capacity should be provided by Project Co in terms of main and sub main distribution containment, UPS Boards, AHU, physical space in voids and ceilings, risers.</p> <p>The Board are of the opinion that it is apparent from 4-4/2018 visits that the spare capacity has not been provided.</p> <p>Project Co's position is that the design and installation needs the requirements of the Project Agreement was based on the package approved through Schedule Part 8 (Review Procedure) and spare capacity had been allowed in compliance with the BCR's.</p>	<p>The spare capacity has been identified within a Spare Capacity Statement as set out in <a href="#">Insert Schedule reference</a>.</p> <p>This – the as to of which Board and Project Co have been reviewed and commented – is why we upon within the Spare Capacity Statement – as set out in <a href="#">Insert Schedule reference</a> – NHSL.pdf and MGPS Spare Capacity Statement.pdf.</p> <p>Medical Gas report dated 29 June 2018 as set out in <a href="#">Insert Schedule reference</a> was reviewed by Project Co to respond to Board's comments. No adverse comments have been received from the Board in relation to this Report.</p> <p>All as recorded within Iconex MPX-GC-026751, NHSL-GC-003075 and MPX-GC-027180, as set out in Schedule <a href="#">Insert schedule reference at Article 31 Iconex documentation</a>.</p> <p><del>Project Co support the minimum 25% spare capacity and the Board are aware of</del></p> <p>The Board and Project Co agree this Dispute is closed and no further action is required in order to resolve the Dispute.</p>																																																																																

Commented [GG14]: Suggest the clinical team is better placed to draft these statements than Project Co?

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Commented [GG15]: There is inconsistency in Project Co's approach. This is a clear non compliance with the BCR's, and their report confirms that, however unlike the movement joint, they are not asking for relief from the BCR's.

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Commented [GG17]: There was an outstanding comment from Ronnie on the medical gases, not sure if the issue is closed.

Commented [GG18]: At a previous principals meeting, Susan had requested savings relative to the reduced future flexibility. No savings have yet been identified.

Item	Dispute	Description of Agreed Resolution
6	<p><b>HV distribution</b></p> <p>In relation to system resilience, the Board believes Project Co's design for HV Distribution is non-compliant with the Board's Construction Requirements (BCR's), Project Co Proposal's (PCP's) and SHTM Guidance for the following elements;</p> <ol style="list-style-type: none"> <li>1. Resilience of the HV main intake switch room,</li> <li>2. HV cable distribution,</li> <li>3. HV / LV substations.</li> </ol> <p>The Board believes the design currently creates single points of failure at the HV side of the electrical distribution network.</p> <p>The main current concern from the Board relates to the cable configuration.</p> <p><u>Project Co's position is that the design and installation meet the requirements of the Project Agreement and was based on the packages approved through Schedule Part B (Review Procedure) which was based on the Board's reference design.</u></p>	<p>The <del>dispute made</del> <u>Reviewable Design Data as set out</u> below for this item has been given status <u>Level A for Level B through the in accordance with Schedule Part B (Review Procedure)</u> with the exception of Gas Suppression where more detailed information is to be submitted <del>through the by Project Co in accordance with Schedule Part B (Review Procedure)</del>.</p> <p><del>The agreed resolution of the dispute submitted by Project Co through the Schedule Part B (Review Procedure) and agreed by the Board, was for changes to the switch room etc made to the switch panels</del> within the energy centre to capture the generator panel as part of the ring. Fire protection has been applied to the fire hazard rooms.</p> <p>Drawings and schedules were updated and submitted <del>for RCD through Schedule Part B (Review Procedure)</del>. <u>Details of modifications to be carried out by Project Co are specified in the documents noted below.</u></p> <p>Gas suppression has been agreed to be provided within SS2A and SS2B, and through <del>the</del> Board Change <u>insert reference</u> provided within SS1A and SS1B.</p> <p><u>All materials set out within Annex MPX-Transmit-010823 and MPX-GC-027179 as set out in Schedule <u>insert reference attaching all Annex documents</u></u> and in the following drawings:</p> <p>WW-XX-XX-SC-530-001 Rev 1 HV Distribution Schematic RDD Status B (11/5/18)</p> <p><del>WW-XX-XX-SC-530-100 Rev 1 Multiplex Alternative HV Room Configuration RDD Status A (11/5/18)</del></p> <p>WW-XX-XX-SC-530-102 Rev 1 Multiplex Alternative HV Room Configuration RDD Status A (11/5/18)</p> <p>WW-XX-XX-SC-530-103 Rev 1 Multiplex Alternative HV Ring Configuration RDD Status B (11/5/18)</p> <p>WW-XX-XX-SC-530-104 Rev 1 Multiplex Alternative HV Ring Configuration Protection System Schematic RDD Status A (11/5/18)</p> <p>WW-XX-XX-SC-530-105 Rev 1 Multiplex Alternative HV Ring Configuration Protection System Blocking Diagram RDD Status A (11/5/18)</p> <p>WW-XX-XX-SC-530-106 Rev 1 MV Cable Routing As Installed RDD Status B (11/5/18)</p> <p>WW-XX-XX-SC-530-107 Rev 1 G59 Connections RDD Status B (11/5/18)</p> <p>WW-XX-XX-SC-530-108 Rev 1 Generator System RDD Status A (15/5/18)</p> <p>WW-SZ-SI-SH-531-204 Rev 1 RHSC &amp; DCN Gas Suppression Basement Substations (not issued for RDD)</p>

Commented [G619]: Why has this drawing been deleted?



Item	Dispute	Description of Agreed Resolution
		<p><u>The Board and FrostCo agree this dispute is closed and no further action is required.</u></p>

Item	Dispute	Description of Agreed Resolution
7	<p><b>4 bed ventilation</b></p> <p>In relation to ventilation pressure regimes, the Board believes Project Co's design for ventilation is non-compliant with the Board's Construction Requirements (<u>BCRs</u>), Project Co Proposal's <u>PCPs</u>, SHTM Guidance and RDD FC comments.</p> <p>In addition, the Board believe the intake air change rate and the extract air change rate are non-compliant.</p> <p>From a clinical perspective, the principal concern to the Board in continuing with Project Co's proposed pressure regime design means there is an unacceptable risk of the spread of bacterial airborne infections into corridors and surrounding patient rooms (positive to the corridor)</p> <p>The Board requires the pressure regime to be balanced or negative to the corridor.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement, was based on the package approved through Schedule Part 8 (Review Procedure) which included the environmental matrix which had been discussed and was agreed at Financial Close.</u></p> <p><u>The environmental matrix was a direct copy of the reference design environmental matrix developed during the preferred bidder period. No adverse comments were received (not to or at Financial Close).</u></p>	<p>The <del>design and installation</del> <u>Design Data</u> noted below for this item has been given status <u>B through the Level B in accordance Schedule Part 8 (Review Procedure).</u></p> <p><u>Level B comments on drawings were returned for information to the Board.</u></p> <p>The <del>only resolution of the Dispute</del> <u>resolution of the Dispute</u> submitted by Project Co through the <u>Schedule Part 8 (Review Procedure) and agreed by the Board</u>, is for 14 No 4 bed rooms <del>will</del> <u>to</u> be balanced or negative to the corridor at 4 ac/hr. <u>The remaining 6 No 4 bed wards remain as per the environmental matrix (WW-XX-XX-DC-XXX-001 Rev 1), and rev 02 of the schedule WW-SZ-XX-DC-XXX-010.</u></p> <p>All as noted within Aconex MM-GC-003999; MPX-TRANSMIT-010829; MPX-TRANSMIT-010807 &amp; MPX-TRANSMIT-010869 <u>as set out in Schedule 1 (and Schedule references attaching all Aconex documentation).</u></p> <p>All as noted on drawings:-</p> <p>WW-23-03-PL-524-001 Rev G Zone Z3 Level 03 Ventilation Distribution Sheet 1 of 2 RDD Status B (3/5/18)</p> <p>WW-24-00-PL-524-001 Rev K Zone Z4 Level 00 Ventilation Distribution Sheet 1 of 2 RDD Status B (3/5/18)</p> <p>WW-24-00-PL-524-002 Rev L Zone Z4 Level 00 Ventilation Distribution Sheet 2 of 2 RDD Status B (3/5/18)</p> <p>WW-24-01-PL-524-001 Rev J Zone Z4 Level 01 Ventilation Distribution Sheet 1 of 2 RDD Status B (3/5/18)</p> <p>WW-24-03-PL-524-001 Rev G Zone Z4 Level 03 Ventilation Distribution Sheet 1 of 2 RDD Status B (3/5/18)</p> <p>WW-24-03-PL-524-002 Rev G Zone Z4 Level 03 Ventilation Distribution Sheet 2 of 2 RDD Status B (3/5/18)</p> <p>WW-SZ-XX-DC-XXX-010 Rev <del>0402</del> <u>0407</u> General Ward - Ventilation Amendments Proposal RDD Status B (31/5/18)</p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>

**Commented [GG21]:** As per previous comment – the Board do not review “for information” drawings.

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**Commented [GG22]:** we recently received an updated extract of the EM with the proposed changes relating to 4 bed rooms, response to be collated and issued back to PCo.

**Commented [GG20]:** Environmental Matrix was rejected at Financial Close on the basis of non compliance with SHTM for bedrooms ventilation.

Item	Dispute	Description of Agreed Resolution
8	<p><b>Bedhead trunking earth bonding points</b></p> <p><u>All the Board's position is that all</u> bedhead trunking installed in Group 2 Medical Locations is provided with only 2 supplementary equipotential bonding points. This is not in compliance with GN7, which requires minimum 4 for IPS sockets.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</u></p>	<p>The <del>design and installation</del> <u>Design Data</u> noted below for this item has been given status <u>Level A for B through the in accordance with Schedule Part 8 (Review Procedure).</u></p> <p>The <del>status on how the resolution to the dispute agreed by the Board and Project Co required Project Co to provide</del> a minimum 4 supplementary earthing points for medical IT sockets.</p> <p>All as noted within MPX-TRANSMIT-010733 &amp; MPX-TRANSMIT-010714 <u>as set out in Schedule referenced</u></p> <p>All as per drawings:-</p> <p>WW-52-SI-SI-500-011 Rev F Room by Room Risk Profile RDD Status B (4/5/18)</p> <p>WW-23-00-PL-S31-001 Rev M Zone Z3 Level 00 Small Power Layout Sheet 1 of 2 RDD Status B (13/4/18)</p> <p>WW-23-00-PL-S31-002 Rev M Zone Z3 Level 00 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-23-01-PL-S31-001 Rev J Zone Z3 Level 01 Small Power Layout Sheet 1 of 2 RDD Status A (13/4/18)</p> <p>WW-23-01-PL-S31-002 Rev P Zone Z3 Level 01 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-24-00-PL-S31-002 Rev Q Zone Z4 Level 00 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-24-01-PL-S31-001 Rev K Zone Z4 Level 01 Small Power Layout Sheet 1 of 2 RDD Status A (13/4/18)</p> <p>WW-24-01-PL-S31-002 Rev K Zone Z4 Level 01 Small Power Layout Sheet 2 of 2 RDD Status A (13/4/18)</p> <p>WW-24-03-PL-S31-002 Rev I Zone Z4 Level 03 Small Power Layout Sheet 2 of 2 RDD Status A (13/4/18)</p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>

Item	Dispute	Description of Agreed Resolution
9	<p><b>Lack of non IPS sockets in theatres</b></p> <p><del>All sockets</del><u>The Board's position is that all socket</u> outlets within these departments except for Cleaners outlets and a limited number of "raw power" sockets in some areas, are Medical Equipment blue sockets. No provision has been made for equipment that should be plugged into an RCB protected outlet whilst in the patient zone.</p> <p>Also, no x ray sockets (dedicated socket).</p> <p><u>Project Co's position is the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure).</u></p>	<p>The <del>dispute noted</del><u>Irresolvable Design Data as set out</u> below for this item has been given status <u>Level A /or B</u> through the <u>in accordance with Schedule Part B (Review Procedure).</u></p> <p><del>Issue as has been made for</del><u>Resolution of the Dispute agreed by the Board and Project Co includes provision for</u> the equipment requiring to be plugged into RCB protected circuits.</p> <p>All as recorded within MPX-TRANSMIT-010733, MPX-TRANSMIT-010714 &amp; MPX-GC-02689B <u>as set out in</u> <u>insert schedule reference</u>.</p> <p>All as per drawings:-</p> <p>WW-23-00-PL-531-001 Rev M Zone Z3 Level 00 Small Power Layout Sheet 1 of 2 RDD Status B (13/4/18)</p> <p>WW-23-00-PL-531-002 Rev M Zone Z3 Level 00 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-23-01-PL-531-001 Rev J Zone Z3 Level 01 Small Power Layout Sheet 1 of 2 RDD Status A (13/4/18)</p> <p>WW-23-01-PL-531-002 Rev P Zone Z3 Level 01 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-24-00-PL-531-002 Rev O Zone Z4 Level 00 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-24-01-PL-531-001 Rev K Zone Z4 Level 01 Small Power Layout Sheet 1 of 2 RDD Status A (13/4/18)</p> <p>WW-24-01-PL-531-002 Rev K Zone Z4 Level 01 Small Power Layout Sheet 2 of 2 RDD Status A (13/4/18)</p> <p>WW-24-03-PL-531-002 Rev I Zone Z4 Level 03 Small Power Layout Sheet 2 of 2 RDD Status A (13/4/18)</p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
10	<p><b>Drainage above IPS rooms / above IPS panels / Node Rooms</b></p> <p><u>It is the Board's position that</u> Project Co <del>have</del><u>has</u> installed drainage above exclusion zones, electrical equipment and other high risk locations except above MRI rooms where this has been completely removed.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the</u></p>	<p>The following rooms where Project Co have installed drainage and water services above IPS rooms / IPS panel / electrical distribution services have been identified, <u>and the resolution of the Dispute agreed by the Board and Project is outlined below:</u></p> <p><b>Basement</b></p> <p>1 - Node room B-T1-001 Drainage will change to HDPE within the room and extend for at least a metre <del>away</del><u>out</u> <u>with</u> either wall.</p> <p>2 - Node room B-T1-002 HDPE drainage will be fusion welded and will extend into the office up until the first joint.</p>

**Commented [GG23]:** What happens if there are more instances of the issue on site that have not yet been found?

Particularly for this issue, however general comment.

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Item	Dispute	Description of Agreed Resolution
	<p><u>Package approved through Schedule Part B (Review Procedure)</u></p>	<p>1 - Switch cupboard B-51-030 will be installed in HDPE as shown <del>with</del> <u>within agreed sketches within MPX-GC-026626 as set out in <a href="#">insert schedule reference</a></u></p> <p>4 - UPS Drainage will be routed once the walls are opened up where we have recesses to suit the best requirements. Drip trays will be installed under any drainage within the UPS room as noted on Drainage Changes.pdf, <u>as set out in <a href="#">insert schedule reference</a></u></p> <p>Ground floor</p> <p>5 - Drainage re-routed from UPS room in basement to ground floor and connecting into CWST tank room stack.</p> <p>6 - Drainage pipework already running through switch cupboard G-F1-095 will be changed to HDPE</p> <p>7 - Drainage pipework with no joints in IPS room G-Q1-002 can stay if joints are not directly next to wall either side of the cupboard ( corridor and Nappy change )</p> <p>Level 1</p> <p>8 - Drainage to change to HDPE in IPS room 1-B1-044 with the tundish moving into cylinder store and boxed in with access hatch.</p> <p>9 - Drainage to change to HDPE in Switch cupboard 1-11-107 only needs to extend 1 mtr into the disposal hold room and not as shown on the Drainage Changes.pdf.</p> <p>Level 3</p> <p>10 - Vent pipe in switch cupboard 3-k2-083 (with no electrical equipment ) can stay while drainage pipe will re-route as Drainage Changes.pdf.</p> <p>The above <del>resolutions</del> <u>resolutions</u> are noted <del>within</del> <u>within</u> <del>Appendix reference</del> <u>Appendix reference</u> MPX-GC-026626 <u>as set out in <a href="#">Schedule insert schedule reference</a> attaching all <a href="#">Appendix documentation</a></u> and Drainage Changes.pdf, and are deemed <del>to have</del> <u>to have</u> <del>Responsible Design Data</del> <u>Responsible Design Data</u> status <u>Level B</u>.</p> <p><del>The Board have only given and the above examples of it is seen, and are undertaking a full survey of the cables on the Board and Project Co agree this Dispute is closed and no further action is required.</del></p>
11	<p>Cable discrimination and cable calculations (electrical issue)</p> <p>Project Co has not submitted cable calculations through <u>RDD Schedule Part B (Review Procedure)</u> for <u>the Board's review</u>.</p> <p>This is required as per <u>4.23.2 (as set out in <a href="#">insert reference to Mechanical &amp; Electrical Specification</a>) <a href="#">Project Co Proposal</a> of Section 4 (Service Level Conciliations) of <a href="#">Schedule Part 12 (Service Requirements)</a>.</u></p> <p>The Board's concern is that the selection, grouping, rating and fault levels of cables <del>are</del> <u>are</u> inappropriate and non-compliant with BS 7671.</p> <p>As evidenced on Site, there are several instances of cables being</p>	<p>Revised cable calculations were issued to the Board 19 June 18. <u>as set out in <a href="#">insert schedule reference</a></u></p> <p>The Board <del>advised</del> <u>advised</u> Project Co <del>on 21 June 18 with Project Co agree this Dispute has been resolved, subject to undertake the following 3 points recorded below:</del> <u>on 21 June 18 with Project Co agree this Dispute has been resolved, subject to undertake the following 3 points recorded below:</u></p> <p><del>Project Co to ensure that all loads used in the calculations accurately reflect the latest equipment loads and design loads.</del></p> <ol style="list-style-type: none"> <li>1. The Board queried the consistent 40A used for all distribution board loads and some machines e.g. circuit 4/15 Angiographic Procedures 1-P1-058. <u>To resolve this Dispute Project Co will confirm that all loads used in the calculations issued 19 June 2018 accurately reflect the latest equipment loads as noted within the Equipment Schedule and will clarify the assumptions noted associated with the design loads.</u></li> <li>2. Project Co <del>will</del> <u>will</u> provide cable calculations with breakers adjusted to limit the cable temperature to under 70DegC. Discrimination to be resolved following that exercise.</li> <li>3. <del>Any short-circuit testing cable runs to be fully analysed and discussed to agreed resolution Project Co</del></li> </ol>

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General comment – given the new format – full review of the Boards position in the dispute column required.

Item	Dispute	Description of Agreed Resolution
	<p>double and triple banked, as well as being grouped tightly together.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the packages approved through Schedule Part 8 (Review Procedure).</u></p> <p><u>The Reviewable Design Data list of documents was agreed at Financial Close, and there is no requirement to submit cable calculations through Schedule Part 8 (Review Procedure).</u></p>	<p><u>To put forward proposals following review of the cable calculations and breaker settings issued 18 June 2018 should they fail to comply with BS7671.</u></p>
12	<p><b>Lack of tamper proof flush fitted sockets in CAMHS</b></p> <p><u>Reviewable Design Data</u> in the Board's original sockets are not installed as per small power layout drawings, i.e. flush fitted tamper proof sockets.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the technical job package approved through Schedule Part 8 (Review Procedure).</u></p>	<p><u>The resolution of the Dispute agreed by the Board and Project Co was for Metal faceplates to be replaced with plastic faceplates to the extent of the work. This work has been completed on site.</u></p> <p>All as noted within NHSL BCP-137 CAMHS Sockets &amp; WW-PL-00-24-531-001 and Board Change 137 - CAMHS A-4Art-Lig M&amp;E and Fixtures.pdf, as set out in <u>Final schedule referred</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
13	<p><b>Single Bedroom Ventilation air changes</b></p> <p>Air change rates proposed by Project Co for single bedrooms are not in compliance with SHTM 03-01 and Board's comments. 4ac/h supply provided to the bedrooms instead of the required 6ac/h. The onsite extract rate proposed in excess of 10ac/h where requirements of SHTM 03-01 is 3ac/h.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the packages approved through Schedule Part 8 (Review Procedure) which included the environmental matrix which had been discussed and agreed pre Financial Close.</u></p> <p><u>The environmental matrix was a direct copy of the reference design environmental matrix developed during the preferred bidder period.</u></p>	<p><u>The Board <del>to include latest drawings</del> Project Co agree this item is closed, and <del>to accept information</del></u></p> <p><u>As the agreed technical solution has been documented in the following Project Co Change with which we deemed an Approved RDD item subject to approval through Schedule Part 8 (Review Procedure) and is accepted to be agreed by the terms of the Agreement</u></p> <p><b>Detail of the Change</b></p> <p><u>Board and Project Co are agreeing to deviate from SHTM 03-01 (ventilation for healthcare premises Part A - Design and details) Table A1 (Appendix 1) as follows as resolved the Dispute is noted below.</u></p> <p><u>Project Co and the Board have agreed there is to be no change to the environmental matrix WW-XX-JX-DC-XXX-001 Rev 13, and the air change rates <del>are to be as follows</del></u></p> <p><u>are to be the following - 4 ac/h for the bedrooms - 3 ac/h for single bedrooms - 10 ac/h for the purpose of the work to remain as designed and constructed namely:</u></p>

**Commented [GG25]:** incorrect statement – this was offered as RDD in the PCP (4.23 3 M&E spec), and general caveat included in Schedule Part 6, Section 5, Part 3 as follows,

Any items referenced in the Section 3 (Board's Construction Requirements) and Section 4 (Project Co's Proposals) of Schedule Part 6 (Construction Matters) relating to Schedule Part 8 (Review Procedure), to comments such as "shall be reviewed as Reviewable Design Data" or "to be agreed with the Board", shall be deemed as Reviewable Design Data to be submitted through Schedule Part 8 (Review Procedure).

**Commented [GG26]:** This is an inaccurate statement – Project Co didn't initially install the correct sockets and screws.

**Commented [GG27]:** This is an agreed Project Co Change – as per 25% comment, why has this been dealt differently to the Movement Joint?

**Commented [GG28]:** As per previous, this is a Project Co Change, full review of the revised text required.

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Item	Dispute	Description of Agreed Resolution
	<p><u>Comments were received in Financial Close and these were documented and the design amended to reflect the Board's comments.</u></p>	<p>1. 4 air changes per hour (4 ac/hr) within single bedrooms, and                  2. Increase the mechanical change-out rate on rate with a single bedroom MCR from 3 ac/hr change per hour (3 ac/hr) to <u>min</u> 10 air changes per hour (10 ac/hr).</p> <p><b>Reasons</b></p> <p>The design philosophy for flats with a single bedroom is to provide a balanced ventilation system which is intended to provide both physiological and a better level of air flow to most part of central of the environment, and reducing the load on the mechanical ventilation system respectively. The strategy results in some pressure differential regime within the room where supply and extract is balanced.</p> <p>2. Add to specify the mechanical extract vent for an average rate has been assumed within the single bedrooms) within ensuite from 3 ac change per hour (3 ac/hr) to 10 ac changes per hour (10 ac/hr) (minimum) to provide a fresh environment for occupants. The ensuite extract provides a balanced air change rate to the bathroom.</p> <p>The design intent and figures noted above are reflected within the environmental matrix previously submitted through <u>ADD Schedule Part B (Review Procedure) - WXX-XX-DC-XXX-001 Rev 11</u>.</p> <p><b>Implications</b></p> <p>Reduced through ensuring an by gross of air exhausted mechanical vent for an rates with a single bedroom. Reducing the rate to within a minimum 10 ac/hr ensure the extract performance duty has sufficient capacity for both the wet and showers extract fan, and ultimately provides the balanced vent for an rate required between the bedroom and the ensuite.</p>
14	<p><b>Smoke clearance in fire fighting stairwells</b></p> <p>As per the Non Domestic Technical Handbook and project specific Fire Strategy, all fire fighting stairwells shall be provided with appropriate ventilation for heat and smoke control. Currently only a percentage of stairwells appear to have openings for high level ventilator. No details of electrical connections including fire rated cables for fire fighting plant as per BS 8519 <u>have been provided.</u></p> <p><u>Project Co do not dispute the Board's position.</u></p>	<p>The fans shall be provided through a means of control of the system, and through compliance with the BS 5446 / BS 5446-1 / BS 5446-2.</p> <p><u>Through a remote activation via a button to the design unit.</u></p> <p>The remote activation and minimum free area opening <u>is as noted in MPX-CC-036780.</u></p> <p><u>In line with clause 2.14.6 (and table 2.14) of the NDTH, each of the stairs are designed with a mix of 'ventilators' achieving 1.5qm ea. to the top of the stair (either smoke vents or windows). The strategy to each stair is noted</u></p>

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Commented [GG29]: New text included that will need reviewed - this was also subject to witnessing on site.

Item	Dispute	Description of Agreed Resolution
		<p><u>below:</u></p> <ul style="list-style-type: none"> <li>▪ <u>Stair 1 – Operable window to stair (from window to top of stair) CHSI</u></li> <li>▪ <u>Stair 2 – Operable window to stair (from window to top of stair), mechanical ventilation to the bed area lobby. Push buttons to topmost storey and access level as per 2.14.6 CHSI</u></li> <li>▪ <u>Stair 3 – Operable (mechanical) roof vent to stair – mechanical ventilation to the bed area lobby. Push buttons to topmost storey and access level as per 2.14.6</u></li> <li>▪ <u>Stair 4 – Operable (mechanical) roof vent to stair. Push buttons to topmost storey and access level as per 2.14.6</u></li> <li>▪ <u>Stair 5 – Operable window to stair (window at each level, however topmost floor window to have local automated actuator allowing the window to open under actuation to achieve 1m/s<sup>2</sup> Veffac</u></li> <li>▪ <u>Stair 6 – Operable window to stair (window at each level, however topmost floor window to have local automated actuator allowing the window to open under actuation to achieve 1m/s<sup>2</sup> Veffac</u></li> <li>▪ <u>Stair 7 – Operable (mechanical) vent to stair – exhaust via plant room area at L04. Push buttons to topmost storey and access level as per 2.14.6</u></li> </ul> <p><u>In order to comply with section of 5.17 of the BCAs, all opening windows (including those to stairs 1, 2, 5 and 6) are lockable and fitted with restrictors.</u></p> <p><u>The CHSI Schuco Windows are provided with 'Custodian Handle Housing' with 'Custodian Keys' as per CHSI Technical Submittal no. 13 allowing the windows to the top of stairs 1 and 2 to open fully and achieve in excess of the min 1.5m requirement of the building regulations.</u></p> <p><u>The Veffac W7-022 windows to stairs 5 and 6, are provided with 'Cylindrical Handle with Lock' with 'Allen Key Lockable Restrictor'. The topmost window in each stair is to be fitted with localised actuators. This only allows opening by operatives as the locks and restrictors must be omitted. The actuators shall be activated locally by button control at 2m above floor level so as not easily accessible to public. This is in accordance with NOTIC 2.14.6.</u></p> <p><u>The fire service carry the tool required to operate the CHSI windows and the key shall also be stored in a secure location near the windows or break glass.</u></p> <p><u>All as noted within Annex MPX-GC-026280, MM-GC-003950 and MPX-GC-026538, as set out in Schedule 1 (Annex) of the above referenced Attachment of Annex documentation, the above actions are agreed by the Board and Project Co to resolve this Dispute.</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>

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Item	Dispute	Description of Agreed Resolution
15	<p><b>Access hatches</b></p> <p><u>See below for the Board's position that a proliferation of Access hatches <del>has</del> been installed within theatre suites which is non-compliant with BCR clause 8.14 Service Routes and "Good Industry Practice".</u></p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Buyer's Procedure).</u></p>	<p>The design intent for this item includes the <u>elimination/reduction</u> of hatches in theatres, <del>as noted within Appendix MPX GC-027183, as it has not been achieved and a compliant product has been achieved, as noted at 011 in Board Status 2 comments on Deemed NOD <del>xxxxxxx</del></del></p> <p><u>See also p 26 of the Schedule 8 (Buyer's Procedure) reference regarding all Access Installation. This will be reflected in the as-built documentation.</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
16	<p><b>Reductions to ceiling heights</b></p> <p>In addition to the Project Co Change 016 (Basement Ceiling Heights), further Height reduction in basement areas/service yard <del>appears</del> to have been reduced <u>by 2100</u> without the agreement of the Board.</p> <p><u>Project Co do not dispute the Board's position.</u></p>	<p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p> <p><u>Project Co to set out proposed resolution of the Dispute agreed by the Board approved Project was captured within the noted CCPs and is detailed below.</u></p> <p><u>See also p 26 of the Schedule 8 (Buyer's Procedure) reference regarding all Access Installation. This will be reflected in the as-built documentation.</u></p> <p><u>MPX CCP 059 ACC0007 Ceiling Height</u></p> <p><u>Room Number 8-C01-067 was designed to have a ceiling at height 2700mm. It has been agreed to lower the ceiling height to 2600mm for two localised areas.</u></p> <p><u>Room Number 6-A1-067 was designed to have a ceiling at height 3000mm and it is proposed to reduce that ceiling height to 2950mm. The height of the ceiling rooms to be lowered because there was an MEP service path.</u></p> <p><u>Reference is made to the following documents as set out in <u>Project Status 2 reference</u> which specify the changes agreed between Project Co and the Board:</u></p> <ul style="list-style-type: none"> <li><u>• Financial Close Drawing - HUM 27-04-PS-337-407 rev L - MARKUP</u></li> <li><u>• MPX CCP 059 ACC0007 Ceiling Height</u></li> <li><u>• Email confirming acceptance from NISL - 29/03/18</u></li> <li><u>• Financial Close Drawing - HUM 24-00-PS-400-412 Rev 4</u></li> </ul> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>

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**Commented [GG30]:** General Comment - This new approach / format is going to take a long time to review / pull together - could we discuss with HISI removing some of the less critical items that do not need to form part of the settlement agreement.

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**Commented [GG31]:** General comment - unclear why Project Co are not disputing this item, but appear to dispute others that are similar in nature.

**Commented [GG32]:** Jackie / Janice to confirm no issues with reduced ceiling height in these rooms.

If this is the basement corridor it has been noticed and not accepted by the Board

**Commented [GG33]:** Review required - Are there additional changes in these documents? Or do these illustrate the 2 changes noted?

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Item	Dispute	Description of Agreed Resolution
17	<p><b>Duct Cleaning</b></p> <p><del>Due to cleaning - The Board's position is that</del> SHTM states all ducts must be cleaned unless they have been protected, <del>and</del>.</p> <p><del>The Contractor is</del> not proposing to clean all ducts as believe they have sufficiently protected the ducts following installation. <del>It</del></p> <p><del>Independent Tester advised</del> <del>MPX</del> Contractor will have to do a check to confirm ducts aren't dirty</p> <p><del>Project Co's position is that</del> ducts were being protected, and will be <del>inspected</del> at commissioning stage - any failing the test will then being cleaned.</p>	<p><del>It is agreed by the Board and Contractor that this Dispute</del> item shall be resolved through witnessing and testing of the system, to demonstrate compliance with the BCR's / PCP's / Completion Criteria.</p> <p>The extent of ductwork requiring to be cleaned has been captured within the following document:</p> <ul style="list-style-type: none"> <li>* <del>Duct Cleaning - Aconex MM-GC-004106, MPX-GC-027167, as set out in Schedule</del> <del>insert schedule reference attaching all Aconex documentation.</del></li> </ul> <p><del>Project Co agrees this Dispute</del> <del>The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>
18	<p><b>Number of lift stops</b></p> <p><del>Number of</del> <del>The Financial Close submission III (SI - XX - DC - 4 - 15 Vertical Transport)</del> stated that the bed lift stops <del>at</del> <del>DCN in core 3 would serve 5 floors.</del></p> <p><del>This is contrary to the BCRs</del> <del>8.8.11 - "RISC lifts should not stop at DCN Boxes, and DCN lifts should not stop at RISC Boxes"</del> which states: "All floors - including plant levels shall be served".</p> <p><del>Item 5 - as set out in the Board Co-ops go however - this go</del> <del>referred to in 4.7. This was highlighted and noted in the Construction Contract "Schedule Part B section 5 (b) 1.4 RISK / Non-approved Project Co's Proposals Design Data submittals" attached U80113 Schedule Part B Section 5 RISK 00107 Extract).</del></p>	<p><del>Board to give all lift stops to be served at DCN rooms</del></p> <p><del>Project Co and the Board agree that the number of lift stops should be amended and agree that BCR 8.8.11 should state: "RISC lifts should not stop at DCN Boxes, and DCN lifts should not stop at RISC Boxes"</del>.</p> <p><del>Through discussion and agreement between the Board and Project Co, the agreed wording has been set out as an amendment within Aconex MPX-CCR-041 Bed lift as set out in schedule</del> <del>insert schedule reference attaching all Aconex documentation.</del></p> <p><del>The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>
19	<p><b>Helipad fire fighting system (Wafer Pressure)</b></p> <p>Helipad fire fighting system does not comply with the guidance of HBN 15-03 Hospital Helipads clause 5.22. There does not appear to be a pressurised main supply, nor is there a system of inert gas to pressurise the system.</p>	<p><del>This to be resolved through witnessing and testing of the system - to be witnessed and tested in the presence of the Board/PCP's/Co-ops to be</del></p> <p>The Board <del>and</del> Project Co note the CAAI has <del>agreed with the design</del> certified the helipad is fit for purpose as installed. <del>and</del> <del>Form has been completed</del></p> <p><del>Reference is made to letter received by the Contractor from CAAI dated 07 March '11 with pleasure that we can</del></p>

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- Commented [GG34]: Appears to be a contradiction. No further action is required, however above it says resolved through witnessing and testing?
- Commented [GG35]: Discussion required - confusion on the issue.
  1. Bed lift to basement of core 3 - should have gone to the basement, but does not.
  2. Lift stops - no need for the segregate DCN and RISC patients.
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Item	Dispute	Description of Agreed Resolution
	<p><u>Project Co's position is that a pressurised main supply and a system of inert gas to pressurise the system is not required.</u></p>	<p><u>Issue this letter of completion which, subject to certain conditions outside of Muller's control being met before the heliport commences operations, confirms the rooftop heliport at Risk &amp; DCN is regarded as fit for purpose.</u></p> <p><u>Documentation is noted within Annex MMX-GC-027315 as set out in Schedule I <del>insert schedule reference attaching all Annex documentation</del></u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
20	<p>Vegetation around air intakes in Neuroscience and Staff Courtyards</p> <p><u>It is the Board's position that Landscape design around intake vents in Neuroscience Courtyard is <del>not</del> substantially non-compliant with SHTM 03-01 which states:</u></p> <p><u>Air Intake</u> 1.42 An uncontaminated air supply to the system is essential. In order to achieve this, the air intake will be positioned so that air discharged from extract systems or other dubious sources cannot be drawn in. Exhaust fumes from vehicles can present particular problems. The area surrounding the intake will need to be kept clean and free of vegetation and waste material in order to reduce the possibility of biohazards or fire. The intake itself will be protected by a louvre and mesh screen to prevent rainwater, vermin and insects etc from entering the system.</p> <p><u>Project Co's position is that the design has been approved by the Board through RDG.</u></p>	<p>The Board / Project Co agree the <del>design data noted adjacent to the Design Data</del> for this item has been given status <u>Level A for B through the in accordance with Schedule Part B (Review Procedure).</u></p> <p><u>Further to the co-located and Project Co the go with the Board co-located that the following design measures proposed by Project Co <del>are</del> agreed with the Board to resolve the dispute, limit planting in the area surrounding the intake vents. This satisfies SHTM 03-01A Clause 1.42 in so far as it allows the area surrounding the vents to be clean and free of vegetation and waste material in order to reduce the possibility of biohazards or fire and the Change can therefore be approved.</u></p> <p><u>Neuroscience Courtyard</u> Project Co <del>is proposing to replace</del> <u>has replaced</u> the planting around the air intake vents with artificial grass with the exception of one area which has been planted with sedum as per the Board's request.</p> <p><u>Staff Courtyard</u> Project Co <del>is proposing to</del> <u>has incorporated</u> a 600mm 'no plant zone' to the perimeter of the air intake vents."</p> <p>All as noted within Drawing HLM-20-03-PL-700-002 Rev E, Drawing HLM-20-03-PL-700-026 Rev E, <del>and Annex MM-GC-003873 as set out in Schedule I</del> <u>insert schedule reference attaching all Annex documentation</u>.</p> <p><u>Annex MMX-GC-003873. The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
21	<p>"Do not use" labels removed from Medical Gas Outlets before commissioning.</p> <p><u>It is the Board's position that Medical gas outlet "Do Not Use" labels removed before commissioning, non compliance with</u></p>	<p><u>The Board / Project Co agree with the Board.</u></p> <p>Through discussion it was agreed <u>by Project Co and the Board that this Dispute will be resolved by</u> the Medical gas outlet "Do Not Use" labels <u>being used</u> in place prior to commissioning, thus ensuring compliance with SHTM 02-01.</p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>

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Item	Dispute	Description of Agreed Resolution
25	<p><b>Level and position of smoke detectors</b></p> <p><del>It is the Board's position that smoke detectors are</del> mounted at low levels above the ceiling i.e. not installed at the heights specified for void detectors</p> <p><del>Project Co's position is that the design and installation is in accordance with the requirements of the Project Agreement, was based on the package approved through Schedule Part 8 (Review Procedure) in compliance with the DCIs, and will be signed off by the installer as compliant.</del></p>	<p>Following discussion and site review <del>the</del> the Independent Tester <del>has</del> closed this item on basis of compliance.</p> <p>Summary of agreement contained with <del>Aconex MPX-GC-027316- as set out in Schedule 1 (DCI) is reference attaching all Aconex documentation.</del></p> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>
26	<p><b>Ventilation in IPS</b></p> <p><del>It is the Board's position that Project Co</del> have shown 3ac/h extract ventilation in the EM but not all rooms have been provided with extract vent in the room - Potential heat gain issue.</p> <p><del>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</del></p>	<p>The Board <del>and</del> Project Co agree the <del>design data</del> <del>dated</del> <del>design</del> <del>document</del> <del>for</del> <del>reviewable</del> <del>Design</del> <del>Data</del> for this item has been given status <del>Level</del> <del>A</del> <del>for</del> <del>B</del> <del>through</del> <del>the</del> <del>in</del> accordance with Schedule Part 8 (Review Procedure).</p> <p>Rev 011 of the EM represents the agreed position of ventilation being provided within IPS rooms.</p> <p><del>As noted in the</del></p> <p>Reference is made to MPX-TRANSMIT- 009971 for WW-XX-XX-DC-XXX-001 Rev 011 – status B (17/11/17) <del>as set out in insert schedule reference).</del></p> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>
27	<p><b>Hot and Cold water supply pipe configuration</b></p> <p><del>It is the Board's position that</del> Hot and cold water supply pipes are crossed behind the sink in some rooms and in some instances the cold pipe is above the hot water pipe or touching the pipe meaning the will be heat transferred to the cold water supply. Not best practice and non compliance with SHTM 04-01</p> <p><del>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</del></p>	<p><del>The tests shall be conducted through measuring and testing of the system, to demonstrate compliance with the DCIs / DCPIs / Completion Criteria.</del></p> <p>Through discussion and site review it was agreed <del>the</del> <del>arrangements</del> <del>agreed</del> <del>between</del> <del>the</del> <del>Board</del> <del>and</del> <del>Project</del> <del>Co</del> <del>that</del> <del>the</del> <del>installation</del> be modified to maintain pipework separation and distance as per valve body so <del>that</del> the hot and cold water pipework doesn't touch or cross. <del>in accordance with SHTM 04-01.</del></p> <p><del>Aconex MPX-GC-027316 as set out in Schedule 1 (DCI) is reference attaching all Aconex documentation) specifies details of the changes made at site.</del></p> <p>The Board <del>have</del> <del>not</del> <del>done</del> <del>take</del> <del>a</del> <del>full</del> <del>survey</del> <del>of</del> <del>the</del> <del>Facilities</del> <del>and</del> <del>is</del> <del>by</del> <del>done</del> <del>and</del> <del>planned</del> <del>the</del> <del>same</del> Project Co <del>has</del> <del>agreed</del> <del>to</del> <del>provide</del> <del>all</del> <del>items</del> <del>in</del> <del>the</del> <del>Facility</del> <del>to</del> <del>be</del> <del>agreed</del> this <del>item</del> <del>Dispute</del> <del>is</del> <del>closed</del> <del>and</del> <del>no</del> <del>further</del> <del>action</del> <del>is</del> <del>required</del>.</p>

**Commented [GG38]:** Not able to access.

General comment – suggest all files need to be issued on external hard drive for review, with a PDF of the Aconex created?

**Commented [GG39]:** Transfers the risk to the Board to inspect the full Facility, which has not, and perhaps cannot be done.

General comment – the design / construction risk appears to be getting passed to the Board – suggest this is not appropriate.

**Commented [GG40]:** No evidence that this item has been progressed on site.

General Comment – all items should be subject to normal witnessing and testing, and inspection by the Independent Tester.

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Item	Dispute	Description of Agreed Resolution								
31	<p><b>Gas supply to bedhead trunking</b></p> <p>Supply has not been installed on <del>400 process</del> as per Board comments during <del>400 process</del> Schedule Part B (Review Procedure).</p> <p><del>Project Co constructed services was that the design and installation was based on the package approved through Schedule Part B (Review Procedure)</del></p>	<p>The Board <del>and</del> Project Co agree the <del>design details noted above</del> <b>Revised Design Data</b> for this item has been given status <del>A / B through the Level A</del> in accordance with Schedule Part B (Review Procedure) and the Dispute has been resolved.</p> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>ME-XX-XX-DC-400-105</td> <td>B</td> <td>Bedhead Trunking Drawings</td> <td>A</td> </tr> </tbody> </table> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>	File Reference	Rev	Title	Status	ME-XX-XX-DC-400-105	B	Bedhead Trunking Drawings	A
File Reference	Rev	Title	Status							
ME-XX-XX-DC-400-105	B	Bedhead Trunking Drawings	A							
32	<p><b>Concealed ceiling grids</b></p> <p>Ceiling Grids are not concealed and not constructed in line with <del>RDD drawings</del> drawings agreed in accordance with Schedule Part B (Review Procedure) and as set out in <del>Table 1</del>.</p> <p><del>Project Co do not dispute this position.</del></p>	<p><del>Dispute is resolved based on the agreed technical solution</del></p> <p>The <del>agreed</del> technical solution to the Dispute agreed by the Board and Contractor has been documented in the following Project Co Change <del>023</del> which is now deemed an Approved RDD item subject to and in accordance with the terms of the Agreement Schedule Part B (Review Procedure).</p> <p><b>Detail of the Proposed Change</b></p> <p>The HBM/ITM's ceiling layout (332 drawings) stated that for all ceiling areas, the <b>Type B</b> ceilings were to be used as standard.</p> <p>Project Co wish to deviate from the requirements above for the following:</p> <p>a) Propose a standard ceiling grid that meets the requirements of HBM/ITM's to be:</p> <p><b>Table 1</b> set out below the following options:</p> <ul style="list-style-type: none"> <li>• Types A, D, C and F as legs are standard tile with standard Trulok Prelude 24 grid.</li> <li>• Type H as legs are concealed (non-structure, clean room spec) to be taken away.</li> </ul> <p><b>Introduction of Type L ceilings</b> For Ensuite/bathroom/disposal holds/dirty utility areas ie high humidity areas. Standard ceiling tiles are proposed however with corrosion resistant Trulok prelude grids. <del>These grids were specified in Type B ceilings at FC.</del></p> <p><b>Reasons</b></p> <p>Reference is made to 332 revised drawings as set out in <del>Table 1</del> which reflect the correct proposed ceiling types.</p> <p>Reference is also made to:</p> <ul style="list-style-type: none"> <li>• Example drawing HBM/ITM 332-0015-332-001 Rev E</li> <li>• HBM-SP-X10-0 - Latest Ceiling Specification.</li> </ul>								

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Commented [GG41]: incorrect statement - the whole point of the issue is the installation is not as per the RDD, however the Board then compromised as it would have been difficult for Project Co to fix.

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Item	Dispute	Description of Agreed Resolution								
		<p>Marked up ceiling keys, identifying the change.</p> <p>all go out in <b>limited</b> installation references.</p> <p>should not have been door bed.</p> <p><b>Implications:</b></p> <p>if only called out to go to the site to be taken down and replaced with the agreed upon to be used above. Re-sed Co. g.</p> <p>Upsets and spec for site to meet the new proposal and currently with the Board to RCO.</p> <p>Use of air to DCD proposals.</p>								
33	<p>Soft Landscaping planting specification</p> <p>It is the Board's opinion that planting on e-45 to way not as per planting schedule. i.e. clematis appears to be climbing but should be bush/ground variety.</p> <p>Project Co's position is that this comment relates to unfinished works and is not relevant.</p>	<p>The Board / Project Co agree the design details noted adjacent for this item have been given status A / B through the Review Process.</p> <p>Through discussion it was noted these plants were left with the canes in them so that the contractor could tend the bark mulch underneath before removing the canes. It was agreed the canes will be removed so that the plant can lay on the ground.</p> <table border="1"> <thead> <tr> <th>Job Reference</th> <th>Dis</th> <th>Date</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>A47206723-743-043</td> <td>A</td> <td>Soft Landscaping Details - Long and Square - 26.11.2018</td> <td>A</td> </tr> </tbody> </table> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>	Job Reference	Dis	Date	Status	A47206723-743-043	A	Soft Landscaping Details - Long and Square - 26.11.2018	A
Job Reference	Dis	Date	Status							
A47206723-743-043	A	Soft Landscaping Details - Long and Square - 26.11.2018	A							
34	<p>Wrong terminators fitted in warning lights</p> <p>It is the Board's opinion in relation to Warning Lights that:</p> <ul style="list-style-type: none"> <li>- Terminal strip connector in theatres to be removed and correct terminations provided, all warning light boxes.</li> <li>- light box deformed where glanded</li> </ul>	<p>The Board / Project Co agree this Dispute is closed and no further action required.</p>								

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Item	Dispute	Description of Agreed Resolution
	<p><u>Project Co's position is that the installation was still work in progress and will be compliant prior to the Actual Completion Date.</u></p>	
35	<p><b>No evidence of IPS circuit bonding conductors</b></p> <p><u>It is the Board's opinion that there is no evidence of IPS circuit bonding conductors at the IPS cabinets. The Main Bonding conductor between the IPS &amp; the ERB is present.</u></p> <p><u>Project Co's position is that the installation is still a work in progress and will be compliant prior to the Actual Completion Date.</u></p>	<p>The Board / Project Co agree this <del>dispute</del> is closed, <u>and no further action required.</u></p>
36	<p><b>Fire resistance of radiology door frame</b></p> <p>Radiology: Door frame packed out in door opening, not in accordance with manufacturer's limits to maintain fire resistance of doorset.</p> <p><u>Project Co has not provided this resolution.</u></p>	<p>This item shall be resolved through witnessing and testing of the system, to demonstrate compliance with the BCTN / CCRN / Compliance Criteria.</p> <p>As <del>noted</del> <u>noted</u> within <u>Access</u> MPX-GC-028747, MPX-GC-027156 and NHSL-GC-003201 <u>as set out in Schedule 1 (see schedule reference) attaching all Access documentation</u>, the door frame has been rectified.</p> <p><u>Project Co has provided LFA's - 80, 90, 120 - to which door type 27 is to be fitted in the Radiology Office.</u> The Board / Project Co agree this dispute is closed <u>and no further action required.</u></p>
37	<p><b>UPS output switchboard with incorrect poles</b></p> <p><u>It is the Board's position that the UPS output Switchboard 2 Switchboard is supposedly a Form 4 type 6 board. Schneider state that to achieve Form 4 type 2 or 6 that the incoming devices should be 4 poles. The incoming devices are three poles with unswitched neutral.</u></p> <p><u>Project Co's position is that the design and installation is in accordance with the requirements of the Project Agreement and was based on the tech sub package approved through the approval process.</u></p>	<p>The Board / Project Co agree this <del>dispute</del> is closed, <u>and no further action required.</u></p>



Item	Dispute	Description of Agreed Resolution
38	<p>Corridor service door handles</p> <p>It is the Board's position that the Corridor service doors <del>is</del> installed <del>include</del> pull handles <del>which</del> are not acceptable as advised by the Board 30/01/17 (MM-GC-002483) during room review (corners of handles at <del>at least a</del> <del>children's</del> head height)</p> <p>Project Co's position is that the design and installation complies with the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedures).</p>	<p><del>The Board own the resolution as set out in the Review Procedure.</del></p> <p><del>Project Co to provide suitable information for approval of RDD. This item has been rectified on site.</del></p> <p><del>The solution agreed by the Board and the Contractor to resolve the Dispute was to remove the pull handles and replace them with standard flat escutcheons.</del></p> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>
39	<p><del>NOT USED</del></p> <p><del>Outstanding Project Co to provide information on the 2020</del></p> <p><del>Minimum outstanding RDD</del></p> <p><del>The items to not be included on the 2020 schedule of work.</del></p>	<p><del>Fixed</del></p>
40	<p>Remaining Permanent Infrastructure outside the red line boundary (CCTV etc)</p> <p>Still waiting for legal agreement for infrastructure outside the <del>red</del> boundary.</p>	<p><del>Outstanding Project Co to provide information</del></p>
41	<p>Seasonal Commissioning</p> <p><del>It is the Board's position that there is a need for some seasonal commissioning tests to be <del>complete</del> completed post hand over.</del></p> <p>Project Co's position is that seasonal commissioning would always be required to be carried out post the Actual Completion Date.</p>	<p><del>Project Co to test and provide report to the Board and</del></p> <p><del>A separate seasonal commissioning report has been prepared to clarify and clarify the proposal.</del></p> <p><del>Approved under MM-GC-007044 the complete As Built Energy Model report is provided prior to the Commissioning End Date and will be completed prior to the Actual Completion Date.</del></p> <p>The building requires to be fully occupied and in use throughout a year in order to monitor the environmental conditions as noted in Schedule 6, Section 7, Item 4.5.2.</p> <p>Seasonal Commissioning activities that shall be carried out during this time are detailed in "Seasonal Commissioning Activities Rev 1" as set out in <del>insert schedule reference</del>.</p> <p>Reference is made to 180505 Seasonal Commissioning Activities Rev 1 as set out in <del>insert schedule reference</del>.</p> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>

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Note the long term energy consumption risk sits with the Board, hence as a minimum critical the Board gets the As Installed Energy model through RDD, this suggests nothing will be submitted through RDD.



Item	Dispute	Description of Agreed Resolution
42	<p><b>Environmental Matrix</b></p> <p>EM reflects A&amp;S - some currently non-compliant - NCT USFI</p>	<p>Not used</p> <p>See item 43 - dup copy of both</p>
43	<p><b>Routing of services. Corridor layouts against any non compliance with standards to be tabled.</b></p> <p>How well is the Board's position that services are currently running through clinical areas that were not included within the original Project Co derogation.</p> <p>Project Co's position is that the design and installation meets the Project Agreement was based on the package approved through Schedule Part 8 (Review Procedure)</p>	<p>The Board and Project Co to set out a agreed status for Board approval</p> <p>The Board owe to be done from agree that Project Co will detail on the BHA model where the necessary access might be required for the services that pass through and access required one area clinical spaces serving another the adjacent space</p> <p>As noted with a reference is made to MPX-GC-027217 - is set out in <b>Board schedule reference</b></p> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>
44	<p><b>Nurse call in WC</b></p> <p>How well is the Board's position that there is evidence from the site (room C1.1-070) that nurse call pull cards have been installed in some visitor's WCs. However no nurse call should be installed in visitor's WCs.</p> <p>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure)</p>	<p>The process agreed between the Board and Project Co to resolve the Dispute was for the Board to issue a Board Change</p> <p>This has been received and Project Co is processing the Change as noted within NHSI-BCP-0142 as set out in <b>Board schedule reference</b></p> <p>The Board and Project Co agree the design and installation for this item has been given status 1/1 through the Review Procedure Dispute is closed and no further action is required</p> <p><b>Board to approve Change</b></p> <p>Project Co have agreed to install nurse call as per the following Agreement <b>Board to approve Change</b></p>

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**Commented [GG43]:** Project Co change is required for this, insufficient information yet been provided for the Board (and BYES to assess the risk.

General comment - what is BYES position on all of this? We are hearing many of the Project Co Changes are now getting stalled by BYES.

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Item	Dispute	Description of Agreed Resolution
45	<p><b>Unidentified Circuits</b></p> <p>Electrical circuits are not identified or labelled at terminal rail inside trunking. Consequently, there is no way to identify which cables enter and leave the circuit terminal strips.</p> <p><i>Project Co dispute this position and consider that the design and installation meets the requirements of the Project Agreement.</i></p>	<p><i>The Board / Project Co agree this dispute is closed.</i></p> <p>Through discussion and site review <u>between the Board and Project Co</u> it was agreed <u>that</u> no further action required.</p> <p><i>The Board and Project Co agree this Dispute is closed and no further action is required.</i></p>
46	<p><b>Fire alarm cable bands</b></p> <p><i>Board is the position that cable bands for fire alarms are plastic rather than metal. Metal ties are required by BS and are proposed by Project Co M&amp;E specifications (4.23.3 of Section 4 of Schedule Part 6).</i></p> <p><i>Project Co's position is that the installation was still work in progress and would be compliant prior to the Actual Completion Date.</i></p>	<p><i>This item shall be resolved through a testing and testing of the system to demonstrate compliance with the BCBs / PCPs / Completion Criteria.</i></p> <p><i>Project Co shall procure that installation is compliant with the BCBs.</i></p> <p><i>The Board and Project Co agree this Dispute is closed and no further action is required.</i></p>
47	<p><b>IPS units earthbar termination - 1-B1-044 - IPS Room</b></p> <p><i>Project Co's position is that the installation was still work in progress and would be compliant prior to the Actual Completion Date.</i></p>	<p><i>The Board / Project Co agree this dispute is closed.</i></p> <p>Through discussion and site review it was agreed <u>between the Board and Project Co</u> that no further action required <u>to resolve this Dispute.</u></p> <p><i>The Board and Project Co agree this Dispute is closed and no further action is required.</i></p>
48	<p><b>IPS sockets supplying non medical equipment</b></p> <p><i>It is the Board's position that IPS sockets have been found on site providing power for the television, scale of the issue still to be determined.</i></p> <p><i>Project Co's position that the installation was still a work in progress and will be compliant prior to the Actual Completion Date.</i></p>	<p><i>The Board / Project Co agree this dispute is closed.</i></p> <p>Through discussion and site review it was agreed <u>between the Board and Project Co</u> that no further action is required <u>to resolve this Dispute.</u></p>

Item	Dispute	Description of Agreed Resolution																																											
29	<p><b>Interleaved circuits.</b></p> <p><u>As is the Board's opinion</u>, as per SHTM 06-01 and note 7 on design drawings, <u>that</u> all sockets including pendant supplies, for Cat 3, 4 and 5 should be interleaved. However, the evidence from <u>4-46526</u> suggests this has not been installed.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</u></p>	<p>The <del>dispute</del><u>Reviewable Design Data</u> noted below for this item has been given status <u>Level A for B through the</u> <u>in accordance with Schedule Part 8 (Review Procedure).</u></p> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>WW-52-SL-SH-500-011</td> <td>F</td> <td>Room by Room Risk Profile</td> <td>B (04/05/18)</td> </tr> <tr> <td>WW-23-00-PL-531-001</td> <td>M</td> <td>Zone 23 Level 00 Small Power Layout Sheet 1 of 2</td> <td>B (13/04/17)</td> </tr> <tr> <td>WW-23-00-PL-531-002</td> <td>M</td> <td>Zone 23 Level 00 Small Power Layout Sheet 2 of 2</td> <td>B (13/04/17)</td> </tr> <tr> <td>WW-23-01-PL-531-001</td> <td>J</td> <td>Zone 23 Level 01 Small Power Layout Sheet 1 of 2</td> <td>A (13/04/17)</td> </tr> <tr> <td>WW-23-01-PL-531-002</td> <td>P</td> <td>Zone 23 Level 01 Small Power Layout Sheet 2 of 2</td> <td>B (13/04/17)</td> </tr> <tr> <td>WW-24-00-PL-531-002</td> <td>D</td> <td>Zone 24 Level 00 Small Power Layout Sheet 2 of 2</td> <td>B (13/04/17)</td> </tr> <tr> <td>WW-24-01-PL-531-001</td> <td>K</td> <td>Zone 24 Level 01 Small Power Layout Sheet 1 of 2</td> <td>A (13/04/17)</td> </tr> <tr> <td>WW-24-01-PL-531-002</td> <td>K</td> <td>Zone 24 Level 01 Small Power Layout Sheet 2 of 2</td> <td>A (13/04/17)</td> </tr> <tr> <td>WW-24-03-PL-531-002</td> <td>I</td> <td>Zone 24 Level 03 Small Power Layout Sheet 2 of 2</td> <td>A (13/04/17)</td> </tr> </tbody> </table> <p><u>The Board and Project Co agree this dispute is closed and no further action is required.</u></p>				File Reference	Rev	Title	Status	WW-52-SL-SH-500-011	F	Room by Room Risk Profile	B (04/05/18)	WW-23-00-PL-531-001	M	Zone 23 Level 00 Small Power Layout Sheet 1 of 2	B (13/04/17)	WW-23-00-PL-531-002	M	Zone 23 Level 00 Small Power Layout Sheet 2 of 2	B (13/04/17)	WW-23-01-PL-531-001	J	Zone 23 Level 01 Small Power Layout Sheet 1 of 2	A (13/04/17)	WW-23-01-PL-531-002	P	Zone 23 Level 01 Small Power Layout Sheet 2 of 2	B (13/04/17)	WW-24-00-PL-531-002	D	Zone 24 Level 00 Small Power Layout Sheet 2 of 2	B (13/04/17)	WW-24-01-PL-531-001	K	Zone 24 Level 01 Small Power Layout Sheet 1 of 2	A (13/04/17)	WW-24-01-PL-531-002	K	Zone 24 Level 01 Small Power Layout Sheet 2 of 2	A (13/04/17)	WW-24-03-PL-531-002	I	Zone 24 Level 03 Small Power Layout Sheet 2 of 2	A (13/04/17)
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Item	Dispute	Description of Agreed Resolution								
50	<p><b>Access and Maintenance Strategy</b></p> <p>Access and Maintenance Strategy - lack of clear access and maintenance strategy submitted to date. <del>The document is currently to be updated by Project Co</del></p> <p><del>Project Co's position is that this is a work in progress and will be compliant prior to the Actual Completion Date.</del></p>	<p><del>(Project Co to submit final to be issued 28 June 2022)</del></p> <p><del>Round 20-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000</del></p> <p><del>The Review Panel Data noted below for this item has been given status Level B in accordance with Schedule Part B (Review Procedure) in relation to revision 11 with exchange of emails agreeing how comments shall be addressed see "MPX response to NHS comments on Rev 11 A+M Strategy" as set out in <a href="#">Project schedule reference</a></del></p> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>HLM-XX-XX-DC-450-001</td> <td>4412</td> <td>Access and Maintenance Strategy</td> <td><a href="#">[00211/1/1] updated</a></td> </tr> </tbody> </table> <p><del>The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>	File Reference	Rev	Title	Status	HLM-XX-XX-DC-450-001	4412	Access and Maintenance Strategy	<a href="#">[00211/1/1] updated</a>
File Reference	Rev	Title	Status							
HLM-XX-XX-DC-450-001	4412	Access and Maintenance Strategy	<a href="#">[00211/1/1] updated</a>							
51	<p><b>Lux levels in clean utilities</b></p> <p><del>It is the Board's position that Lux levels in clean utilities rooms may not be sufficient for functionality of the space. Currently LG2 150 lux however due to the layout of the room / cupboards, there may not be sufficient for the functionality of the space.</del></p> <p><del>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the environmental matrix approved through Schedule Part B (Review Procedure)</del></p>	<p><del>This to be resolved through test of the system to be completed with the BSC's / PC's / completion of the</del></p> <p><del>Contractor has agreed a process to measure the lighting levels to meet the agreed Environmental Matrix lux levels recorded within WW-XX-XX-DC-XXX-001 Rev 11 as set out in <a href="#">Board schedule reference</a></del></p> <p><del>Access MPX-TRANSMIT-009971 for WW-XX-XX-DC-XXX-001 Rev 011 as set out in <a href="#">Board schedule reference</a> details the current lighting levels signed off which the design and installation will be measured against.</del></p> <p><del>The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>								
52	<p><b>Fire stopping</b></p> <p><del>It is the Board's position that the Fire stopping has been carried out however subsequent installation may have breached fire stopping.</del></p> <p><del>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure)</del></p>	<p><del>This to be resolved through test of the system to be completed with the BSC's / PC's / completion of the</del></p> <p>The process agreed is for Project Co to Issue the FIRAS Certificate to show compliance in accordance with the provisions of the Project Agreement.</p> <p><del>The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>								

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Commented [GG45]: Whitecoft report still to be issued.

Commented [GG46]: Contradiction - still awaiting resolution of issues hence how can it be closed.



Item	Dispute	Description of Agreed Resolution
53	<p><b>Egg crate Grilles in clinical areas</b></p> <p>It is the Board's position that the Egg box grid is not suitable for cleaning. A technical submittal was issued and signed off by the Board, however a sample of the grid was not issued through the Review Procedure, hence the Board did not have a chance to view the type of product before it was installed.</p> <p>Project Co's position is that the design and installation was based on the package approved through Schedule Part B Review Procedure - photos of the products were provided which the Board should have used to raise comments at the appropriate time.</p>	<p>The process agreed <del>between the Board and Project Co</del> was for Project Co to procure Board preferred grills.</p> <p><del>This As Board noted,</del></p> <p><del>As noted set out within Annex MPX-GC-025802, as set out in Schedule Part B, the Board is not required to inspect all As-Built documentation.</del></p> <p><del>The Board and Project Co agree this dispute is closed and no further action is required.</del></p>
54	<p><b>Curtain track and ceiling Hoist clashes</b></p> <p>Hoists and curtain tracks clash and will need to be reviewed on a room by room basis.</p> <p>Project Co's position is that this is a work in progress and will be compliant prior to the Actual Completion Date.</p>	<p><del>This to shall be resolved through a joint testing of the system to site to plan with the Board / Project Co. plus C to A.</del></p> <p><del>The process agreed was to review with a view to a joint test to site to plan with the Board / Project Co. plus C to A.</del></p> <p><del>As built documentation will record any alterations made.</del></p> <p><del>The Board and Project Co agree this dispute is closed and no further action is required.</del></p>
55	<p><b>Wrong room configurations</b></p> <p>G-Q1-074 not constructed in line with C-Sheet (wrong sequence for data points and socket outlets)</p> <p>Project Co's position is that this is a work in progress and will be compliant prior to the Actual Completion Date.</p>	<p><del>The design details noted below for this item have been given status A / B through the Review Procedure.</del></p> <p><del>Project Co confirmed this room will be installed to HLM C-Sheet for G-Q1-074.</del></p> <p><del>As built documentation will record any alterations made.</del></p> <p><del>The Board and Project Co agree this dispute is closed and no further action is required.</del></p>
56	<p><b>Helipad Ramp Lights</b></p> <p>Helipad ramp now includes lighting however HBN 15-03 recommends that the luminaire should be lower than 25 cm and pointing down toward ramp. Calculations have not been submitted for lighting levels to ascertain if this complies with relevant standards.</p> <p>Project Co dispute the non-compliance claim.</p>	<p><del>The Board / Project Co agree this item is closed.</del></p> <p>Through discussion <del>between Project Co and the Board</del> and site review it was agreed <del>that</del> no further action required relating to this item.</p> <p><del>The Board and Project Co agree this dispute is closed and no further action is required.</del></p>

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Commented [GG48]: Not yet undertaken, hence inaccurate statement.

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Item	Dispute	Description of Agreed Resolution								
57	<p><b>Reduced access to electrical panels</b></p> <p><del>It is the Board's position that</del> Electrical panels <del>should be</del> placed in reduced access areas. The Board understand this should have been designed in conjunction SHIM 00 – Best Practice for Healthcare Engineering – Chapter 9 Engineering services. (4-PLANT-001 – Central AHU Plant Room 01, 3-CORE-008A - Switch cupboard)</p> <p><del>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure)</del></p>	<p><del>This item shall be resolved through commissioning and testing of the system, to demonstrate compliance with the project / contract / compliance requirements.</del></p> <p><del>As noted within Aconex MPX-GC-0223005, noted within Aconex MPX-GC-0223008 set out in Schedule Part B (Review Procedure) reference attaching of Aconex document, the Contractor reviewed on site the 17 areas of concern with the independent Tester, these were captured within the sketches contained within the Aconex and this item has now been closed by the independent Tester.</del></p> <p>The Board and Project Co agree this Dispute is closed and no further action is <del>required</del>.</p>								
58	<p><b>Lighting in Service yard</b></p> <p><del>It is the Board's position that</del> lighting levels within service yard were initially designed at an average of 23 lux levels (i.e. the level required for a car park as per SLL Lighting Guide). This has now been corrected to 50 lux average however the uniformity is not in accordance with the requirements.</p> <p><del>Project Co's position was that the design and installation will comply with the Project Agreement, the BCRs and design and calculations would be submitted through Schedule Part B (Review Procedure)</del></p>	<p><del>The Board and the Contractor agreed to update WW-LW-XX-DC-718-001 through the Review Procedure.</del></p> <p>A process was agreed to capture the Board concern <del>in relation to</del> uniformity, update service yard with twin heads, and resubmit drawing <del>for RPO, WW-LW-XX-DC-718-001 to the Board. This action is now complete.</del></p> <p>As noted within Aconex MPX-GC-033340271 this set out in Schedule Part B (Review Procedure) reference attaching of Aconex document.</p> <table border="1"> <thead> <tr> <th>Dispute</th> <th>Row</th> <th>Description</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>WW-LW-XX-DC-718-001</td> <td>2</td> <td>Service Yard Lighting Calculation</td> <td>C – 3/02/19</td> </tr> </tbody> </table> <p>The Board and Project Co agree this Dispute is closed and no further action is <del>required</del>.</p>	Dispute	Row	Description	Status	WW-LW-XX-DC-718-001	2	Service Yard Lighting Calculation	C – 3/02/19
Dispute	Row	Description	Status							
WW-LW-XX-DC-718-001	2	Service Yard Lighting Calculation	C – 3/02/19							
59	<p><b>Lighting in B-COR-014</b></p> <p><del>It is the Board's position that</del> L14 luminaries are missing in the corridor.</p> <p><del>Project Co's position is that the design and installation meets the requirements of the Employer's Requirements and was based on the package approved through Schedule Part B (Review Procedure)</del></p>	<p><del>This item shall be resolved through commissioning and testing of the system, to demonstrate compliance with the project / contract / compliance requirements.</del></p> <p>Project Co <del>and</del> confirms lighting design has been amended to ensure the minimum height of 2.4m will not be impacted by the <del>to be</del> luminaires installed.</p> <p><del>This item will be reflected within the as built information. Project Co confirms no luminaires are missing within corridor B-COR-014.</del></p> <p>The Board and Project Co agree this Dispute is closed and no further action is <del>required</del>.</p>								

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Item	Dispute	Description of Agreed Resolution								
60	<p>3-T2-018: QP - Riser door missing</p> <p><del>It is the Board's position that the riser wall should have a door to access pipework.</del></p> <p><del>Project Co's position is that the installation was still work in progress and would be completed prior to the Actual Completion Date.</del></p>	<p><del>The team shall be required through a tracing and testing of the system, to demonstrate compliance with the works / notify / completion criteria.</del></p> <p><del>Project Co is satisfied as to. Project Co confirm that suitable cover has now been provided. The door has now been installed.</del></p> <p><del>The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>								
61	<p>Provision of 360o CCTV Coverage</p> <p><del>It is the Board's position that as illustrated in external CCTV drawing (ME-EW-XX-PL-571-001 Rev D) there are gaps within CCTV coverage on approach to the NW elevation of the Facility. Non Compliant with BCR Clause 7.6 (n) (Hard Landscaping).</del></p> <p><del>The Board's position is not disputed by Project Co.</del></p>	<p><del>The Board and Project Co agree the design data noted against the team has been provided through the Review Process.</del></p> <p><del>It is agreed to expect <del>the</del> that Project Co would update <del>it</del> and resubmit drawing ME-EW-XX-PL-571-001.</del></p> <p><del>This is now complete. Project Co is to demonstrate compliance on <del>it</del> when the system is commissioned.</del></p> <p><del>Project Co confirms revision F of the aforementioned drawing was updated and issued for information.</del></p> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>ME-EW-XX-PL-571-001</td> <td>F</td> <td>Site Plan, External CCTV Layout</td> <td>0 (23/05/18)</td> </tr> </tbody> </table> <p><del>The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>	File Reference	Rev	Title	Status	ME-EW-XX-PL-571-001	F	Site Plan, External CCTV Layout	0 (23/05/18)
File Reference	Rev	Title	Status							
ME-EW-XX-PL-571-001	F	Site Plan, External CCTV Layout	0 (23/05/18)							
62	<p>Hazard classification and fire stopping in MRI suites</p> <p><del>It is the Board's position that the MRI Suites are currently not operationally functional as hazard classification of the MRI equipment room prevents installation of waveguides between equipment and examination rooms which <del>can</del> be fire stopped.</del></p>	<p><del>The Board <del>and</del> <del>Project Co</del> updated NVA-53-00-PL-572-002 through the Review Process.</del></p> <p><del>It is agreed <del>that</del> <del>the</del> and Project Co agree that the revised Fire Strategy drawings <del>and</del> <del>include</del> the altered compartmentation lines. These provide the necessary FR ratings and allow the Board to install their protection as required.</del></p> <p><del>Drawings indicate changes made on Access mail MPN-CC-037481 as set out in Schedule <del>1</del> <del>to</del> <del>the</del> <del>contract</del> <del>documents</del>.</del></p>								

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Commented [GG53]: The Board have still to see the revised drawings. A screenshot has been provided, however the Board would prefer the complete package.

Item	Dispute	Description of Agreed Resolution
	<p><u>Project Co's position is the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</u></p>	<p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
63	<p><b>Entrance to Service Yard for Large Vehicles</b></p> <p>As witnessed at the trial on 17th Feb 2018, due to the location of the barrier, large vehicles extend into the blue light route (by Approximately 3ft) when waiting for access through the barrier.</p> <p><u>The Board's position is not disputed by Project Co.</u></p>	<p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p> <p><u>It needs to provide the reference for the agreed RCD submissions.</u></p> <p><u>Results of survey to be shared - the position is being agreed.</u></p> <p><u>Position resolving the Dispute as agreed by the Board and Project Co is recorded within Aconex MPX-OC-027186 as set out in Schedule (insert schedule reference attaching all Aconex documents/links). Reference is also made to the quench pipe work scope (insert schedule reference) and responsibility matrix for both parties (insert schedule reference).</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
64	<p><b>Quench Pipe Route</b></p> <p><u>Board's position is that Project Co <del>has</del> not left a clear route for the quench pipes to run.</u></p> <p><u>Project Co's position is that the route meets the requirements of the Project Agreement and was based around the design and installation package approved through Schedule Part 8 (Review Procedure).</u></p>	<p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p> <p><u>It needs to provide the reference for the agreed RCD submissions.</u></p> <p><u>Results of survey to be shared - the position is being agreed.</u></p> <p><u>Position resolving the Dispute as agreed by the Board and Project Co is recorded within Aconex MPX-OC-027186 as set out in Schedule (insert schedule reference attaching all Aconex documents/links). Reference is also made to the quench pipe work scope (insert schedule reference) and responsibility matrix for both parties (insert schedule reference).</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
65	<p><b>CAMHS/PICU Glazing/DCN Acute</b></p> <p><u>It is the Board's position that Project Co <del>has</del> not effectively designed glazing in PICU and CAMHS and DCN Acute to allow for adequate patient privacy from public spaces. As per Clinical Output Specifications and BCR Clauses 2.2/3.2.1/3.5.2/3.5.4/3.5.6/5.12/5.16.2</u></p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</u></p> <p><u>The privacy issue was discussed prior to any review under Schedule</u></p>	<p><u>The Board and Project Co agree <del>to proceed</del> resolution of the Dispute based on the following:</u></p> <p><u>CAMHS - 11' moved as framed glass, 1100 to obtain samples</u></p> <p><u>PICU - 11' moved as framed glass, 1100 to obtain samples</u></p> <p><u>DCN Acute - 11' moved as framed glass, 1100 to obtain samples</u></p> <p><u>DCN Acute - 11' moved as framed glass, 1100 to obtain samples</u></p> <p><u>1100 provided as to the samples on the table</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p> <p><u>Summary of Board resolution meeting 28/07/18</u></p> <p><u>CAMHS</u></p>

Commented [GG54]: This item has not yet been resolved

Commented [GG55]: The Board are concerned that until this is installed, the Board will not be able to confirm whether it can fit, hence cannot be closed.

Item	Dispute	Description of Agreed Resolution		
	<p><u>Part B (Review Procedure) and measures introduced to eliminate Board concerns during design stage.</u></p>	Room Number	Room Name	Type of Privacy Screening
		G-F1-060	Single Bedroom 7	Opaque Strip/Band *
		G-F1-069	Single Bedroom 8	Opaque Strip/Band *
		G-F1-075	Single Bedroom 9	Opaque Strip/Band *
		G-F1-073	Single Bedroom 10	Opaque Strip/Band *
		G-F1-071	Single Bedroom 11	Opaque Strip/Band *
		G-F1-083	Single Bedroom 12	Opaque Strip/Band *
		G-F1-048	Ground Floor	Full One Way Reflective Film **
		G-F1-067	Single Bedroom 1	Full One Way Reflective Film **
		G-F1-077	Single Bedroom 2	Full One Way Reflective Film **
		G-F1-079	Single Bedroom 3	Full One Way Reflective Film **
		G-F1-081	Single Bedroom 4	Full One Way Reflective Film **
		G-F1-082	Single Bedroom 5	Full One Way Reflective Film **
		G-F1-087	Single Bedroom 6	Full One Way Reflective Film **
		G-F1-096	Quiet Room	Full One Way Reflective Film **
		<p>* Opaque strip band starts at 700mm AFFL and finishes at 1600mm AFFL the prior to manufacture.  ** Will require anti lock sealant or external application.</p>		
		<b>ICN Acute Care</b>		
		1-1-100	Bay 2	Full One Way Reflective Film
		1-1-092	Bay 1	Full One Way Reflective Film
		1-1-098	Single Room 7	Full One Way Reflective Film
		1-1-021	Single Room	Full One Way Reflective Film
		1-1-017	Single Room 5	Full One Way Reflective Film
		1-1-015	Single Room 4	Full One Way Reflective Film
		1-1-010	Single Room 3	Full One Way Reflective Film
		1-1-006	Single Room 2	Full One Way Reflective Film

Commented [GG56]: incorrect statement

Commented [GG57]: table needs to be amended - solution not yet agreed for all rooms.



Item	Dispute	Description of Agreed Resolution		
		J-1-007	Single Room 1	Full Clear View Reflective Film
		J-1-008	Single Room 2	interstitial blind in secondary glazing***
		<p>*** This room is an isolation room</p> <p>As built documentation will be issued by Project Co to record the agreed position.</p>		
66	<p><b>Design Note 5 - void detection</b></p> <p>Project Co deleted design note 5 which described the process for risk assessing the omission of void detection, if no design note 5 reinstated then we assume void detection will be provided throughout.</p> <p><u>Project Co dispute the Board's position and updated design (what can be provided to provide clarity on this issue)</u></p>	<p>The Board and Project Co and the Board have agreed that Project Co's re-submission of updated WSP-SZ-XX-DC-572-500 <del>should be set out in</del> (insert schedule reference) including the necessary risk assessments to remove this situation.</p> <p>Risk assessments have been issued in accordance with Schedule Part 8 (Review Procedure).</p> <p>Reference is made to Aconex ME-XX-XX-DC-572-101 and ME-XX-XX-DC-572-101 as set out in Schedule (insert schedule reference) attaching all Aconex documentation.</p> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>		
67	<p><b>Ventilation extract for Sump</b></p> <p><u>It is the Board's position that the</u> basement sump / basement corridor is not provided with any ventilation. Any maintenance of the sump will require the cover to be open and odours will be present in the corridor outside main kitchen. H&amp;S risk.</p> <p><u>NOTE: there are other signs of water seepage of concern relating to the basement sump. This does not form the subject of this Dispute.</u></p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the packages approved through Schedule Part 8 (Review Procedure)</u></p>	<p>The Board <del>was satisfied</del> <del>to accept</del> <del>the</del> <del>proposed</del> <del>design</del>.</p> <p><u>Project Co and Project Co agreed that Project Co would submit a ventilation strategy proposal that allows for a temporary enclosure around the chamber to be constructed, and odour control fans to remove odours when the chamber is being maintained. Project Co also to submit methodology for the opening of the sump.</u></p> <p>Proposal was issued by Project Co to the Board (B-06-18) setting out maintenance proposals to remedy potential blockages to address concerns relating to basement sump design.</p> <p>Meeting held 29 June 2018 with the Board. Board comments under review.</p> <p>Ventilation Strategy Proposal to be updated and resubmitted via Aconex as per MDX-GC-XXXXXX as set out in Schedule (insert schedule reference) attaching all Aconex documentation.</p>		

Commented [GG58]: RDO pack has just been received - potential issues with the pack.

Commented [GG59]: This meeting covered the broader basement sump and drainage issues.

Commented [GG60]: Requires witnessing on site.

Item	Dispute	Description of Agreed Resolution
68	<p><b>Security for CAMHS courtyards</b></p> <p><del>The Board's position is that the</del> height of fencing is currently not sufficient to prevent access to the CAMHS courtyards.</p> <p><del>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the packages approved through Schedule Part 8 (Review Procedures). The height of the fence was discussed extensively pre-PC and the Board specifically did not want a major boundary between public and private areas.</del></p>	<p>The Board / Project Co agree to <del>resolve the Dispute</del> based on the following:</p> <ul style="list-style-type: none"> <li>Project Co proceeding with install of 2.4m high fence to match existing install at service yard, to the length of the existing installation. Hedge to be replaced with (as close to ) 2.4m high hedge and including return up the back of the spine wall.</li> </ul> <p>The Board <del>awaits the submission of</del> and Project Co agree this <del>can be resolved through the Review Procedure</del> Dispute is closed and no further action is required.</p>
69	<p><b>Service Yard Gate</b></p> <p>The location of the induction loops for automatic gates / barriers will have to ensure there is safe and unobstructed egress from service yard.</p> <p><del>Project Co's position is that the installation was still a work in progress and will be compliant prior to handover the Actual Completion Date.</del></p>	<p><del>The Board does not object to the location of the gate through the Review Procedure.</del></p> <p><del>Agreement has been reached - it is agreed to be resolved by the Board and the Board asks Project Co that Project Co will procure automated gates (both across an entry, but with capability for only the exit side gate to open on exit if size of vehicle does not require it. Service yard drawings will detail the automated gates being proposed. No gates are to be installed until updated by Project Co to reflect this location position.</del></p> <p>This information will be recorded as:</p> <p>HLM:20-00-PL-711-003 Rev 1 (to be issued) as set out in <a href="#">insert schedule reference</a></p>
70	<p><b>ED Drugs store ventilation</b></p> <p><del>Consent to the Board's position that current</del> ventilation provision for drugs store is not in line with Clinical Specific Requirements for the space and therefore is not compliant.</p> <p><del>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the packages approved through Schedule Part 8 (Review Procedures).</del></p>	<p><del>The item shall be resolved through the issue of a Board Change and Project Co agree to proceed based on the following Board change: NHSI-CCP-138 ED Drug Store Ventilation as set out in <a href="#">insert schedule reference</a>.</del></p> <p><del>The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>
71	<p><b>Movement Joint outstanding action</b></p> <p><del>Item 6.6 of the Board's Construction Requirements Schedule part 8 Section 2 states:</del></p> <p><del>6.6 Movement joints</del>  <del>Structural movement joints shall not be located through</del>  a) Therapy rooms  b) Treatment and surgery rooms.</p>	<p><del>The item is at a work in progress and requires further discussion.</del></p> <p>Project Co <del>has agreed the following</del> <a href="#">[insert schedule reference]</a></p> <p><del>Full RCD submission</del>  <del>CCP submission on hot toilet issue</del>  <del>Drawings for the Hot Toilet to be provided</del></p> <p><b>Description of Change</b></p>

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Commented [GG61]: Work still needs to be undertaken.

Commented [GG62]: Hot toilet issue has not been resolved, and revised pack has not been sent to the Board.

Also concerns still with the installation on site.

Item	Dispute	Description of Agreed Resolution
	<p>c) X-ray and imaging rooms  d) Pharmacy manufacturing rooms  e) Kitchens and food preparation areas  f) Any room with (now or in the future) with ceiling mounted tracking hoists or other similar lifting equipment and  g) Any other room requiring a sterile environment and  h) Any rooms where there is a risk of biological or other hazard or risk of penetration by water, aerosol, oil, or other hazardous or detrimental substance.</p> <p>Lateral stability bracing systems shall not obstruct or hinder clinical or non-clinical operations and shall not obscure the windows or doors. <a href="http://www.mpx.com/uk/technical/MPX-001-001.pdf">http://www.mpx.com/uk/technical/MPX-001-001.pdf</a></p> <p>Contractor wishes to provide proposals/ details from the requirements above for the following areas:  a) Gamma Camera – G-01-044 (ceiling only)  b) MRI room 2 – G-01-110 (ceiling only)  c) Ward Kitchen – G-02-041 (ceiling only)  d) Utility room 1 – I-01-041  e) Corridor – I-1-100  f) Single bed – I-1-099  g) Corridor – I-COR-007  h) Exit Bay – I-PI-040  i) Hot toilet – 3-CL-078-R  j) Single Bedroom – G-01-048. <a href="http://www.mpx.com/uk/technical/MPX-001-001.pdf">http://www.mpx.com/uk/technical/MPX-001-001.pdf</a></p>	<p>have listed [GG63]</p> <p><b>4.4 Movement Joints:</b>  Structural movement joints shall not be located through:  a) The ceiling  b) The ceiling  c) The ceiling  d) The ceiling  e) The ceiling and floor proposed on cross  f) Any room with (now or in the future) with ceiling mounted tracking hoists or other similar lifting equipment and  g) Any other room requiring a sterile environment and  h) Any rooms where there is a risk of biological or other hazard, or risk of penetration by water, aerosol, oil, or other hazardous or detrimental substance.</p> <p>To capture details of:</p> <p>Multiple wall to ceiling details above the ceiling to the following:  a) Gamma Camera – G-01-044 (ceiling only)  b) MRI room 2 – G-01-110 (ceiling only)  c) Ward Kitchen – G-02-041 (ceiling only)  d) Utility room 1 – I-01-041  e) Corridor – I-1-100  f) Single bed – I-1-099  g) Corridor – I-COR-007  h) Exit Bay – I-PI-040</p> <p><del>It is commented on the Project Co Change and shows the on approved change for the Board's Committee – the correct details and their locations.</del></p> <p>Reference is made to Annex ref MPX-001-001 and the following documents, all of which are contained in the Schedule <a href="#">Insert schedule reference</a>:</p> <ul style="list-style-type: none"> <li>• <a href="#">Movement Joint Locations Report 180620</a></li> <li>• <a href="#">HLM-S2-SI-PL-252-001-C-Partition Movement Joint Locations</a></li> <li>• <a href="#">HLM-S2-XX-OT-252-025-C-Typical Internal Partition Expansion - Movement Joint Details - Sheet 1</a></li> <li>• <a href="#">HLM-S2-XX-OT-252-052-B-Typical Internal Partition Expansion - Movement Joint Details - Sheet 2</a></li> <li>• <a href="#">HLM-S2-SI-PL-220-014-C-Slab Movement Joint Locations</a></li> <li>• <a href="#">HLM-S2-XX-OT-220-001-B-Typical Expansion - Movement Joint Details - Sheet 1</a></li> </ul>

Commented [GG63]: Why referencing a Project Co Change? Inconsistent.

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Commented [GG64]: That's from 14 June 2017! Also it only includes 3 documents rather than 9 as listed beside. This item should refer to the updated Project Co Change



Item	Dispute	Description of Agreed Resolution
		<ul style="list-style-type: none"> <li><a href="#">HIM-37-30C-DT-220-002-C-Typical Expansion - Movement Joint Details - Sheet 2</a></li> <li><a href="#">HIM-52-SL-PL-332-001-C-Ceiling Movement Joint Locations</a></li> <li><a href="#">HIM-52-3X-DT-332-001-B-Typical Internal Ceiling Expansion - Movement Joint Details - Sheet 1</a></li> </ul> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
73	<p><b>Heating pumps pressure</b></p> <p><del>Issues</del> <u>Issue</u> the Board's opinion there is an <u>issue</u> with heating pumps pressure to distribute hot water around the Facility. Pumps may not be sized correctly.</p> <p><u>Project Co's position is that the installation was still a work in progress and will be compliant prior to the Actual Completion Date.</u></p>	<p><del>This item shall be resolved through commissioning</del> <u>The Board and testing of the system, to demonstrate compliance with the GCPS / HCCPs / Completion Criteria.</u></p> <p><u>A process has been agreed to</u> <del>Project Co</del> <u>Project Co</u> <del>will</del> <u>capture the commissioning results and table these with the Board to confirm compliance with the contract.</u></p> <p><u>All results are being uploaded to the Zutek as built document management system.</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
73	<p><b>Fridge Spaces</b></p> <p>Spaces for fridges mid <del>level</del> <u>level</u> are too small for the equipment</p> <p><u>Project Co does not dispute this item.</u></p>	<p><del>This item shall be resolved through</del> <u>work on ground test of the system, to demonstrate compliance with the GCPS / HCCPs / Completion Criteria.</u></p> <p>The Board has agreed to reduce the sizes of some of the fridges.</p> <p>Project Co has agreed to provide adequate fridge space in line with <del>AS/NZS 4488.1</del> <u>the Board's requirements</u>, all as recorded on <del>Ascomex</del> <u>Ascomex</u> <del>document</del> <u>document</u> <del>GPX-DC-027104</del> <u>is set out in Schedule 1 (part 1) of the contract</u>.</p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
74	<p><b>Incline in L2</b></p> <p>The floor appears to be inclined in L2 department.</p> <p><u>Project Co disputes this position.</u></p>	<p><del>The Board / Project Co agree this item is closed.</del></p> <p>Through discussion <u>between the Board and Project Co</u> it was agreed no further action required.</p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
75	<p><b>Row of work benches too close together - D6 first floor</b></p> <p><del>Issue</del> <u>Issue</u> is the Board's position that the location of desks in</p>	<p><u>It was agreed by the Board and Project Co</u> <del>that</del> <u>that</u> <del>Project Co should amend on site</del> <u>Project Co should amend on site</u> the location of work benches <del>on site</del> <u>at D6 first floor</u>. This work has been completed.</p>

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Item	Dispute	Description of Agreed Resolution								
	<p>Therapies adjusted due to the location of power pole. This created the space between two rows of desks of around 1100cm which is not sufficient.</p> <p><u>Project Co does not dispute this item.</u></p>	<p>The Board <del>and</del> Project Co agree this <del>item</del> Dispute is closed <del>and no further action is required.</del></p>								
76	<p><b>Put wash ceiling</b></p> <p>Incorrect ceiling installed. Should be the same as the "high spec" ceiling in restaurant. The ceiling tiles might be sufficient however the ceiling grid is non compliant.</p> <p><u>Project Co does not dispute this item.</u></p>	<p><del>This item shall be resolved through a testing and testing of the system, to demonstrate compliance with the BCRs / DCAs / Compliance.</del></p> <p>Through discussion and site review it was agreed <del>to</del> <u>between the Board and Project Co that Project Co would rectify this ceiling - it also agreed to explain that so that the specification is equal to the restaurant Type H K40/115H and K40/230CB.</u></p> <p><u>This remedial work is to be captured by Project Co within the As built documentation.</u></p> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>M44-24-04-01-022-000</td> <td>01</td> <td>Fourth Floor-Rolled out Co-Log Layout Sheet 01-000</td> <td>0</td> </tr> </tbody> </table> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>	File Reference	Rev	Title	Status	M44-24-04-01-022-000	01	Fourth Floor-Rolled out Co-Log Layout Sheet 01-000	0
File Reference	Rev	Title	Status							
M44-24-04-01-022-000	01	Fourth Floor-Rolled out Co-Log Layout Sheet 01-000	0							
77	<p><b>Group 2 socket outlets</b></p> <p><del>As is the Board's position, as</del> per GN7, all group 2 socket outlets should be provided with metal plates. This however has not been provided by Project Co. Principle for plastic plates agreed in principle however Project Co Change is required.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the packages approved through Schedule Part 8 (Review Procedures)</u></p>	<p><del>This item shall be resolved through a Project Co Change.</del></p> <p>Through discussion and site review <del>between the Board and Project Co</del> it has been agreed <del>that</del> plastic switchplates are acceptable.</p> <p><u>Project Co Change info to be provided</u></p> <p><u>Project Co to provide information Access MPS-CCP-003 as set out in Schedule Part 8 (Review Procedures) attaching all Approved documentation documents the agreed changes.</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>								
78	<p><b>Penetrations for services</b></p> <p><del>As is the Board's position that desks</del> fitted at touchdown bases have no penetrations for cabling that will need to be connected to sockets under the desks.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the</u></p>	<p><del>This item shall be resolved through a testing and testing of the system, to demonstrate compliance with the BCRs / DCAs / Compliance.</del></p> <p><del>As agreed through a Project Co Change</del> <u>the desk penetrations have now been fitted.</u></p> <p><u>This will facilitate desk mounted IT equipment to be below desk sockets.</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>								



Item	Dispute	Description of Agreed Resolution
	<del>located in two separate parts of the building</del> NOT USED	

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RHSC + DCN

Schedule Part 01 - Technical Schedule to the Settlement Agreement

WITHOUT PREJUDICE

~~22 June 2017~~ 17 July 2018 - Rev 01

Note: Given that the technical schedule does not expressly set out all necessary amendments to the Project Agreement, Clause 7.1 of the PA Settlement Agreement will require adjustment as follows:

"7.1 The Parties agree that in order to give effect to this Agreement, the provisions of the Project Agreement and other documents referred to in Part [ ] of the Schedule shall be:

- (a) supplemented and amended as set out in Part [ ] of the Schedule; and/ or
- (b) (where no express supplement or amendment is set out in Part [ ] of the Schedule) deemed to have been supplemented and amended in order to give effect to the agreed resolution set out in the [third column] of Part [ ] of the Schedule;

with effect from the date of this Agreement.

The Parties agree that all such supplements and amendments as set out in this Agreement:

- (a) shall, in the event of any inconsistency with the provisions of the Project Agreement or other document referred to in Part [ ] of the Schedule, take precedence over the Project Agreement or other such document; and
- (b) shall be deemed to have been agreed in accordance with the Project Agreement, and that the entry into of this Agreement shall not constitute a breach by either Party of the Project Agreement."

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**Commented [GG1]:** Appears to significantly alter the risk allocation in favour of Project Co.  
Suggest further discussion required on the implications.  
If accepted, suggest additional technical mitigation measures may be appropriate.

Item	Dispute	Description of Agreed Resolution
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Re m	Dispute	Description of Agreed Resolution
1	<p><b>Lighting in fire fighting stairwells</b></p> <p>The lighting within the 7 fire fighting shafts / stairwells and associated lobby has been installed with single circuit from the local lighting distribution boards that are not supplied by the fire-rated cables.</p> <p>The Board believes <del>that the 7 fire fighting shafts / stairwells</del> should be supported by a primary and secondary fire rated power supplies from dedicated distribution boards and automatic changeover for dual fire rated supplies.</p> <p><u>Project Co's position is that the design and installation of the lighting within the 7 fire fighting shaft / stairwells meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</u></p>	<p><del>The Board approve</del> <del>To resolve the Dispute, the Board approved Project Co's proposal for the lighting in the shaft well provided the 7 fire fighting shafts / stairwells.</del></p> <p>Project Co <del>is to</del></p> <p><del>also received approval to their proposal for the lighting in the 7 fire fighting shafts / stairwells</del> from the Building Control Officer and Scottish Fire and Rescue and</p> <p><del>Project Co will address</del> any compliance requirements from the Independent Tester <u>in accordance with the Project Agreement.</u></p> <p>Proposal and approval all as specified in <u>MPX-DC-027173/Aconex chain of correspondence as set out in Schedule (insert schedule reference attaching all Aconex documentation).</u></p> <p><u>The Board and Project Co agree this Dispute is closed, and no further works are required on site.</u></p>
2	<p><b>Non Fire rates UPS / UPS cabling</b></p> <p>For compliance with BS 7671 and Guidance Note 7, and also BS 8519 circuits associated with essential life-support services should be either fire-rated or fire-protected. The implication of this is, in the event of a fire, power may be lost to essential life safety medical equipment in critical areas.</p> <p><u>The Board believes that</u> Project Co has installed non fire rated cables to UPS boards serving critical areas.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure)</u></p>	<p>The <del>doc g-14th</del> <del>closed</del> <del>agreed</del> resolution of the Dispute submitted by Project Co through the Schedule Part 8 (Review Procedure) and agreed by the Board is set out below <del>to the to</del> and has been given status A / B <del>through the Review Procedure (Level A or Level B).</del></p> <p><u>Status B drawings have been returned to the Board for information.</u></p> <p>Following a collaborative review of the design <u>between the Board and Project Co</u>, Project Co made changes to 11 Number sub mains cables from UPS switchboard to UPS distribution boards changing these to fire rated.</p> <p><del>Remaining</del></p> <p>The remaining UPS submains cables <u>were agreed by the Board and Project Co to be</u> left unaltered. All as noted within Aconex chain of correspondence MPX-Transmit-010735, as set out in Schedule (insert schedule reference attaching all Aconex documentation).</p> <p>WW-SZ-B1-PL-531-101 Rev 1 UPS 1 Cable Route RDO Status A (13/4/18)</p> <p>WW-SZ-B1-PL-531-102 Rev 1 UPS 2 Cable Route RDO Status B (13/4/18)</p>

**Commented [GG3]:** Linked to points below, suggest specific drawings would need to be included – this has moved from intent to approve, to approved.

**Commented [GG4]:** The Board has not yet received any letter from Building Control or SFRS.

The Board suspect the question to Building Control and SFRS will be restricted to emergency Lighting, and not the wider issue of life safety and fire fighting applications

**Commented [GG5]:** Aconex refers emergency lighting rather than lighting for life safety and fire fighting applications as per BS 7671.

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**Commented [GG6]:** General comment - this statement does not work, not all the items are closed, particularly this one.

**Commented [GG2]:** General comment that applies to all – "based on the package" is very vague. Which package are Project Co referring to?

We would also need to check if it was given status A or B. Some of these packs may be status C.

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**Commented [GG8]:** The Board have not reviewed the "for information" drawings, hence no relevance to the Settlement Agreement?

**Commented [GG7]:** As per point above, I will not repeat same comment for all.



Re m	Dispute	Description of Agreed Resolution
		<p>WW-S2-B1-PL-531-103 Rev 1 UPS 3 Cable Route RDD Status B (13/4/18)</p> <p>WW-S2-B1-PL-531-104 Rev 1 UPS 4 Cable Route RDD Status A (13/4/18)</p> <p>WW-S2-B1-PL-531-105 Rev 1 UPS 5 Cable Route RDD Status B (13/4/18)</p> <p>WW-S2-B1-PL-531-106 Rev 1 UPS 6 Cable Route RDD Status B (13/4/18)</p> <p>WW-S2-B1-PL-531-107 Rev 1 UPS 7 Cable Route RDD Status A (13/4/18)</p> <p>WW-S2-B1-PL-531-108 Rev 1 UPS 8 Cable Route RDD Status A (13/4/18)</p> <p>WW-S2-B1-PL-531-109 Rev 1 (Helped Cable Route RDD Status A (13/4/18)</p> <p>WW-S2-B1-PL-531-112 Rev 1 UPS 12 Cable Route RDD Status B (13/4/18)</p> <p>WW-S2-B1-PL-531-114 Rev 1 UPS 14 Cable Route RDD Status A (13/4/18)</p> <p>WW-XX-XX-DC-XXX-010 Rev 3 UPS / UPS Cable Alternative RDD Status B (13/4/18)</p> <p>WW-XX-XX-SC-539-001 Rev G UPS System Schematic RDD Status A (13/4/18)</p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
3	<p>No earth bonding in certain required areas.</p> <p><del>The Board's position is that no equipotential bonding has been installed in 144 Group 1&amp;2 rooms. Equipotential bonding is required to prevent electric shock to patients, staff and visitors.</del></p> <p><del>As set out has been offered by Project Co the Board's position is that the Board for reasons of safety, design and installation meets the requirements of equipotential bonding rooms. The Board understands the will now be notified in all 144 Group 1&amp;2 rooms the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure).</del></p>	<p><del>Through the</del></p> <p><del>in accordance with Schedule Part B (Review Procedure) the Room by Room Risk Profile as set out in Schedule 1 produced by Project Co has been given status Level B, and the correct grouping and categorisation has been applied to the original 144 rooms mentioned in the description.</del></p> <p><del>However in accordance with Schedule Part B (Review Procedure) the Board / Project Co has agreed that a further 36 rooms will be modified to Group 1, Category 2, and 1 No Group 1 Category 3 in relation to providing equipotential bonding.</del></p> <p><del>This is all as details of the resolution of the Dispute agreed by Project Co and the Board and the modifications to be undertaken by Project Co are noted within WWHIT-Transmit-001040 as set out in Schedule <u>insert schedule reference</u>.</del></p>

**Commented [GG9]:** What happens if Project Co have incorrectly installed any of the above? In the short term and longer term.

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**Commented [GG10]:** Important caveat from the Project Obligations has been lost – full review required.

Ensure rooms are correctly categorised and grouped per SHM 06-01 and BS 7671 Table 9.1 of Guidance Note 7.

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**Commented [GG11]:** Not able to access this therefore cannot check, should refer to MPX-TRANSMIT-010701 instead

Item	Dispute	Description of Agreed Resolution																																	
		<p>Access MPX-TRANSMIT-D10801 as set out in Schedule (insert schedule reference attaching all Access Documentation) contains <del>refer to the Room</del> by <del>refer to the Room Risk Profile</del> document at rev F and WW-SZ-SL-SH-500-011 Rev F Room by Room Risk Profile <del>Approved Design Data</del> Status B (4/5/18).</p> <p><del>The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>																																	
4	<p><b>Bedrooms ventilation pressure regime and air change rate in rooms for neutropenic patients</b></p> <p><del>The Board's position is that</del> Neutropenic Patients - As per SHTM and Clinical Specs, the rooms for neutropenic patients should be designed as isolation rooms (+10 positive pressure). However, there are 10 single rooms which Project Co have designed to balanced pressure.</p> <p><del>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part II (Review Procedure).</del></p>	<p><del>Board to include latest drafting and relevant information</del></p> <p><del>The agreed solution has been agreed and the following project Co Change is agreed and approved RCD No. subject to a 4 week go with the terms of this Agreement</del></p> <p><b>Detail of Change</b></p> <p><b>Financial Close Position</b></p> <p><del>At the end of Close, Project Co approved the following design and construction solution for single bed rooms within the Haematology and Oncology Department (this has been approved through Schedule Part II (Review Procedure) and agreed by Project Co and the Board as resolving the Dispute.</del></p> <p><del>Refer to Environmental Matrix ww-ax-ax-dc-xxx-001 rev 11 as set out in (insert Schedule Reference) which records the agreed environmental criteria as follows:</del></p> <table border="1"> <thead> <tr> <th>Room Type &amp; Department</th> <th>FM Room Code</th> <th>Pressure (Pascals) Differential to Corridor</th> <th>Air Change / Hour</th> </tr> </thead> <tbody> <tr> <td rowspan="5">Single Bed Rooms</td> <td>3-CL.4-059</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td>3-CL.4-057</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td>3-CL.4-055</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td>3-CL.4-048</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td>3-CL.4-032</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td rowspan="4">Haematology and Oncology</td> <td>3-CL.4-018</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td>3-CL.4-016</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td>3-CL.4-013</td> <td>0 (balanced)</td> <td>4</td> </tr> <tr> <td>3-CL.4-010</td> <td>0 (balanced)</td> <td>4</td> </tr> </tbody> </table>	Room Type & Department	FM Room Code	Pressure (Pascals) Differential to Corridor	Air Change / Hour	Single Bed Rooms	3-CL.4-059	0 (balanced)	4	3-CL.4-057	0 (balanced)	4	3-CL.4-055	0 (balanced)	4	3-CL.4-048	0 (balanced)	4	3-CL.4-032	0 (balanced)	4	Haematology and Oncology	3-CL.4-018	0 (balanced)	4	3-CL.4-016	0 (balanced)	4	3-CL.4-013	0 (balanced)	4	3-CL.4-010	0 (balanced)	4
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**Commented [GG13]:** Not sure why the format has changed? This is an agreed to be a Project Co Change.

The revised wording will have to be reviewed in more detail.

**Commented [GG12]:** Is this referring to the Change through the Review Procedure or design data?

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Item	Dispute	Description of Agreed Resolution									
		<p><del>For the reasons set forth below, the following items were added as part of the design solution (RHS-001-022-001) to the expansion of the Hematology and Oncology Department following the removal of the 6-sleeping Department (11):</del></p> <table border="0"> <tr> <td>Single Bed Rooms</td> <td>3-C1.4-074</td> <td>0 (balanced)</td> </tr> <tr> <td></td> <td>3-C1.4-076</td> <td>0 (balanced)</td> </tr> <tr> <td></td> <td>3-C1.4-078</td> <td>0 (balanced)</td> </tr> </table> <p><del>Proposed. The Board and Project Co. Change</del></p> <p><del>Project Co. are not proposing to alter <u>have agreed following a collaborative review of</u> the design, however, are aware that <u>the no alteration is to be made to the</u> design solution is non-compliant with Schedule Part 6, Sub Section C, Clause 3.1 (Approach to Design) and Clause 8 (Mechanical &amp; Electrical Engineering Requirements) of and Sub Section D, C1.4 Hematology &amp; Oncology Input into the Day Care Clinical Output Demand Forecast and Part 6.03 (Ventilation for Healthcare premises Part A – Design and validation) Table A1 (Appendix 1a Recommended air change rates) by Project Co.</del></p> <p><del>Reasons</del></p> <p><del>Project Co's Financial Close design assigned balanced pressure to the neutropenic single bedrooms. The conclusion of design workshops held throughout the Construction Phase confirmed that, although not providing a compliant solution, a balanced pressure regime could be managed operationally.</del></p> <p><del>Implications</del></p> <p><del>Project Co requires that from the following:</del></p> <ul style="list-style-type: none"> <li><del>• Section 3.1 (Approach to Design) of Sub Section C (General Requirements) of Section 3 (Building Construction Requirements) of Schedule Part 6 (Construction Matters), which states Project Co shall take cognizance of all the architectural and building services implications of the requirements described in the Board's Construction Requirements in the Schedule Part 6 Section 3 Sub Section D (Specific Clinical Requirements) and Sub Section 5 (Specific Non-Clinical Requirements).</del></li> <li><del>• Section 8 (Mechanical &amp; Electrical Engineering Requirements) of Sub Section C (General Requirements) of Section 3 (Building Construction Requirements) of Schedule Part 6 (Construction Matters), which states Project Co shall take cognizance of all the building services implications of the requirements described in Section D (Specific Clinical Requirements) and Sub Section 5 (Specific Non-Clinical Requirements) of Sub-</del></li> </ul>	Single Bed Rooms	3-C1.4-074	0 (balanced)		3-C1.4-076	0 (balanced)		3-C1.4-078	0 (balanced)
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Item	Dispute	Description of Agreed Resolution
		<p><i>Section 2 of the Board's Construction Requirements</i></p> <p><i>• Scope – 3.1.1 (Scope of the Services of Clinical Hematology &amp; Oncology – Outpatient &amp; Day Care) – All</i>  <i>Output-based type (see 1.1.1) of Sub-Code 0 (Specialized Clinical Requirements – 1.1.1), which states:</i>  <i>The pediatric Hematology and Oncology Unit, Inpatient and Day Care services, is to provide a 24/7 service for the care of all patients with cancer or blood dyscrasia (a pathologic condition in which any of the constituents of the blood are abnormal in structure, function, or quality, as in leukemia or hemophilia). Patients and families will attend for assessment, investigation, treatment, ongoing care, planning, and palliative and end of life care.</i></p> <p><i>The type of services provided include:</i></p> <ul style="list-style-type: none"> <li><i>• Chemotherapy</i></li> <li><i>• High-dose therapy with autologous bone marrow or peripheral blood stem cell transplant</i></li> <li><i>• Psychosocial support and counseling for patients and families</i></li> <li><i>• Management of children with febrile neutropenia</i></li> <li><i>• Management of any complications relating to cytotoxic therapy including chemotherapy and radiotherapy</i></li> <li><i>• Administration of immunotherapy</i></li> <li><i>• Blood transfusion</i></li> <li><i>• Immunosuppressant infusion</i></li> <li><i>• Management of chicken pox (primary infection and reactivated shingles) in hemiline patients</i></li> <li><i>• Management of hemophilia patients</i></li> <li><i>• Management of patients with sickle cell disease/crisis</i></li> <li><i>• Palliative care</i></li> </ul>



Item	Dispute	Description of Agreed Resolution																																																																																										
		<p><del>Table A1 (Appendix 1) does not detail the position of Special Health Technology – see the (HITM) 03-01, via a letter to health services. See Part A. Design and delivery plan below.</del></p> <table border="1"> <thead> <tr> <th>Application</th> <th>Priority</th> <th>Urgent</th> <th>Priority</th> <th>Priority</th> <th>Priority</th> <th>Priority</th> <th>Priority</th> <th>Priority</th> </tr> </thead> <tbody> <tr> <td>General ward</td> <td>5-17</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>Command room</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>Single room</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>Single room WC</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>Clean utility</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>Dirty utility</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>Ward location room</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Inhalation therapy room</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>Neurogenetics support unit</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> </tr> </tbody> </table> <p>Due to the current design, the Board is required to prepare specific standard operating procedures for management of infection and patients within the department.</p> <p>The balanced pressure regime will be managed operationally and is acceptable on the basis that 2 isolation suites are provided in accordance with HITM 03-01.</p> <p>The board and Project Co agree this Dispute is closed and no further action is required.</p>	Application	Priority	Urgent	Priority	Priority	Priority	Priority	Priority	Priority	General ward	5-17	5	5	5	5	5	5	5	Command room	5	5	5	5	5	5	5	5	Single room	5	5	5	5	5	5	5	5	Single room WC	5	5	5	5	5	5	5	5	Clean utility	5	5	5	5	5	5	5	5	Dirty utility	5	5	5	5	5	5	5	5	Ward location room	-	-	-	-	-	-	-	-	Inhalation therapy room	5	5	5	5	5	5	5	5	Neurogenetics support unit	5	5	5	5	5	5	5	5
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5	<p><b>25% spare capacity</b></p> <p><del>The Board's position is that 25% spare capacity should be provided by Project Co in terms of main and sub main distribution containment, UPS boards, AHU, physical space in voids and ceilings, risers.</del></p> <p><del>The Board are of the opinion that it is apparent from site visits that the spare capacity has not been provided.</del></p> <p><del>Project Co's position is that the design and installation meets the requirements of the Project Agreement, was based on the package approved through Schedule Part B (Review Procedure) and spare capacity had been allowed in compliance with the BCRs.</del></p>	<p><del>The spare capacity has been identified within a Spare Capacity Statement as set out in [insert Schedule reference].</del></p> <p><del>The contents of which Board and Project Co have been reviewed and commented upon within the Spare Capacity Statement – as set out in [insert Schedule reference], NHS pdf and MGPS Spare Capacity Statement pdf.</del></p> <p><del>Medical Gas report dated 19 June 2018 as set out in [insert Schedule reference] was presented by Project Co to respond to Board's comments. No adverse comments have been received from the Board in relation to this report.</del></p> <p><del>All as recorded within Aronex MPX-GC-026751, NHSI-GC-003075 and MPX-GC-027180, as set out in Schedule [insert schedule reference attaching all Aronex documentation].</del></p> <p><del>[Medical Gas report] has been provided to the Board as per [insert reference].</del></p> <p><del>The Board and Project Co agree this Dispute is closed and no further action is required in order to resolve the Dispute.</del></p>																																																																																										

Commented [GG14]: Suggest the clinical team is better placed to draft these statements than Project Co?

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Commented [GG15]: There is inconsistency in Project Co's approach. This is a clear non compliance with the BCR's, and their report confirms that, however unlike the movement aint, they are not asking for relief from the BCR's.

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Commented [GG17]: There was an outstanding comment from Ronnie on the medical gases, not sure if the issue is closed.

Commented [GG18]: At a previous principals meeting, Susan had requested savings relative to the reduced future flexibility. No savings have yet been identified.

Item	Dispute	Description of Agreed Resolution
6	<p><b>HV distribution</b></p> <p>In relation to system resilience, the Board believes Project Co's design for HV Distribution is non-compliant with the Board's Construction Requirements (BCR's), Project Co Proposal's (PCP's) and SHTM Guidance for the following elements;</p> <ol style="list-style-type: none"> <li>1. Resilience of the HV main intake switch room,</li> <li>2. HV cable distribution,</li> <li>3. HV / LV substations.</li> </ol> <p>The Board believes the design currently creates single points of failure at the HV side of the electrical distribution network.</p> <p>The main current concern from the Board relates to the cable configuration.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure), which was based on the Board's reference design.</u></p>	<p>The <del>design data notes</del> <u>Reviewable Design Data as set out</u> below for this item has been given status <u>Level A / or Level B through the</u> <u>in accordance with Schedule Part B (Review Procedure)</u>, with the exception of Gas Suppression where more detailed information is to be submitted <del>through the</del> <u>by Project Co in accordance with Schedule Part B (Review Procedure)</u>.</p> <p><del>the</del> <u>The agreed resolution of the</u> <u>Issue submitted by Project Co through the Schedule Part B (Review Procedure) and agreed by the Board</u> <del>was for changes</del> <u>to the</u> <del>switch panels</del> <u>as set out</u> <del>made to the switch panels</del> within the energy centre to capture the generator panel as part of the ring. Fire protection has been applied to the fire hazard rooms.</p> <p>Drawings and schedules were updated and submitted <del>for RDD through Schedule Part B (Review Procedure)</del>, <u>Details of modifications to be carried out by Project Co are specified in the documents noted below.</u></p> <p>Gas suppression has been agreed to be provided within SS2A and SS2B, and through <del>the</del> Board Change <u>insert reference</u> provided within SS1A and SS1B.</p> <p><del>As set out</del> <u>As set out</u> within <u>Aroney MPX Transmitt-010823 and MPX-GC-027179 as set out in Schedule</u> <u>insert schedule reference attaching all Aroney documentation</u> and in the following drawings:</p> <p>WW-XX-XX-SC-530-001 Rev 1 HV Distribution Schematic RDD Status B (11/5/18)</p> <p><del>WW-XX-XX-SC-530-101 Rev 1 Multiplex Alternative HV Room Configuration RDD Status A (11/5/18)</del></p> <p>WW-XX-XX-SC-530-102 Rev 1 Multiplex Alternative HV Room Configuration RDD Status A (11/5/18)</p> <p>WW-XX-XX-SC-530-103 Rev 1 Multiplex Alternative HV Ring Configuration RDD Status B (11/5/18)</p> <p>WW-XX-XX-SC-530-104 Rev 1 Multiplex Alternative HV Ring Configuration Protection System Schematic RDD Status A (11/5/18)</p> <p>WW-XX-XX-SC-530-105 Rev 1 Multiplex Alternative HV Ring Configuration Protection System Blocking Diagram RDD Status A (11/5/18)</p> <p>WW-XX-XX-SC-530-106 Rev 1 MV Cable Routing As Installed RDD Status B (11/5/18)</p> <p>WW-XX-XX-SC-530-107 Rev 1 GS9 Connections RDD Status B (11/5/18)</p> <p>WW-XX-XX-SC-530-108 Rev 1 Generator System RDD Status A (15/5/18)</p> <p>WW-S2-BL-5H-531-204 Rev 1 RHSC &amp; DCN Gas Suppression Basement Substations (not issued for RDD)</p>

Commented [GG19]: Why has this drawing been deleted?



Item	Dispute	Description of Agreed Resolution
		<p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>

16

Item	Dispute	Description of Agreed Resolution
7	<p><b>4 bed ventilation</b></p> <p>In relation to ventilation pressure regimes, the Board believes Project Co's design for ventilation is non-compliant with the Board's Construction Requirements (<u>BCRs</u>), Project Co Proposal's (<u>PCPs</u>), SIFM Guidance and RDD FC comments.</p> <p>In addition, the Board believe the intake air change rate and the extract air change rate are non-compliant.</p> <p>From a clinical perspective, the principal concern to the Board in continuing with Project Co's proposed pressure regime design means there is an unacceptable risk of the spread of bacterial airborne infections into corridors and surrounding patient rooms (positive to the corridor)</p> <p>The Board requires the pressure regime to be balanced or negative to the corridor.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement, was based on the package approved through Schedule Part B (Review Procedure) which included the environmental matrix which had been discussed and was agreed pre Financial Close.</u></p> <p><u>The environmental matrix was a direct copy of the reference design environmental matrix developed during the preferred bidder period. No adverse comments were received prior to or at Financial Close.</u></p>	<p>The <del>design data</del> <u>Reviewable Design Data</u> noted below for this item has been given status <del>3 through the</del> <u>Level B in accordance Schedule Part B (Review Procedure)</u>.</p> <p><u>Level B comments on drawings were returned for information to the Board</u></p> <p>The <del>only a</del> <u>resolution of the Dispute</u> submitted by Project Co through the <u>Schedule Part B (Review Procedure)</u> and agreed by the Board, is for 14 No 4 bed rooms <del>will</del> <u>to</u> be balanced or negative to the corridor at 4 ac/hr. <u>The remaining 6 No 4 bed wards remain as per the environmental matrix. WW XX-XX-DC-XXX-001 Rev 11 and rev 07 of the schedule WW-SZ-XX-DC-XXX-010.</u></p> <p>All as noted within Axonex MM-GC-003999, MPX-TRANSMIT-010829, MPX-TRANSMIT-010807 &amp; MPX-TRANSMIT-010869, <u>as set out in Schedule [insert schedule reference attaching all Axonex documentation]</u>.</p> <p>All as noted on drawings:-</p> <p>WW-Z3-03-PL-S24-001 Rev G Zone Z3 Level 03 Ventilation Distribution Sheet 1 of 2 RDD Status B (3/5/18)</p> <p>WW-Z4-00-PL-S24-001 Rev K Zone Z4 Level 00 Ventilation Distribution Sheet 1 of 2 RDD Status B (3/5/18)</p> <p>WW-Z4-00-PL-S24-002 Rev L Zone Z4 Level 00 Ventilation Distribution Sheet 2 of 2 RDD Status B (3/5/18)</p> <p>WW-Z4-01-PL-S24-001 Rev J Zone Z4 Level 01 Ventilation Distribution Sheet 1 of 2 RDD Status B (3/5/18)</p> <p>WW-Z4-03-PL-S24-001 Rev G Zone Z4 Level 03 Ventilation Distribution Sheet 1 of 2 RDD Status B (3/5/18)</p> <p>WW-Z4-03-PL-S24-002 Rev G Zone Z4 Level 03 Ventilation Distribution Sheet 2 of 2 RDD Status B (3/5/18)</p> <p>WW-SZ-XX-DC-XXX-010 Rev 002 General Ward - Ventilation Amendments Proposal RDD Status B (31/5/18)</p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>

**Commented [GG21]:** As per previous comment – the Board do not review “for information” drawings.

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**Commented [GG22]:** we recently received an updated extract of the EM with the proposed changes relating to 4 bed rooms, response to be collated and issued back to PCo.

**Commented [GG20]:** Environmental Matrix was rejected at Financial Close on the basis of non compliance with SIFM for bedrooms ventilation.

Item	Dispute	Description of Agreed Resolution
B	<p><b>Bedhead trunking earth bonding points</b></p> <p><u>All the Board's position is that all</u> bedhead trunking installed in Group 2 Medical Locations is provided with only 2 supplementary equipotential bonding points. This is not in compliance with GN7, which requires minimum 4 for IPS sockets.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure)</u></p>	<p>The <del>design data</del> <u>Reviewable Design Data</u> noted below for this item has been given status <u>Level A / or B</u> <del>through the</del> <u>in accordance with Schedule Part B (Review Procedure)</u>.</p> <p>The <del>current design</del> <u>resolution to the Dispute agreed by the Board and Project Co</u> required Project Co to provide a minimum 4 supplementary earthing points for medical IT sockets.</p> <p>All as noted within MPX-TRANSMIT-010733 &amp; MPX-TRANSMIT-010714 <u>as set out in [Schedule referenced]</u></p> <p>All as per drawings:-</p> <p>WW-S2-SI-S4-500-011 Rev F Room by Room Risk Profile RDD Status B (4/5/18)</p> <p>WW-23-00-PL-531-001 Rev M Zone 23 Level 00 Small Power Layout Sheet 1 of 2 RDD Status B (13/4/18)</p> <p>WW-23-00-PL-531-002 Rev M Zone 23 Level 00 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-23-01-PL-531-001 Rev J Zone 23 Level 01 Small Power Layout Sheet 1 of 2 RDD Status A (13/4/18)</p> <p>WW-23-01-PL-531-002 Rev P Zone 23 Level 01 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-24-00-PL-531-002 Rev O Zone 24 Level 00 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-24-01-PL-531-001 Rev K Zone 24 Level 01 Small Power Layout Sheet 1 of 2 RDD Status A (13/4/18)</p> <p>WW-24-01-PL-531-002 Rev K Zone 24 Level 01 Small Power Layout Sheet 2 of 2 RDD Status A (13/4/18)</p> <p>WW-24-03-PL-531-002 Rev I Zone 24 Level 03 Small Power Layout Sheet 2 of 2 RDD Status A (13/4/18)</p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>

Item	Dispute	Description of Agreed Resolution
9	<p><b>Lack of non IPS sockets in theatres</b></p> <p><u>All sockets</u> (The Board's position is that all socket outlets within these departments except for Cleaners outlets and a limited number of "raw power" sockets in some areas, are Medical Equipment blue sockets. No provision has been made for equipment that should be plugged into an RCB protected outlet whilst in the patient zone.</p> <p>Also, no x ray sockets (dedicated socket).</p> <p><u>Project Co's position is the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure)</u></p>	<p>The <del>dispute notes</del> <u>Reviewable Design Data as set out</u> below for this item has been given status <u>Level A / or B through the p</u> accordance with Schedule Part B (Review Procedure).</p> <p><u>Drawn on has been made for resolution of the Dispute agreed by the Board and Project Co includes provision for the</u> equipment requiring to be plugged into RCB protected circuits.</p> <p>All as recorded within MPX-TRANSMIT-010733, MPX-TRANSMIT-010714 &amp; MPX-GC-026898, <u>as set out in insert schedule referenced.</u></p> <p>All as per drawings:-</p> <p>WW-23-00-PL-531-001 Rev M Zone 23 Level 00 Small Power Layout Sheet 1 of 2 RDD Status B (13/4/18)</p> <p>WW-23-00-PL-531-002 Rev M Zone 23 Level 00 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-23-01-PL-531-001 Rev J Zone 23 Level 01 Small Power Layout Sheet 1 of 2 RDD Status A (13/4/18)</p> <p>WW-23-01-PL-531-002 Rev P Zone 23 Level 01 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-24-00-PL-531-002 Rev O Zone 24 Level 00 Small Power Layout Sheet 2 of 2 RDD Status B (13/4/18)</p> <p>WW-24-01-PL-531-001 Rev K Zone 24 Level 01 Small Power Layout Sheet 1 of 2 RDD Status A (13/4/18)</p> <p>WW-24-01-PL-531-002 Rev K Zone 24 Level 01 Small Power Layout Sheet 2 of 2 RDD Status A (13/4/18)</p> <p>WW-24-03-PL-531-002 Rev I Zone 24 Level 03 Small Power Layout Sheet 2 of 2 RDD Status A (13/4/18)</p> <p><u>The Board and Project Co serves this Dispute is closed and no further action is required.</u></p>
10	<p><b>Drainage above IPS rooms / above IPS panels / Node Rooms</b></p> <p><u>It is the Board's position that</u> Project Co <del>has</del> installed drainage above exclusion zones, electrical equipment and other high risk locations except above MRI rooms where this has been completely removed.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the</u></p>	<p>The following rooms where Project Co have installed drainage and water services above IPS rooms / IPS panel / electrical distribution services have been identified; <u>and the resolution of the Dispute agreed by the Board and Project is outlined below.</u></p> <p><b>Basement</b></p> <p>1 - Node room B-T1-001 Drainage will change to HDPE within the room and extend for at least a metre <del>away from</del> <u>out with</u> either wall.</p> <p>2 - Node room B-T1-002 HDPE drainage will be fusion welded and will extend into the office up until the first joint.</p>

**Commented [GG23]:** What happens if there are more instances of the issue on site that have not yet been found?

Particularly for this issue, however general comment.

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Re m	Dispute	Description of Agreed Resolution
	<p><del>package approved through Schedule Part B (Review Procedure)</del></p>	<p>3 - Switch cupboard B-53-030 will be installed in HDPE as shown <del>as will be in agreed sketches within MPX-GC-026626 as set out in [insert schedule reference]</del>.</p> <p>4 - UPS Drainage will be routed once the walls are opened up where we have recesses to suit the best requirements. Drip trays will be installed under any drainage within the UPS room as noted on Drainage Changes.pdf, <del>as set out in [insert schedule reference]</del>.</p> <p>5 - Drainage re-routed from UPS room in basement to ground floor and connecting into CWST tank room stack.</p> <p>6 - Drainage pipework already running through switch cupboard G-F1-095 will be changed to HDPE</p> <p>7 - Drainage pipework with no joints in IPS room G-Q1-002 can stay if joints are not directly next to wall either side of the cupboard ( corridor and Nappy change )</p> <p><b>Level 1</b></p> <p>8 - Drainage to change to HDPE in IPS room 1-B1-044 with the tundish moving into cylinder store and boxed in with access hatch.</p> <p>9 - Drainage to change to HDPE in Switch cupboard 1-11-107 only needs to extend 1 mtr into the disposal hold room and not as shown on the Drainage Changes.pdf.</p> <p><b>Level 3</b></p> <p>10 - Vent pipe in switch cupboard 3-k2-083 (with no electrical equipment ) can stay while drainage pipe will re-route as Drainage Changes.pdf.</p> <p>The above <del>set out</del> <del>resolutions</del> are noted <del>in</del> <del>within</del> <del>Aconex reference</del> <del>MPX-GC-026626 as set out in Schedule [insert schedule reference attaching all Aconex documentation]</del> and Drainage Changes.pdf, and are deemed <del>to</del> <del>have</del> <del>Reviewable</del> <del>Design</del> <del>Data</del> status <del>Level B</del>.</p> <p><del>The Board have only provided the above examples of the scope, and not undertaken a full survey of the Facility. The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>
11	<p><b>Cable discrimination and cable calculations (electrical issue)</b></p> <p>Project Co has not submitted cable calculations through <del>to</del> <del>Schedule Part B (Review Procedure)</del> for <del>the</del> Board's review.</p> <p>This is required as per <del>paragraph 4.23.2 (as set out in [insert reference to Mechanical &amp; Electrical Specification] Project Co Proposal-1 of Section 1 (Service Level Specification) of Schedule Part 1.2 (Service Requirements)</del>.</p> <p>The Board's concern is that the selection, grouping, rating and fault levels of cables <del>are</del> inappropriate and non-compliant with BS 7671.</p>	<p>Revised cable calculations were issued to the Board 19 June 18, <del>as set out in [insert schedule reference]</del>.</p> <p>The Board <del>met</del> <del>with</del> Project Co (MPX) <del>on 21 June 18 with Project Co agrees this Dispute has been resolved - subject to undertake the following 3 points recorded below:</del></p> <p><del>Project Co to ensure that all loads used in the calculation accurately reflect the latest equipment loads and doc go loads.</del></p> <ol style="list-style-type: none"> <li>1. The Board queried the consistent 40A used for all distribution board loads and some machines e.g. circuit 4/15 Angiographic Procedures 1-P1-058. <del>To resolve this Dispute Project Co will confirm that all loads used in the calculations issued 19 June 2018 accurately reflect the latest equipment loads as noted within the Equipment Schedule and will clarify the assumptions noted, associated with the design loads.</del></li> <li>2. Project Co <del>will</del> provide cable calculations with breakers adjusted to limit the cable temperature to under 70DegC. Discrimination to be resolved following that exercise.</li> </ol>

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Commented [GG24]: Delete paragraph and replace 4.23.2 with 4.23.3

General comment – given the new format – full review of the Board's position in the dispute column required.

Item	Dispute	Description of Agreed Resolution
	<p>As evidenced on Site, there are several instances of cables being double and triple barked, as well as being grouped tightly together.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</u></p> <p><u>The Reviewable Design Data list of documents was agreed at Financial Close and there is no requirement to submit cable calculations through Schedule Part 8 (Review Procedure).</u></p>	<p>3. <del>Any double and triple barked cables to be fully analysed and it agreed that on Project Co to put forward proposals following review of the cable calculations and breaker settings issued 19 June 2018. Should they fail to comply with BS7671.</del></p>
12	<p><b>Lack of tamper proof flush fitted sockets in CAMHS</b></p> <p><del>sockets in the Board's opinion, sockets are not installed as per small power layout drawings, i.e. flush fitted tamper proof sockets.</del></p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the technical sub package approved through Schedule Part 8 (Review Procedure).</u></p>	<p><u>The resolution of the Dispute agreed by the Board and Project Co was for Metal faceplates to be replaced with plastic faceplates to the extent of the Board. This work has been completed on site.</u></p> <p>All as noted within NHSL BCP-137 CAMHS Sockets &amp; WW/PL-00-24-531-001 and Board Change 137 - CAMHS Anti-Lig M&amp;E and Fixtures.pdf, as set out in <u>Insert Schedule reference</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
13	<p><b>Single Bedroom Ventilation air changes</b></p> <p>Air change rates proposed by Project Co for single bedrooms are not in compliance with SHTM 03-01 and Board's comments. 4ac/h supply provided to the bedrooms instead of the required 6ac/h. The ensuite extract rate proposed in excess of 10ac/h where requirements of SHTM 03-01 is 3ac/h.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure) which included the environmental matrix which had been discussed and agreed pre Financial Close.</u></p> <p><u>The environmental matrix was a direct copy of the reference design environmental matrix developed during the preformed bidder</u></p>	<p><del>This Board to include intent drafting / Project Co agree this item is closed, and relevant information</del></p> <p><del>The agreed technical solution has been documented in the following Project Co Change which is now deemed an Approved RDD and subject to approved through Schedule Part 8 (Review Procedure) and is acceptable with agreed by the terms of the Agreement</del></p> <p><b>Detail of the Change</b></p> <p><del>Board and Project Co to agree to the SHTM 03-01 Pro rata to reduce the extract rate to 3 ac/h and to agree to the SHTM 03-01 Pro rata to reduce the extract rate to 3 ac/h as resolving the Dispute as noted below.</del></p> <p><u>Project Co and the Board have agreed there is to be no change to the environmental matrix WW-XX-XX-06-XXX-003 Rev 11 and the air change rates, column 2, to be 4 ac/h</u></p> <p><u>Increasing the mechanical air change ventilation rate with in for single bedrooms from 6 ac/h changes per hour to</u></p>

**Commented [GG25]:** Incorrect statement – this was offered as RDD in the PCP (4.23.3 M&E spec), and general caveat included in Schedule Part 6, Section 5, Part 3 as follows.

Any items referenced in the Section 3 (Board's Construction Requirements) and Section 4 (Project Co's Proposals) of Schedule Part 6 (Construction Matters) relating to Schedule Part 8 (Review Procedure), to comments such as "shall be reviewed as Reviewable Design Data" or "to be agreed with the Board", shall be deemed as Reviewable Design Data to be submitted through Schedule Part 8 (Review Procedure).

**Commented [GG26]:** This is an inaccurate statement – Project Co didn't initially install the correct sockets and screws.

**Commented [GG27]:** This is an agreed Project Co Change – as per 25% comment, why has this been dealt differently to the Movement Joint?

**Commented [GG28]:** As per previous, this is a Project Co Change, full review of the revised text required.

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Item	Dispute	Description of Agreed Resolution
	<p><u>permitted.</u></p> <p><u>Comments were received pre Financial Close and there were documented and the design amended to reflect the Board's comments.</u></p>	<p><u>remain to be agreed to remain as designed and constructed namely:</u></p> <ol style="list-style-type: none"> <li><u>4 air changes per hour (4 ac/hr) within single bedrooms, and</u></li> <li><u>increase the motion coil air change vent lot on rate within single bedrooms WCs from 3 air changes per hour (3 ac/hr) to <u>min</u> 10 air changes per hour (10 ac/hr).</u></li> </ol> <p><b>Reasons:</b></p> <p>The design philosophy for this site with its glazed facade (double glazed) and side openable window natural ventilation is encouraged, which is believed to provide both physiological and environmental benefit by allowing users partial control of the environment, and reducing the loading on the motion coil vent lot on system respectively. The strategy results in more pressure differential strategies within the rooms where supply and extract is balanced.</p> <p><u>2. Additionally, the motion coil extract vent lot on air change rate has been increased within the single bedrooms (within ensuite) from 3 air changes per hour (3 ac/hr) to 10 air changes per hour (10 ac/hr) (minimum) to provide a fresh air comment for post-occupancy. This is to ensure a balanced air change rate to the bedrooms.</u></p> <p>The design intent and figures noted above are reflected within the environmental matrix previously submitted through <u>APP Schedule Part B (Review Procedure) - WY-XX-XX-DC-XXX-001 Rev 1.1</u></p> <p><b>Implications</b></p> <p>Reduced energy consumption by providing reduced motion coil vent lot on rate within each single bedroom.</p> <p>Providing the ensuite with a minimum 10 ac/hr ensure the extract performance duty has sufficient capability for both the wet and shower extraction, and ultimately provide the balanced vent lot on rate required between the bedrooms and the ensuite.</p>
14	<p><b>Smoke clearance in fire fighting stairwells</b></p> <p>As per the Non Domestic Technical Handbook and project specific Fire Strategy, all fire fighting stairwells shall be provided with appropriate ventilation for heat and smoke control. Currently only a percentage of stairwells appear to have openings for high level ventilator. No details of electrical connections including fire rated cables for fire fighting plant as per BS 8519 <u>have been provided.</u></p> <p><u>Project Co do not dispute the Board's position.</u></p>	<p><u>This item shall be resolved through witnessing and testing of the system, and through compliance with the DCW's / PCW's / Compliance Certificate.</u></p> <p><u>The design shall be subject to the design team's input.</u></p> <p><u>The remote activation and minimum free area opening.</u></p> <p><u>is as noted in MPX-GC-1262004.</u></p> <p><u>In line with clause 2.14.0 (and table 2.10) of the NDTH, each of the stairs are designed with a min of 'ventilators' achieving 13mm ea. to the top of the stair (either smoke vents or windows). The strategy to each stair is noted.</u></p>

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Commented [GG29]: New text included that will need reviewed - this was also subject to witnessing on site.

Re m	Dispute	Description of Agreed Resolution
		<p><u>below:</u></p> <ul style="list-style-type: none"> <li>• <u>Stair 1 – Operable window to stair (1.5m window to top of stair) CHSL</u></li> <li>• <u>Stair 2 – Operable window to stair (1.5m window to top of stair) mechanical ventilation to the bed room lobby, Push buttons to topmost storey and access level as per 2.14.6 CHSL</u></li> <li>• <u>Stair 3 – Operable (mechanical) roof vent to stair mechanical ventilation to the bed room lobby, Push buttons to topmost storey and access level as per 2.14.6</u></li> <li>• <u>Stair 4 – Operable (mechanical) roof vent to stair, Push buttons to topmost storey and access level as per 2.14.6</u></li> <li>• <u>Stair 5 – Operable window to stair (window at each level however topmost floor window to have local automated actuator allowing the window to open under actuation to achieve 1m<sup>2</sup> Velfac</u></li> <li>• <u>Stair 6 – Operable window to stair (window at each level however topmost floor window to have local automated actuator allowing the window to open under actuation to achieve 1m<sup>2</sup> Velfac</u></li> <li>• <u>Stair 7 – Operable (mechanical) vent to stair exhausts via plant room area at 10M, Push buttons to topmost storey and access level as per 2.14.6</u></li> </ul> <p><u>In order to comply with section of 5.12 of the BCRs, all opening windows (including those to stairs 1, 2, 5 and 6) are lockable and fitted with restrictors.</u></p> <p><u>The CHSL Schuco Windows are provided with 'Custodian Handle Housings' with 'Custodian Keys' as per CHSL Technical Submittal no. 13 allowing the windows to the top of stairs 1 and 2 to open fully and achieve in excess of the min 1.5m requirement of the building regulations.</u></p> <p><u>The Velfac WT-022 windows to stairs 5 and 6 are provided with 'Espagnolette handle with Lock' with 'Allen Key Lockable Restrictor'. The topmost window in each stair is to be fitted with localized actuation. This only allows opening by operatives as the locks and restrictors must be omitted. The actuators shall be activated locally by button central at 2m above floor level so as not easily accessible to public. This is in accordance with NDTH 2.14.6.</u></p> <p><u>The fire service carry the tool required to operate the CHSL windows and the key shall also be stored in a secure location near the windows in break glass.</u></p> <p><u>All as noted within Aronex MPX-GC-026280, MM-GC-003950 and MPX-GC-026538, as set out in Schedule (insert schedule references attaching all Aronex documentation) the above actions are agreed by the Board and Protest Co to resolve this Dispute.</u></p> <p><u>The Board and Protest Co agree this Dispute is closed and no further action is required.</u></p>

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Item	Dispute	Description of Agreed Resolution
15	<p><b>Access hatches</b></p> <p><del>As set out in the Board's position that a proliferation</del> of Access hatches <del>have</del> been installed within theatre suites which is non-compliant with BCR clause 8.14 Service Routes and "Good Industry Practice".</p> <p><del>Project Co's position is that the design and installation meet the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure)</del></p>	<p>The design intent for this item includes the <del>elimination</del> <del>reduction</del> of hatches in theatres, <del>however</del> as noted within <del>Appendix</del> MPX-GC-027183, <del>this has not been achieved and a 2-gm F coat robot on has been achieved, as noted at out in Board Status B comments on Decided RCD</del> <del>Appendix</del></p> <p><del>As set out in do E to Schedule I insert schedule in reference</del> attaching all <del>Appendix</del> documentation. This will be reflected in the as-built documentation.</p> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>
16	<p><b>Reductions to ceiling heights</b></p> <p>In addition to the Project Co Change 016 (Basement Ceiling Heights), further Height reduction in basement areas/service yard <del>appears</del> to have been reduced <del>by</del> 2100 without the agreement of the Board.</p> <p><del>Project Co do not dispute the Board's position</del></p>	<p><del>Project Co to set out proposed</del> The resolution <del>of</del> of the Dispute agreed by the Board <del>approved</del> and Project was <del>secured</del> within the noted CCPs and is detailed below.</p> <p><del>Board to provide 1 to reference for status B RCD comments</del></p> <p><del>MPX-CCP-059 4COR007 Ceiling Height</del>  Room Number 4-COR-007 was designed to have a ceiling at height 2700mm, it has been agreed to lower the ceiling height to 2600mm in two localized areas.</p> <p><del>Room Number G-A1-062 was designed to have a ceiling at height 3000mm and it is proposed to reduce that ceiling height to 2900mm. The height of the ceiling required to be lowered because there was an MEP service clash.</del></p> <p>Reference is made to the following documents as set out in <del>insert schedule reference</del> which specify the changes agreed between Project Co and the Board:</p> <ul style="list-style-type: none"> <li>• <del>Financial Close Drawing – H/M-24-04-PL-332-407 rev E – MARKUP</del></li> <li>• <del>MPX-CCP-060 G-A10-062 Ceiling Height</del></li> <li>• <del>Email confirming acceptance from NHS – 25/03/18</del></li> <li>• <del>Financial Close Drawing - H/M-24-00-PL-400-412 Rev 4</del></li> </ul> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>

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**Commented [GG30]:** General Comment - This new approach / format is going to take a long time to review / pull together - could we discuss with NHS removing some of the less critical items that do not need to form part of the settlement agreement.

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**Commented [GG31]:** General comment - unclear why Project Co are not disputing this item, but appear to dispute others that are similar in nature.

**Commented [GG32]:** Jackie / Janice to confirm no issues with reduced ceiling height in these rooms.

If this is the basement corridor it has been noticed and not accepted by the Board

**Commented [GG33]:** Review required - Are there additional changes in these documents? Or do these illustrate the 2 changes noted?

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Item	Dispute	Description of Agreed Resolution
17	<p><b>Duct Cleaning</b></p> <p><del>Duct cleaning - The Board's position is that</del> SHFM states all ducts must be cleaned unless they have been protected. <del>AAOx</del></p> <p><del>The Contractor is</del> not proposing to clean all ducts as believe they have sufficiently protected the ducts following installation. <del>44</del></p> <p><del>independent Tester advised AAOx</del>the Contractor will have to do a check to confirm ducts aren't dirty</p> <p><del>Project Co's position is that ducts were being protected, and will be</del> <del>jumped at commissioning stage - any failing the test will then being</del> <del>cleaned.</del></p>	<p><del>This is agreed by the Board and Contractor that this Dispute</del> item shall be resolved through witnessing and testing of the system, to demonstrate compliance with the BCR's / PCP's / Completion Criteria.</p> <p>The extent of ductwork requiring to be cleaned has been captured within the following document;</p> <ul style="list-style-type: none"> <li><del>Duct Cleaning - Aconex MM-GC-004106, MPX-GC-027187, as set out in Schedule 1 - see 1.16.011, reference attaching all Aconex documentation]</del></li> </ul> <p><del>[closed to check the 3 to references]</del> <del>The Board and Project Co agree this Dispute is closed and no further action is required]</del></p>
18	<p><b>Number of lift stops</b></p> <p><del>Number of</del> The Financial Close submission (HSC-XX-XX-DC-1.15 Vertical Transportation) stated that the bed lift stops <del>Original RCR in core 3 would serve 5 floors.</del></p> <p><del>This is contrary to the BCR; 8.8.11 - "RHSC lifts should not stop at DCN floor 2, 4 - 8 DCN lifts should - at stop at RHSCs) which states: "All floors" - including plant levels shall be served"</del></p> <p><del>Board - eg see 2.4 in the Project Co the go however the go - agreed to do by. This was highlighted and noted in the Construction Contract "Schedule Part 6 Section 5 Part 4 R00 - Non-Approved Project Co's Proposals Design Data Summary", attached (300115 Schedule Part 6 Section 5 R00 pp107 Extract).</del></p>	<p><del>Board to provide 1 to substance for Status 9 R00 comments</del></p> <p><del>Project Co and the Board agree that the number of lift stops should be amended and agree that BCR 8.8.11 should state: "RHSC lifts should not stop at DCN floors, and DCN lifts should not stop at RHSC floors"</del></p> <p><del>Through discussion and agreement between the Board and Project Co, the agreed wording has been set out as an amendment within Aconex MPX-CCP-041 Bed Lift as set out in Schedule 1 (insert schedule reference attaching all Aconex documentation]</del></p> <p><del>The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>
19	<p><b>Helipad fire fighting system (Water Pressure)</b></p> <p>Helipad fire fighting system does not comply with the guidance of HBN 15-03 Hospital Helipads clause 5.22. There does not appear to be a pressurised main supply, nor is there a system of inert gas to</p>	<p><del>This item shall be resolved through witnessing and testing of the system, to demonstrate compliance with the BCR's / PCP's / Completion Criteria.</del></p> <p>The Board <del>and</del> Project Co note the CAAI has <del>agreed off the doc</del> <del>specified the helipad is fit for purpose as installed. Cost date has been calculated.</del></p>

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- Commented [GG34]: Appears to be a contradiction. No further action is required, however above it says resolved through witnessing and testing?
- Commented [GG35]: Discussion required – confusion on the issue.
  1. Bed lift to basement of core 3 – should have gone to the basement, but does not.
  2. Lift stops – no need for the segregate DCN and RHSC patients.
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Item	Dispute	Description of Agreed Resolution
	<p>pressurise the system.</p> <p><u>Project Co's position is that a pressurised main supply and a system of inert gas to pressurise the system is not required.</u></p>	<p><u>Reference is made to letter received by the Contractor from CAM dated 07 March "It is with pleasure that we can issue this letter of completion which, subject to certain conditions outside of Multiplex's control being met before the heliport commences operations, confirms the rooftop heliport at B-HC &amp; DCN is regarded as fit for purpose."</u></p> <p><u>Documentation is noted within Annex MPX-GC-027315 as set out in Schedule [insert schedule reference attaching all Annex documentation].</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
20	<p>Vegetation around air intakes in Neuroscience and Staff Courtyards</p> <p><u>It is the Board's position that</u> Landscape design around intake vents in Neuroscience Courtyard is <del>potentially</del> <u>potentially</u> non-compliant with SHTM 03-01 which states:</p> <p>Air Intake 1.42 An uncontaminated air supply to the system is essential. In order to achieve this, the air intake will be positioned so that air discharged from extract systems or other dubious sources cannot be drawn in. Exhaust fumes from vehicles can present particular problems. The area surrounding the intake will need to be kept clean and free of vegetation and waste material in order to reduce the possibility of biohazards or fire. The intake itself will be protected by a louvre and mesh screen to prevent rainwater, vermin and insects etc from entering the system.</p> <p><u>Project Co's position is that the design has been approved by the Board through ROD.</u></p>	<p>The Board / Project Co agree the <del>design</del> <u>design</u> <del>noted above</del> <u>Reviewable Design Data</u> for this item has been given status <u>Level A For B through the in accordance with Schedule Part 8 (Review Procedure).</u></p> <p><del>Further to the meeting surrounding Project Co Change 053 the Board advised that the</del> <u>The following design measures proposed by Project Co <del>have</del> <u>agreed with the Board to resolve the dispute.</u> limit planting in the area surrounding the intake vents. <u>This satisfies SHTM 03-01A Clause 1.42 in so far as it allows the area surrounding the vents to be clean and free of vegetation and waste material in order to reduce the possibility of biohazards or fire and the Change can therefore be withdrawn.</u></u></p> <p>Neuroscience Courtyard Project Co <del>is proposing to replace</del> <u>is proposing to replace</u> the planting around the air intake vents with artificial grass with the exception of one area which has been planted with sedum as per the Board's request.</p> <p>Staff Courtyard Project Co <del>are proposing to incorporate</del> <u>have incorporated</u> a 600mm 'no plant zone' to the perimeter of the air intake vents."</p> <p>All as noted within Drawing HLM-20-03-PL-700-002 Rev E <del>Drawing HLM-20-00-PL-700-026 Rev E</del> <u>and Annex MM-GC-003873 as set out in Schedule [insert schedule reference attaching all Annex documentation].</u></p> <p><del>Annex MM-GC-003873</del> <u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
21	<p>"Do not use" labels removed from Medical Gas Outlets before commissioning.</p>	<p><u>The Board / Project Co agree this item is closed.</u></p> <p>Through discussion it was agreed <u>by Project Co and the Board that this Dispute will be resolved by</u> the Medical gas outlet "Do Not Use" labels <del>being put</del> <u>being put</u> in place prior to commissioning, thus ensuring compliance with SHTM</p>

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Re m	Dispute	Description of Agreed Resolution
	<p><u>It is the Board's position that</u> Medical gas outlet "Do Not Use" labels removed before commissioning, non compliance with SHTM02-01.</p> <p><u>Project Co's position is that there was no non-compliance relating to this issue.</u></p>	<p>02-01.</p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
22	<p><b>Isolation Room supply ventilation relative to low building.</b></p> <p><u>It is the Board's position that</u> Isolation room ventilation is non-compliant for a 'low' building, <del>the</del> <u>should be a</u> separate supply and a <del>contractor's</del> <u>contractor's</u> change will be needed.</p> <p><u>Project Co's position is that the design and installation was based on isolation room ventilation report produced and tabled with the Board. This is compliant with the requirements of the Project Agreement.</u></p>	<p>A separate isolation room ventilation report has been prepared <u>by Project Co</u> to identify and clarify the system design.</p> <p><u>(See file <del>to be added to the file</del> - see <del>file</del> - This is contained within Aconex MPX-CCP-062 as set out in Schedule 1 <del>insert schedule reference attaching all Aconex documentation</del>).</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
23	<p><b>Drainage joints in slabs</b></p> <p><del>Drainage outlets</del> <u>It is the Board's position that</u> Drainage joints have been installed in the slab between floors with no access for maintenance or repair. This means there is no manufacturer warranty for the drainage connection.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part II (Review Procedure).</u></p>	<p><del>This issue shall be resolved through demonstration of compliance with the BCR's / PCO's / Completion Date</del></p> <p>Through discussion and site review with the Independent Tester, John Edwards (Arcadis) agreement <u>has been</u> reached on compliance and sign off.</p> <p><u>Reference is made to Aconex MPX-RFI-002569 <del>file</del> and BRS-SC-002637 and the confirmation from the independent Tester as set out in Schedule <del>insert schedule reference attaching all Aconex documentation</del>.</u></p> <p><u>(See file <del>to be added to the file</del> - see <del>file</del> -)</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
24	<p><b>Fire Collar Installation</b></p> <p>Fire collars for drainage are not directly connected to the slab (C19)</p> <p><u>Project Co's position is that the installation was work in progress and would comply prior to the Actual Completion Date.</u></p>	<p><del>This issue shall be resolved through verification of the system, to demonstrate compliance with the BCR's / PCO's / Completion Date</del></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p> <p>Confirmation <u>has been received from the Board that the installation is ongoing and <del>compliance</del> Project Co will be</u></p>

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Item	Dispute	Description of Agreed Resolution
		<del>with view to ensure compliance with BCRs prior to <del>handover</del> the Actual Completion Date.</del>
25	<p><b>Level and position of smoke detectors</b></p> <p><del>It is the Board's position that smoke detectors are</del> mounted at low levels above the ceiling i.e. not installed at the heights specified for void detectors</p> <p><del>Project Co's position is that the design and installation is in accordance with the requirements of the Project Agreement, was based on the package approved through Schedule Part B (Review Procedure) in compliance with the BCRs and will be signed off by the installer as compliant.</del></p>	<p>Following discussion and site review <del>the</del> <u>the</u> Independent Tester <del>has</del> <u>has</u> closed this item on basis of compliance.</p> <p>Summary of agreement contained with <u>Aconex MPX-GC-027316 as set out in Schedule I insert schedule reference attaching all Aconex documentation.</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
26	<p><b>Ventilation in IPS</b></p> <p><del>With the exception of IPS - PCair it is the Board's position that Project Co</del> have shown 3ac/h extract ventilation in the EM but not all rooms have been provided with extract vent in the room - Potential heat gain issue.</p> <p><del>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure).</del></p>	<p>The Board <del>and</del> Project Co agree the <del>design data noted adjacent</del> <u>Reviewable Design Data</u> for this item has been given status <u>Level A /or B through the</u> <u>In accordance with Schedule Part B (Review Procedure).</u></p> <p>Rev 011 of the EM represents the agreed position of ventilation being provided within IPS rooms.</p> <p><del>As noted in this</del></p> <p><u>Reference is made to MPX-TRANSMIT- 009971, for WW-XX-XX-DC-XXX-001 Rev 011 – status B (17/11/17) – as set out in <u>insert schedule reference</u>.</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
27	<p><b>Hot and Cold water supply pipe configuration</b></p> <p><del>It is the Board's position that</del> Hot and cold water supply pipes are crossed behind the sink in some rooms and in some instances the cold pipe is above the hot water pipe or touching the pipe meaning the will be heat transferred to the cold water supply. Not best practice and non compliance with SHTM 04-01</p> <p><del>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure).</del></p>	<p><del>This to be resolved through with the assistance of the system, to do so it will be necessary to place the both pipes in place as per</del></p> <p>Through discussion and site review it was agreed <del>the installer</del> <u>between the Board and Project Co that the installation</u> be modified to maintain pipework separation and distance as per valve body so <u>that</u> the hot and cold water pipework doesn't touch or cross, <u>In accordance with SHTM 04-01.</u></p> <p><u>Aconex MPX-GC-027580 as set out in Schedule I insert schedule reference attaching all Aconex documentation</u> specifies details of the changes made at Site.</p> <p><u>The Board have not undertaken a full survey of the Key File and only done 1 of examples of the same. Project Co</u></p>

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General comment – suggest all files need to be issued on external hard drive for review, with a PDF of the Aconex created?

**Commented [GG39]:** Transfers the risk to the board to inspect the full Facility, which has not, and perhaps cannot be done.

General comment – the design / construction risk appears to be getting passed to the Board – suggest this is not appropriate.

Item	Dispute	Description of Agreed Resolution								
		<p><del>have agreed to resolve all issues on the fact by not to agree this item. Dispute is closed and no further action is required.</del></p>								
28	<p><b>Window/Partition in 1-B1-055</b></p> <p><del>That is the Board's position that the GA and C sheet illustrates a 3 panel window however, in construction one panel appears to be 'false' with a partition behind it. From the inside it appears to be only 2 windows.</del></p> <p><del>Project Co do not dispute the Board's position.</del></p>	<p><del>Agreement between the Board and Project Co was reached on this item at the Project Technical Review Meeting where it was agreed no further action was required (dated 31.03.18) as set out in [insert schedule reference].</del></p> <p><del>As the Board was the respondent on of the item through the Review Procedure.</del></p> <p><del>both documentation shall reflect this.</del></p> <p><del>The Board and Project Co agree to proceed to the construction stage, however the RBD would need to be submitted to effect the site construction - this Dispute is closed and no further action is required.</del></p>								
29	<p><b>Mounting heights for clinical lights</b></p> <p><del>That is the Board's position that some clinical lights have been mounted in such a way as to cause obstruction.</del></p> <p><del>Project Co's position is that the data sheets provided in accordance with Schedule Part 8 (Review Procedure) should have caused the Board to pass comment during the review process rather than wait until these had been constructed on site.</del></p>	<p><del>The Board and Project Co agree to proceed to the construction stage.</del></p> <p>Through discussion and agreement <del>between the Board and Project Co</del>, it was <del>agreed</del> to relocate the clinical lights to 2100mm.</p> <p><del>Reference is made to MM-RTRF-000315 provide further background to the items set out in [insert schedule reference].</del></p> <p><del>The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>								
30	<p><b>Lightning Protection</b></p> <p><del>That is the Board's position that Project Co have potentially deviated from design agreed with Consort</del></p> <p><del>Project Co's position is that the design and installation was based on the package approved through Schedule Part 8 (Review Procedure). Project Co does not agree with the comments raised.</del></p>	<p>The Board and Project Co agree the <del>design data noted as agreed</del> (Reviewable Design Data) for this item has been given status A-1-B through the Level A in accordance with Schedule Part 8 (Review Procedure) and the Dispute has been resolved.</p> <p><del>As noted with Annex TRANSMIT-008497.</del></p> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>ME-XX-XX-DC-579-002</td> <td>01</td> <td>Lightning Protection Interface between new RHSC &amp; existing RH</td> <td>A</td> </tr> </tbody> </table> <p><del>Reference is made to Annex MPX-TRANSMIT-008497 as set out in Schedule [insert schedule reference attaching all Annex documentation].</del></p>	File Reference	Rev	Title	Status	ME-XX-XX-DC-579-002	01	Lightning Protection Interface between new RHSC & existing RH	A
File Reference	Rev	Title	Status							
ME-XX-XX-DC-579-002	01	Lightning Protection Interface between new RHSC & existing RH	A							

Commented [GG40]: No evidence that this item has been progressed on site.

General Comment -all items should be subject to normal witnessing and testing, and inspection by the independent fester.

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Item	Dispute	Description of Agreed Resolution								
		<p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>								
31	<p><b>Gas supply to bedhead trunking</b></p> <p>Supply has not been installed on site as per Board comments during RDD process-Schedule Part B (Review Procedure).</p> <p>Project Co constructed position was that the design and installation was based on the package approved through Schedule Part B (Review Procedure).</p>	<p>The Board and Project Co agree the design noted adjacent Reviewable Design Data for this item has been given status A / B through the Level A in accordance with Schedule Part B (Review Procedure) and the Dispute has been resolved.</p> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>ME-XX-XX-DC-400-105</td> <td>B</td> <td>Bedhead Trunking Drawings</td> <td>A</td> </tr> </tbody> </table> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>	File Reference	Rev	Title	Status	ME-XX-XX-DC-400-105	B	Bedhead Trunking Drawings	A
File Reference	Rev	Title	Status							
ME-XX-XX-DC-400-105	B	Bedhead Trunking Drawings	A							
32	<p><b>Concealed ceiling grids</b></p> <p>Ceiling Grids are not concealed and not constructed in line with RDD drawings agreed in accordance with Schedule Part B (Review Procedure) and as set out in [insert reference].</p> <p>Project Co do not dispute this position.</p>	<p>[Board to include latest drafting and relevant information]</p> <p>The agreed technical solution to the Dispute agreed by the Board and Contractor has been documented in the follow up Project Co Change 033 which is now deemed an Approved RDD item subject to and in accordance with the terms of the Agreement-Schedule Part B (Review Procedure).</p> <p><b>Detail of the Proposed Change:</b></p> <p>The ACM, MLM's on 1.9 layout (242 co. no) stated that for ceiling grid, the Type B ceilings are to have concealed grid with no to be installed.</p> <p>Project Co wish to disagree to the equipment above to the following:</p> <p>a) Proposed standard ceiling grid that meets the requirements of AS/NZS 2461 to be installed.</p> <p>The client has approved the following areas:</p> <ul style="list-style-type: none"> <li>• Types A, B, C and E are standard tile with standard Trulok Prelude 24 grid.</li> <li>• Type D are ceiling (non-ferrous, clean room type) to kitchen areas.</li> </ul> <p>Introduction of Type L ceilings: For ensuite/bathroom/disposal holds/dirty utility areas ie high humidity areas. Standard ceiling tiles are proposed however with corrosion resistant Trulok prelude grids. These grids were specified as Type B ceilings of 24.</p> <p><b>Reasons</b></p>								

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**Commented (GG41):** Incorrect statement – the whole point of the issue is the installation is not as per the RDD, however the Board then compromised as it would have been difficult for Project Co to fix.

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Item	Dispute	Description of Agreed Resolution								
		<p>Reference is made to 332 series drawings as set out in <a href="#">Insert schedule referenced</a> which reflect the correct proposed ceiling types.</p> <p>Reference is also made to:</p> <ul style="list-style-type: none"> <li>• Example drawing H/M-22-00-PL-332-001 Rev B</li> <li>• H/M-SP-600-D – Latest Ceiling Specifications</li> <li>• Marked up ceiling keys, identifying the change</li> </ul> <p>all as set out in <a href="#">Insert schedule referenced</a>.</p> <p>The item to which an assumed grade/surface is to be applied is shown in these drawings and should not have been done but.</p> <p><b>Implications</b></p> <p>All work related to the above items have to be taken down and replaced with the original specification.</p> <p>Impacts and specifications to meet the new proposals are currently with the board or RDO.</p> <p>Verdict to PCO's appeal.</p>								
33	<p>Soft Landscaping planting specification</p> <p>The Board's position is that planting on site was not as per planting schedule, i.e. Clematis appears to be climbing but should be bush/ground variety.</p> <p>Project Co's position is that this comment relates to unfinished works and is not relevant.</p>	<p>The Board / Project Co agree the design data noted adjacent for this item has been given status A / B through the Review Procedure.</p> <p>The Board agrees that these plants were left with the canes in them so that the contractor could tend the bark mulch underneath before removing the canes. It was agreed the canes will be removed so that the plant can lay on the ground.</p> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>H/M-22-00-PL-332-012</td> <td>A</td> <td>Soft Landscaping Data to be Marked Up Specifications</td> <td>A</td> </tr> </tbody> </table> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>	File Reference	Rev	Title	Status	H/M-22-00-PL-332-012	A	Soft Landscaping Data to be Marked Up Specifications	A
File Reference	Rev	Title	Status							
H/M-22-00-PL-332-012	A	Soft Landscaping Data to be Marked Up Specifications	A							

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Item	Dispute	Description of Agreed Resolution
34	<p>Wrong terminators fitted in warning lights</p> <p><u>It is the Board's opinion in relation to Warning Lights that:</u></p> <ul style="list-style-type: none"> <li>- Terminal strip connector in theatres to be removed and correct terminations provided, all warning light boxes.</li> <li>- light box deformed where glanded</li> </ul> <p><u>Project Co's position is that the installation was still work in progress and will be compliant prior to the Actual Completion Date the Actual Completion Date.</u></p>	<p>The Board / Project Co agree this <del>item</del> <u>Dispute</u> is closed <u>and no further action required.</u></p>
35	<p>No evidence of IPS circuit bonding conductors</p> <p><u>It is the Board's opinion that there is no</u> evidence of IPS circuit bonding conductors at the IPS cabinets. The Main Bonding conductor between the IPS &amp; the ERB is present.</p> <p><u>Project Co's position is that the installation is still a work in progress and will be compliant prior to the Actual Completion Date.</u></p>	<p>The Board / Project Co agree this <del>item</del> <u>Dispute</u> is closed <u>and no further action required.</u></p>
36	<p>Fire resistance of radiology door frame</p> <p>Radiology Door frame packed out in door opening, not in accordance with manufacturer's limits to maintain fire resistance of doorset.</p> <p><u>Project Co do not dispute this position.</u></p>	<p><del>This item shall be resolved through witnessing and testing of the system, to demonstrate compliance with the GCRC / ITC's / Completion Criteria.</del></p> <p><u>As noted out within Annex MPX-GC-026747, MPX-GC-027156 and NHSL-GC-003201 as set out in Schedule [insert schedule reference attaching all Annex documentation] the door frame has been rectified.</u></p> <p><u>Project Co to provide test reports to each door type / fire to the Project Co Office. The Board / Project Co agree this Dispute is closed and no further action required.</u></p>
37	<p>UPS output switchboard with incorrect poles</p> <p><u>It is the Board's opinion that the</u> UPS output Switchboard 2 Switchboard is supposedly a Form 4 type 6 board. Schneider state that to achieve Form 4 type 2 or 6 that the incoming devices should be 4 poles. The incoming devices are three poles with unswitched neutral.</p>	<p>The Board / Project Co agree this <del>item</del> <u>Dispute</u> is closed <u>and no further action required.</u></p>



Item	Dispute	Description of Agreed Resolution
	<p><u>Project Co's position is that the design and installation is in accordance with the requirements of the Project Agreement and was based on the tech sub packages approved through the approval process.</u></p>	
38	<p><b>Corridor service door handles</b></p> <p><u>It is the Board's position that the Corridor service doors <del>do</del> installed include pull handles which are not acceptable as advised by the Board 30/01/17 (MM-GC-002483) during room review (corners of handles at <del>at least</del> children's head height)</u></p> <p><u>Project Co's position is that the design and installation complies with the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</u></p>	<p><u>The Board <del>over</del> the re-submission of the item through the Review Procedure.</u></p> <p><b>Project Co to provide a table of material for item 00201. This item has been rectified on site.</b></p> <p><u>The solution agreed by the Board and the Contractor to resolve the Dispute was to remove the pull handles and replace them with standard flat pushchests.</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
39	<p><del>NOT USED</del></p> <p><del>Project Co to provide a table of material for item 00201. This item has been rectified on site.</del></p> <p><del>Non-compliance with RDD</del></p> <p><del>Item will not be included on the Final List unless fully resolved.</del></p>	<p><del>Not used</del></p>
40	<p><b>Remaining Permanent Infrastructure outside the red line boundary (CCTV etc)</b></p> <p><u>Still waiting for legal agreement for infrastructure outside the <del>the</del> site boundary.</u></p>	<p><u>Outstanding project Co to provide <del>in</del> <del>at a</del></u></p>
41	<p><b>Seasonal Commissioning</b></p> <p><u>Project Co is the Board position that there is potential for some seasonal commissioning texts to be <del>complete</del> <del>completed</del> post hand over.</u></p> <p><u>Project Co's position is that seasonal commissioning would always be required to be carried out post the Actual Completion Date.</u></p>	<p><u>Project Co to set out proposed resolution for Board approval</u></p> <p><u>A separate seasonal commissioning report has been prepared to <del>del</del> <del>by</del> and <del>also</del> <del>by</del> the proposal.</u></p> <p><u>As noted in the MM-GC-002483 The complete As-Built Energy Model cannot be provided prior to the Commissioning End Date and will be completed prior to the Actual Completion Date.</u></p> <p><u>The building requires to be fully occupied and in use throughout a year in order to monitor the environmental conditions as noted in Schedule 6, Section 7 Item 4.5.2.</u></p>

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**Commented [GG42]:** Project Co Change text is required here

Note the long term energy consumption risk sits with the Board, hence as a minimum critical the Board gets the As Installed Energy model through RDD, this suggests nothing will be submitted through RDD.



Item	Dispute	Description of Agreed Resolution
		<p><del>Seasonal Commissioning activities that shall be carried out during this time are detailed in "Seasonal Commissioning Activities Rev 1" as set out in <a href="#">insert schedule reference</a>.</del></p> <p><del>Reference is made to 180205 Seasonal Commissioning Activities Rev 1 as set out in <a href="#">insert schedule reference</a>.</del></p> <p><del>The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>
42	<p><del>Environmental Matrix</del></p> <p><del>CM affects M&amp;E issues as it is a side effect of the project</del></p> <p><del>NOT USED</del></p>	<p><del>Not used</del></p> <p><del>This is a duplicate of item 7.</del></p>
43	<p>Routing of services. Corridor layouts against any non compliance with standards to be tabled.</p> <p><del>It is the Board's position that services are currently running through clinical areas that were not included within the original Project Co derogation.</del></p> <p><del>Project Co's position is that the design and installation meets the Project Agreement was based on the package approved through Schedule Part 8 (Review Procedure)</del></p>	<p><del>The Board and Project Co agree that Project Co will detail on the BIM model where the maintenance access will be required for the services that pass through clinical spaces serving the adjacent space.</del></p> <p><del>As noted in the Reference is made to MPX-GC-027217 as set out in <a href="#">insert schedule reference</a>.</del></p> <p><del>The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>
44	<p>Nurse call in WC</p> <p><del>It is the Board's position that there is evidence from the Site (room C1.1-070) that nurse call pull cords have been installed in some visitor's WCs. However no nurse call should be installed in visitor's WCs.</del></p> <p><del>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the</del></p>	<p><del>The process agreed between the Board and Project Co to resolve the Dispute was for the Board to issue a Board Change.</del></p> <p><del>This has been received and Project Co is progressing the Change as noted within NHSI-8CP-0142 as set out in <a href="#">insert schedule reference</a>.</del></p> <p><del>The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>

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Commented [GG43]: Project Co change is required for this, insufficient information yet been provided for the Board (and BYES to assess the risk.

General comment – what is BYES position on all of this? We are hearing many of the Project Co Changes are now getting stalled by BYES.

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Item	Dispute	Description of Agreed Resolution
	<u>package approved through Schedule Part 8 (Review Procedure)</u>	<u>Project Co have agreed to install manual call as per the following Appendix (Board to provide list)</u>
45	<p><b>Unidentified Circuits</b></p> <p>Electrical circuits are not identified or labelled at terminal rail inside trunking. Consequently, there is no way to identify which cables enter and leave the circuit terminal strips.</p> <p><u>Project Co dispute this position and consider that the design and installation meets the requirements of the Project Agreement.</u></p>	<p><del>The Board / Project Co agree this item is closed.</del></p> <p>Through discussion and site review <u>between the Board and Project Co</u> it was agreed <u>that</u> no further action required.</p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
46	<p><b>Fire alarm cable bands</b></p> <p><u>Board is the position that cable bands for fire alarms are plastic rather than metal. Metal ties are required by BS and are proposed by Project Co M&amp;E specifications (4.23.3 of Section 4 of Schedule Part 6).</u></p> <p><u>Project Co's position is that the installation was still work in progress and would be compliant prior to the Actual Completion Date.</u></p>	<p><del>This item shall be resolved through the assistance of the system to be installed in compliance with the BCBs / PCBs / Co - plot - C to -</del></p> <p><u>Project Co shall ensure that installation is compliant with the BCBs.</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
47	<p><b>IPS units earthbar termination - 1-B1-044 - IPS room</b></p> <p><u>Project Co's position is that the installation was still work in progress and would be compliant prior to the Actual Completion Date.</u></p>	<p><del>The Board / Project Co agree this item is closed.</del></p> <p>Through discussion and site review it was agreed <u>between the Board and Project Co that</u> no further action required <u>to resolve this Dispute.</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
48	<p><b>IPS sockets supplying non medical equipment</b></p> <p><u>It is the Board's position that IPS sockets have been found on site providing power for the television, scale of the issue still to be determined.</u></p> <p><u>Project Co's position that the installation was still a work in progress and will be compliant prior to the Actual Completion Date.</u></p>	<p><del>The Board / Project Co agree this item is closed.</del></p> <p>Through discussion and site review it was agreed <u>between the Board and Project Co that</u> no further action is required <u>to resolve this Dispute.</u></p>

Item	Dispute	Description of Agreed Resolution																																											
49	<p><b>Interleaved circuits</b></p> <p><u>As is the Board's opinion</u> as per SHTM 06-01 and note 7 on design drawings, <u>that</u> all sockets including pendants supplies, for Cat 3, 4 and 5 should be interleaved. However, the evidence from <u>440510</u> suggests this has not been installed.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure)</u></p>	<p>The <del>design data</del><u>Reviewable Design Data</u> noted below for this item has been given status <u>Level A / or B</u> <del>through the</del> <u>in accordance with Schedule Part B (Review Procedure)</u>.</p> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>WW-5Z-SL-SH-900-011</td> <td>F</td> <td>Room by Room Risk Profile</td> <td>B (04/05/18)</td> </tr> <tr> <td>WW-Z3-00-PL-531-001</td> <td>M</td> <td>Zone Z3 Level 00 Small Power Layout Sheet 1 of 2</td> <td>B (13/04/17)</td> </tr> <tr> <td>WW-Z3-00-PL-531-002</td> <td>M</td> <td>Zone Z3 Level 00 Small Power Layout Sheet 2 of 2</td> <td>B (13/04/17)</td> </tr> <tr> <td>WW-Z3-01-PL-531-001</td> <td>J</td> <td>Zone Z3 Level 01 Small Power Layout Sheet 1 of 2</td> <td>A (13/04/17)</td> </tr> <tr> <td>WW-Z3-01-PL-531-002</td> <td>P</td> <td>Zone Z3 Level 01 Small Power Layout Sheet 2 of 2</td> <td>B (13/04/17)</td> </tr> <tr> <td>WW-Z4-00-PL-531-002</td> <td>O</td> <td>Zone Z4 Level 00 Small Power Layout Sheet 2 of 2</td> <td>B (13/04/17)</td> </tr> <tr> <td>WW-Z4-01-PL-531-001</td> <td>K</td> <td>Zone Z4 Level 01 Small Power Layout Sheet 1 of 2</td> <td>A (13/04/17)</td> </tr> <tr> <td>WW-Z4-01-PL-531-002</td> <td>K</td> <td>Zone Z4 Level 01 Small Power Layout Sheet 2 of 2</td> <td>A (13/04/17)</td> </tr> <tr> <td>WW-Z4-03-PL-531-002</td> <td>I</td> <td>Zone Z4 Level 03 Small Power Layout Sheet 2 of 2</td> <td>A (13/04/17)</td> </tr> </tbody> </table> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>				File Reference	Rev	Title	Status	WW-5Z-SL-SH-900-011	F	Room by Room Risk Profile	B (04/05/18)	WW-Z3-00-PL-531-001	M	Zone Z3 Level 00 Small Power Layout Sheet 1 of 2	B (13/04/17)	WW-Z3-00-PL-531-002	M	Zone Z3 Level 00 Small Power Layout Sheet 2 of 2	B (13/04/17)	WW-Z3-01-PL-531-001	J	Zone Z3 Level 01 Small Power Layout Sheet 1 of 2	A (13/04/17)	WW-Z3-01-PL-531-002	P	Zone Z3 Level 01 Small Power Layout Sheet 2 of 2	B (13/04/17)	WW-Z4-00-PL-531-002	O	Zone Z4 Level 00 Small Power Layout Sheet 2 of 2	B (13/04/17)	WW-Z4-01-PL-531-001	K	Zone Z4 Level 01 Small Power Layout Sheet 1 of 2	A (13/04/17)	WW-Z4-01-PL-531-002	K	Zone Z4 Level 01 Small Power Layout Sheet 2 of 2	A (13/04/17)	WW-Z4-03-PL-531-002	I	Zone Z4 Level 03 Small Power Layout Sheet 2 of 2	A (13/04/17)
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Item	Dispute	Description of Agreed Resolution								
50	<p><b>Access and Maintenance Strategy</b></p> <p>Access and Maintenance Strategy - lack of clear access and maintenance strategy submitted to date. <del>The documents currently being updated by Project Co</del></p> <p><u>Project Co's position is that this is a work in progress and will be compliant prior to the Actual Completion Date.</u></p>	<p><del>[Project Co will submit the Access and Maintenance Strategy to the Board on 30 June 2020.]</del></p> <p><del>Board are reviewing the revised Access and Maintenance Strategy.</del></p> <p><del>The Reviewable Design Data noted below for this item has been given status Level B in accordance with Schedule Part B (Review Procedure) in relation to revision 11 with exchange of emails agreeing how comments shall be addressed - see "MPX response to NHS comments on Rev 11 A+M Strategy" as set out in <a href="#">insert schedule reference</a>.</del></p> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>LM-XX-XX-DC-450-001</td> <td>11</td> <td>Access and Maintenance Strategy</td> <td>Level B (02/11/17) <u>not</u></td> </tr> </tbody> </table> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>	File Reference	Rev	Title	Status	LM-XX-XX-DC-450-001	11	Access and Maintenance Strategy	Level B (02/11/17) <u>not</u>
File Reference	Rev	Title	Status							
LM-XX-XX-DC-450-001	11	Access and Maintenance Strategy	Level B (02/11/17) <u>not</u>							
51	<p><b>Lux levels in clean utilities</b></p> <p><u>It is the Board's position that Lux levels in clean utilities rooms may not be sufficient for functionality of the space.</u> Currently LG2 150 lux however due to the layout of the room / cupboards, they may not be sufficient for the functionality of the space.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the environmental matrix approved through Schedule Part B (Review Procedure).</u></p>	<p><del>This item shall be resolved through visitation of the Board and testing of the system, to demonstrate compliance with the PCR's / DCR's / Compliance Criteria.</del></p> <p><del>Contractor has agreed a process to measure the lighting levels to meet the agreed Environmental Matrix, lux levels recorded within WW-XX-XX-DC-XXX-001 Rev 11 as set out in <a href="#">insert schedule reference</a>.</del></p> <p><del>Access MPX-TRANSMIT-009971 for WW-XX-XX-DC-XXX-001 Rev 011 as set out in Schedule <a href="#">insert schedule reference</a> attaches all Access documentation details the current lighting levels signed off which the design and installation will be measured against.</del></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>								
52	<p><b>Fire stopping</b></p> <p><u>It is the Board's position that the Fire stopping has been carried out however subsequent installation may have breached fire stopping.</u></p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure).</u></p>	<p><del>This item shall be resolved through visitation of the Board and testing of the system, to demonstrate compliance with the PCR's / DCR's / Compliance Criteria.</del></p> <p><del>The process agreed is for Project Co to issue the FIRAS Certificate to show compliance in accordance with the provisions of the Project Agreement.</del></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>								

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Item	Dispute	Description of Agreed Resolution
53	<p><b>Egg crate Grilles in clinical areas</b></p> <p>It is the Board's position that the Egg box grid is not suitable for cleaning. A technical submittal was issued and signed off by the Board, however a sample of the grid was not issued through the Review Procedure, hence the Board did not have a chance to view the type of product before it was installed.</p> <p>Project Co's position is that the design and installation was based on the package approved through Schedule Part B (Review Procedural) - photos of the products were provided which the Board should have used to raise comments at the appropriate time.</p>	<p>The process agreed <del>between the Board and Project Co</del> was for Project Co to procure board preferred grills, <del>this for Board markup.</del></p> <p>As noted set out within Annex MPX-GC-025803, as set out in Schedule 1 <del>insert schedule reference attaching to Annex documentation.</del></p> <p>The Board and Project Co agree <del>this is a closed dispute</del> - Dispute is closed and no further action is required.</p>
54	<p><b>Curtain track and ceiling Hoist clashes</b></p> <p>Hoists and curtain tracks clash and will need to be reviewed on a room by room basis.</p> <p>Project Co's position is that this is a work in progress and will be compliant prior to the Actual Completion Date.</p>	<p>This shall be resolved through the design of the system to be a state compliant with the BRC's / DC's / Completion Criteria.</p> <p>The process agreed was to carry out an on-site review and rectify as necessary. <del>There has been a review of hoist and curtain tracks clashes by Project Co and Project Co have rectified all clashes.</del></p> <p>As built documentation will record any alterations made.</p> <p>The Board and Project Co agree <del>this dispute is closed</del> and no further action is required.</p>
55	<p><b>Wrong room configurations</b></p> <p>G-Q1-074 not constructed in line with C-Sheet (wrong sequence for data points and socket outlets)</p> <p>Project Co's position is that this is a work in progress and will be compliant prior to the Actual Completion Date.</p>	<p>The documents noted below for this item has been <del>not</del> status A / B through the Review procedure.</p> <p>Project Co confirmed this room will be installed to HLM C-Sheet for G-Q1-074.</p> <p><del>See if too check if it is ok.</del> The Board and Project Co agree this Dispute is closed and no further action is required.</p>
56	<p><b>Helipad Ramp Lights</b></p> <p>Helipad ramp now includes lighting however HBN 15-03 recommends that the luminaire should be lower than 25 cm and pointing down toward ramp. Calculations have not been submitted for lighting levels to ascertain if this complies with relevant standards.</p>	<p>The Board / Project Co agree this item is closed.</p> <p>Through discussion <del>between Project Co and the Board</del> and site review it was agreed <del>that</del> no further action required relating to this item.</p> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>

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Item	Dispute	Description of Agreed Resolution								
	<u>Project Co dispute the non-compliance alleged.</u>									
57	<p><u>Reduced access to electrical panels</u></p> <p><u>It is the Board's position that</u> Electrical panels <del>are</del><u>should be</u> placed in reduced access areas. The Board understand this should have been designed in conjunction SHTM 04– Best Practice for Healthcare Engineering – Chapter 9 Engineering services. (4-PLANT-001 – Central AHU Plant Room 01, 3-CORE-008A - Switch cupboard)</p> <p><u>Project Co's position is that</u> <u>the design and installation meets the requirements of the Project Agreement and was listed on the package approved through Schedule Part 8 (Review Procedure)</u></p>	<p><del>This item shall be resolved through commissioning and testing of the system, to demonstrate compliance with the BCBs / OCBs / Completion Criteria</del></p> <p>As noted within <del>the Aconex GC-0233000</del>; noted within Aconex MPX-GC-027300 as set out in Schedule 1 <del>insert schedule reference attaching all Aconex documentation</del>, the Contractor reviewed on Site the 12 areas of concern with the <del>Independent Tester</del>, these were captured within the sketches contained within the Aconex, and this item has now been closed by the Independent Tester.</p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>								
58	<p><u>Lighting in Service yard</u></p> <p><del>Lighting</del> <u>It is the Board's position that</u> lighting levels within service yard were initially designed at an average of 23 lux levels (i.e. the level required for a car park as per SLL Lighting Guide). This has now been corrected to 50 lux average however the uniformity is not in accordance with the requirements.</p> <p><u>Project Co's position was that the design and installation will comply with the Project Agreement, the BCBs, and design and calculations would be submitted through Schedule Part 8 (Review Procedure)</u></p>	<p><del>The Board will the 0-sub to a of updated WW-SW-XX-DC-716-001 through the Review Procedure.</del></p> <p>A process was agreed to capture the Board concern <del>even relation to</del> uniformity, update service yard with twin heads, and resubmit drawing <del>to ROP, WW-SW-XX-DC-716-001 to the Board</del>. This action is now complete.</p> <p>As noted within <del>Aconex MPX-GC-02444902711</del> as set out in Schedule 1 <del>insert schedule reference attaching all Aconex documentation</del>.</p> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Date</th> <th>By</th> </tr> </thead> <tbody> <tr> <td>WW-SW-XX-DC-716-001</td> <td>2</td> <td>04-08-2017</td> <td>Lighting Calculations</td> </tr> </tbody> </table> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>	File Reference	Rev	Date	By	WW-SW-XX-DC-716-001	2	04-08-2017	Lighting Calculations
File Reference	Rev	Date	By							
WW-SW-XX-DC-716-001	2	04-08-2017	Lighting Calculations							
59	<p><u>Lighting in B-COR-014</u></p> <p><u>It is the Board's position that</u> L14 luminaires are missing in the corridor.</p> <p><u>Project Co's position is that the design and installation meets the</u></p>	<p><del>This item shall be resolved through commissioning and testing of the system, to demonstrate compliance with the BCBs / OCBs / Completion Criteria</del></p> <p>Project Co <del>we</del> <u>confirms</u> lighting design has been amended to ensure the minimum height of 2.4m will not be impacted by the <del>re-luminaires</del> installed.</p>								

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Item	Dispute	Description of Agreed Resolution								
	<u>requirements of the Employer's Requirements and was based on the package approved through Schedule Part B (Review Procedure)</u>	<u>This <del>has not</del> will be reflected within the as built information. Project Co confirms no luminaires are missing within corridor B-COR-013.</u> <u>The Board and Project Co agree this Dispute is closed and no further action is required.</u>								
60	1-T2-018: QP - Riser door missing <u>It is the Board's position that the riser wall should have a door to access pipework.</u> <u>Project Co's position is that the installation was still work in progress and would be compliant prior to the Actual Completion Date.</u>	<u>This item shall be resolved through testing and testing of the system, to demonstrate compliance with the BCR's / DCB's / Completion Criteria.</u> <u>Project Co to not fix a riser door to the riser wall as per the BCR's. The door has now been installed.</u> <u>The Board and Project Co agree this Dispute is closed and no further action is required.</u>								
61	Provision of 360o CCTV Coverage <u>It is the Board's position that as illustrated in external CCTV drawing (ME-EW-XX-PL-571-001 Rev D) there are gaps within CCTV coverage on approach to the NW elevation of the Facility. Non Compliant with BCR Clause 7.6 (n) (Hard Landscaping).</u> <u>The Board's position is not disputed by Project Co.</u>	<u>The Board <del>and</del> Project Co <del>agreed to</del> <del>discuss</del> <del>the</del> <del>dispute</del> <del>and</del> <del>agreed</del> <del>to</del> <del>update</del> <del>the</del> <del>drawing</del> <del>and</del> <del>submit</del> <del>the</del> <del>drawing</del> <del>ME-EW-XX-PL-571-001</del>.</u> <u>Project Co agreed to update the drawing and submit drawing ME-EW-XX-PL-571-001.</u> <u>This <del>is</del> <del>an</del> <del>agreed</del> <del>action</del> <del>is</del> <del>now</del> <del>complete</del>. Project Co is to demonstrate compliance on site when the system is commissioned.</u> <u>Project Co confirms revision F of the aforementioned drawing was updated and issued for information.</u> <table border="1"> <thead> <tr> <th>File Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>ME-EW-XX-PL-571-001</td> <td>F</td> <td>Site Plan, External CCTV Layout</td> <td>R (23/05/18)</td> </tr> </tbody> </table> <u>The Board and Project Co agree this Dispute is closed and no further action is required.</u>	File Reference	Rev	Title	Status	ME-EW-XX-PL-571-001	F	Site Plan, External CCTV Layout	R (23/05/18)
File Reference	Rev	Title	Status							
ME-EW-XX-PL-571-001	F	Site Plan, External CCTV Layout	R (23/05/18)							
62	Hazard classification and fire stopping in MRI suites <u>It is the Board's position that the MRI Suites are currently not operationally functional as hazard classification of the MRI equipment room prevents installation of waveguides between equipment and examination rooms which <del>are not</del> <del>can</del> <del>not</del> be fire stopped.</u>	<u>The Board <del>has</del> <del>the</del> <del>revised</del> <del>drawings</del> <del>updated</del> <del>and</del> <del>approved</del> <del>through</del> <del>the</del> <del>Review</del> <del>Procedure</del>.</u> <u>Through discussion and Project agree that the Revised Fire Strategy drawings <del>and</del> <del>indicate</del> the altered compartmentation lines. These provide the necessary FR ratings and allow the Board to install their protection as required.</u> <u>Drawing extract indicates change made on Aconex mail MPX-GC-027481 as set out in Schedule <del>(insert schedule reference attaching all Aconex documentation)</del>.</u>								

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Item	Dispute	Description of Agreed Resolution
	<p><u>Project Co's position is the design and installation meets the requirements of the Project Agreement and was based on the packages approved through Schedule Part 8 (Review Procedure).</u></p>	<p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
63	<p><b>Entrance to Service Yard for Large Vehicles</b></p> <p>As witnessed at the trial on 17th Feb 2018, due to the location of the barrier, large vehicles extend into the blue light route (by Approximately 3ft) when waiting for access through the barrier.</p> <p><u>The Board's position is not disputed by Project Co.</u></p>	<p><u>The Board asks for re-submission of H14-20-00-PL-711-003 through the Review Procedure.</u></p> <p><u>Through discussion it has been confirmed/agreed between Project Co and the Board that a revised service yard design drawing H14-20-00-PL-711-003 will be issued reflecting the outcome of onsite testing.</u></p> <p><u>A bespoke pivot neck access control pedestal will then be designed by Project Co to alleviate the potential for vehicle overhang.</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
64	<p><b>Quench Pipe Route</b></p> <p><u>Board's position is that Project Co <del>has</del> not left a clear route for the quench pipes to run.</u></p> <p><u>Project Co's position is that the route meets the requirements of the Project Agreement and was based around the design and installation packages approved through Schedule Part 8 (Review Procedure).</u></p>	<p><u>Results of survey to be started - the route is agreed.</u></p> <p><u>Position resolving the Dispute as agreed by the Board and Project Co is recorded within Aconex MPX-GC-027186 as set out in Schedule <del>(insert schedule reference attaching all Aconex documentation)</del>. Reference is also made to the quench pipe work scope <del>(insert schedule reference)</del> and responsibility matrix for both parties <del>(insert schedule reference)</del>.</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
65	<p><b>CAMHS/PICU Glazing/DCN Acute</b></p> <p><u>It is the Board's position that Project Co <del>has</del> not effectively designed glazing in PICU and CAMHS and DCN Acute to allow for adequate patient privacy from public spaces. As per Clinical Output Specifications and BCR Clauses 2.2/3.2.1/3.5.2/3.5.4/3.5.6/5.12/5.16.2</u></p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the packages approved through Schedule Part 8 (Review Procedure).</u></p> <p><u>The privacy issue was discussed prior to any review under Schedule 8.</u></p>	<p><u>The Board <del>and</del> Project Co agree to <del>provide</del> resolution of the Dispute based on the following:</u></p> <p><u>CAMHS - Method of tested glazing MPX to obtain samples</u>  <u>PICU hedge rail on south end with glazing resolves</u>  <u>DCN Acute cover full panel for 2.4M to obtain samples</u>  <u>DCN Acute cover toilet on stairs add 2 anal screens by 2nd door up post theatre cub</u>  <u>MPX provide glazing photos to the board</u></p> <p><u>The Board asks the submission of this to through the Review Procedure.</u></p> <p><u>CAMHS</u></p>

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Commented [GG55]: The Board are concerned that until this is installed, the Board will not be able to confirm whether it can fit, hence cannot be closed.

Re m	Dispute	Description of Agreed Resolution		
	<p><u>Part B (Review Procedure) and measures introduced to eliminate BreatH concern during design stage.</u></p>	<p><u>Room Number</u></p>	<p><u>Room Name</u></p>	<p><u>Type of Privacy Screening</u></p>
		<u>G-F1-090</u>	<u>Single Bedroom 7</u>	<u>Opaque Strip/Band *</u>
		<u>G-F1-069</u>	<u>Single Bedroom 8</u>	<u>Opaque Strip/Band *</u>
		<u>G-F1-075</u>	<u>Single Bedroom 9</u>	<u>Opaque Strip/Band *</u>
		<u>G-F1-073</u>	<u>Single Bedroom 10</u>	<u>Opaque Strip/Band *</u>
		<u>G-F1-071</u>	<u>Single Bedroom 11</u>	<u>Opaque Strip/Band *</u>
		<u>G-F1-085</u>	<u>Single Bedroom 12</u>	<u>Opaque Strip/Band *</u>
		<u>G-F1-048</u>	<u>Group Room</u>	<u>Full One Way Reflective Film **</u>
		<u>G-F1-067</u>	<u>Single Bedroom 1</u>	<u>Full One Way Reflective Film **</u>
		<u>G-F1-072</u>	<u>Single Bedroom 2</u>	<u>Full One Way Reflective Film **</u>
		<u>G-F1-079</u>	<u>Single Bedroom 3</u>	<u>Full One Way Reflective Film **</u>
		<u>G-F1-081</u>	<u>Single Bedroom 4</u>	<u>Full One Way Reflective Film **</u>
		<u>G-F1-083</u>	<u>Single Bedroom 5</u>	<u>Full One Way Reflective Film **</u>
		<u>G-F1-087</u>	<u>Single Bedroom 6</u>	<u>Full One Way Reflective Film **</u>
		<u>G-F1-092</u>	<u>Quiet Room</u>	<u>Full One Way Reflective Film **</u>
		<p>* Opaque strip band starts at 700mm AFFH and finishes at 1800mm AFFH, the refer to manufacturer.  ** Will require anti-leak sealant or external application.</p>		
		<p><u>DCN Asate Cars</u></p>		
		<u>1-1-100</u>	<u>Bay 2</u>	<u>Full One Way Reflective Film</u>
		<u>1-1-097</u>	<u>Bay 1</u>	<u>Full One Way Reflective Film</u>
		<u>1-1-096</u>	<u>Single Room 7</u>	<u>Full One Way Reflective Film</u>
		<u>1-1-071</u>	<u>Single Room 6</u>	<u>Full One Way Reflective Film</u>
		<u>1-1-017</u>	<u>Single Room 5</u>	<u>Full One Way Reflective Film</u>
		<u>1-1-015</u>	<u>Single Room 4</u>	<u>Full One Way Reflective Film</u>
		<u>1-1-010</u>	<u>Single Room 3</u>	<u>Full One Way Reflective Film</u>
		<u>1-1-006</u>	<u>Single Room 2</u>	<u>Full One Way Reflective Film</u>

Commented [GG56]: Incorrect statement

Commented [GG57]: Table needs to be amended - solution not yet agreed for all rooms.



Item	Dispute	Description of Agreed Resolution		
		1-1-002	Single Room 1	Full One Way Reflective Film
		1-1-008	Single Room 8	Interstitial blind in secondary glazing***
66	<p><b>Design Note 5 - void detection</b></p> <p>Project Co deleted design note 5 which described the process for risk assessing the omission of void detection. If no design note 5 reinstated then we assume void detection will be provided throughout.</p> <p><u>Project Co distribute the Board's position and updated design drawings can be provided to provide clarity on this issue.</u></p>	<p><del>The Board and Project Co and the Board have agreed that Project Co's re-submission of updated WSP-SZ-XX-DC-572-500 through as set out in [insert schedule reference] includes the necessary risk assessments to remove void detection.</del></p> <p><u>Risk assessments have been issued in accordance with Schedule Part 8 (Review Procedure).</u></p> <p><u>Reference is made to Aconox MF-XX-XX-DC-572-100 and MF-XX-XX-DC-572-101 as set out in Schedule [use 1 schedule reference attaching all Aconox documentation].</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>		
67	<p><b>Ventilation extract for Sump</b></p> <p><del>It is the Board's position that the</del> basement sump / basement corridor is not provided with any ventilation. Any maintenance of the sump will require the cover to be open and odours will be present in the corridor outside main kitchen, H&amp;S risk.</p> <p><del>NOTE: there are other concerns of concern relating to the location of the sump which is the subject of the case.</del></p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure).</u></p>	<p><del>The Board was to the extent of the sump through the Review Procedure.</del></p> <p><del>Project Co agreed that Project Co would submit a ventilation strategy proposal that allows for a temporarily enclosure around the chamber to be constructed and odour/chemical filter to resolve odours when the chamber is to be opened and Project Co also to include methodology for the opening of the sump.</del></p> <p><u>Proposal was issued by Project Co to the Board 18.06.18 setting out maintenance proposals to remedy potential blockages, to address concerns relating to basement sump design.</u></p> <p><u>Meeting held 28 June 2018 with the Board. Board comments under review.</u></p> <p><u>Ventilation Strategy Proposal to be updated and reissued via Aconox as per MPX - GC-XXXXXX as set out in Schedule [insert schedule reference attaching all Aconox documentation].</u></p>		

**Commented [GG58]:** RDD pack has just been received - potential issues with the pack.

**Commented [GG59]:** This meeting covered the broader basement sump and drainage issues.

**Commented [GG60]:** Requires witnessing on site.

Item	Dispute	Description of Agreed Resolution
68	<p><b>Security for CAMHS courtyards</b></p> <p><del>The Board's position is that the</del> height of fencing is currently not sufficient to prevent access to the CAHMS courtyards</p> <p><del>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure). The height of the fence was discussed extensively pre-FC and the Board specifically did not want a major boundary between public and private areas.</del></p>	<p>The Board / Project Co agree to <del>resolve the Dispute</del> based on the following:</p> <ul style="list-style-type: none"> <li><del>Project Co proceeding with install of 2.4m high fence to match existing install at service yard, to the length of the existing installation. Hedge to be replaced with (as close to ) 2.4m high hedge and including return up the back of the spine wall.</del></li> </ul> <p><del>The Board owns the site as an and Project Co agree this item through the Review Procedure route is closed and no further action is required.</del></p>
69	<p><b>Service Yard Gate</b></p> <p>The location of the induction loops for automatic gates / barriers will have to ensure there is safe and unobstructed egress from service yard.</p> <p><del>Project Co's position is that the installation was still a work in progress and will be compliant prior to handover the Actual Completion Date.</del></p>	<p><del>The Board does not have a sub-issue of this item through the Review Procedure.</del></p> <p><del>A process has been agreed to ensure safe by the Board and unobstructed egress. The service Project Co that Project Co will procure automatic gates (both open on entry, but with capability for only the exit side gate to open on exit if size of vehicle does not require it). Service yard drawings will detail the automatic gates to be procured. No barriers to be installed updated by Project Co solely to reflect this available position.</del></p> <p>This information will be recorded on:</p> <p>JHM-20-00-PL-711-003 Rev I (to be issued) as set out in <a href="#">insert schedule reference</a>.</p>
70	<p><b>ED Drugs store ventilation</b></p> <p><del>Current is the Board's position that current</del> ventilation provision for drugs store is not in line with Clinical Specific Requirements for the space and therefore is not compliant.</p> <p><del>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure)</del></p>	<p><del>This item shall be resolved through the same as The Board Changes and Project Co agree to proceed based on the following Board change NHSL-CCP-138 ED Drug Store Ventilation as set out in <a href="#">insert schedule reference</a>.</del></p> <p><del>The Board and Project Co agree this Dispute is closed and no further action is required.</del></p>
71	<p><b>Movement Joint outstanding action</b></p> <p><del>Item 6.6 of the Board's Construction Requirements Schedule part 6, Section 3, states:</del></p> <p><del>6.6 Movement Joints - Structural movement joints shall not be located through</del></p>	<p><del>This item shall be resolved through the same as The Board Changes and Project Co agree to proceed based on the following Board change NHSL-CCP-138 ED Drug Store Ventilation as set out in <a href="#">insert schedule reference</a>.</del></p> <p><del>Project Co to provide the following information:</del></p> <p><del>Full ROD submission</del></p> <p><del>GD&amp;C confirmation that no issues</del></p> <p><del>Details for the hot-toilet to be provided</del></p>

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Commented [GG61]: Work still needs to be undertaken.

Commented [GG62]: Hot toilet issue has not been resolved, and revised pack has not been sent to the Board. Issue still with the installation on site.





Item	Dispute	Description of Agreed Resolution
		<ul style="list-style-type: none"> <li>• <a href="#">H/M-S2-SL-PL-220-014-C-Slab Movement Joint Locations</a></li> <li>• <a href="#">H/M-S2-XX-DT-220-001-B-Typical Expansion - Movement Joint Details - Sheet 1</a></li> <li>• <a href="#">H/M-S2-XX-DT-220-002-C-Typical Expansion - Movement Joint Details - Sheet 2</a></li> <li>• <a href="#">H/M-S2-SL-PL-332-001-C-Ceiling Movement Joint Locations</a></li> <li>• <a href="#">H/M-S2-XX-DT-332-001-B-Typical Internal Ceiling Expansion - Movement Joint Details - Sheet 1</a></li> </ul> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>
72	<p>Heating pumps pressure</p> <p><del>Issue</del> <u>In the Board's opinion there is an issue</u> with heating pumps pressure to distribute hot water around the Facility. Pumps may not be sized correctly.</p> <p><u>Project Co's position is that the installation was still a work in progress and will be compliant prior to the Actual Completion Date.</u></p>	<p><del>The issue shall be resolved through witnessing and testing of the system, to demonstrate compliance with the BCR's / PCR's / Co-ops - C-ops.</del></p> <p><u>Agreed to Project Co will capture the commissioning results and table these with the Board to confirm compliance.</u></p> <p><u>All results are being uploaded to the Zedex as built document management system.</u></p> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>
73	<p>Fridge Spaces</p> <p>Spaces for fridges mid <del>and</del> are too small for the equipment</p> <p><u>Project Co does not dispute this item.</u></p>	<p><del>The issue shall be resolved through witnessing and testing of the system, to demonstrate compliance with the BCR's / PCR's / Completion Criteria.</del></p> <p>The Board has agreed to reduce the sizes of some of the fridges.</p> <p>Project Co has agreed to provide adequate fridge space in line with NHS requirements, the Board's requirements, all as recorded on <del>Aconex</del> <u>Aconex 2019/02/10/14 as set out in schedule 1 and schedule 2</u> <u>affirmance attaching all Aconex documentation.</u></p> <p><del>Issue is resolved.</del> <u>The Board and Project Co agree this dispute is closed and no further action is required.</u></p>
74	<p>Incline in L2</p> <p>The floor appears to be inclined in L2 department. <u>Project Co disputes this position.</u></p>	<p><del>The Board / Project Co agree this issue is closed.</del></p> <p>Through discussion <u>between the Board and Project Co</u>, it was agreed no further action required.</p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>

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Item	Dispute	Description of Agreed Resolution								
75	<p>Row of work benches too close together - D6 first floor</p> <p><del>Issue is the Board's position that the location</del> of desks in therapies adjusted due to the location of power pole. This created the space between two <del>rows</del> of desks of around 1100cm which is not sufficient.</p> <p><del>Project Co does not dispute this item.</del></p>	<p><del>It was agreed by the Board and Project Co</del> <u>that Project Co should amend on site</u> the location of work benches <del>on the D6 first floor. This work has been completed.</del></p> <p>The Board <u>and</u> Project Co agree this <del>dispute</del> is closed <u>and no further action is required.</u></p>								
76	<p>Pot wash ceiling</p> <p>Incorrect ceiling installed. Should be the same as the "high spec" ceiling in restaurant. The ceiling tiles might be sufficient however the ceiling grid is non compliant.</p> <p><del>Project Co does not dispute this item.</del></p>	<p><del>This item shall be resolved through a Project Co Change.</del></p> <p>Through discussion and site review - <u>it was agreed between the Board and Project Co that Project Co would</u> rectify this ceiling. <u>Process agreed to capture this so that the specification is equal to the restaurant Type II K40/115H and K40/250CR.</u></p> <p><u>This remedial work is to be captured by Project Co within the As built documentation.</u></p> <table border="1"> <thead> <tr> <th>ESR Reference</th> <th>Rev</th> <th>Title</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>MM24-04-01-332-403</td> <td>0</td> <td>Facility File - Reflected Col - g Layout Sheet 04-403</td> <td>0</td> </tr> </tbody> </table> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>	ESR Reference	Rev	Title	Status	MM24-04-01-332-403	0	Facility File - Reflected Col - g Layout Sheet 04-403	0
ESR Reference	Rev	Title	Status							
MM24-04-01-332-403	0	Facility File - Reflected Col - g Layout Sheet 04-403	0							
77	<p>Group 2 socket outlets</p> <p><del>As is the Board's position</del> <u>as per GN7</u>, all group 2 socket outlets should be provided with metal plates. This however has not been provided by Project Co. Principle for plastic plates agreed in principle however Project Co Change is required.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part 8 (Review Procedure)</u></p>	<p><del>This item shall be resolved through a Project Co Change.</del></p> <p>Through discussion and site review <u>between the Board and Project Co</u> it has been agreed <u>that</u> plastic switchplates are acceptable.</p> <p><del>Project Co Change is to be provided</del></p> <p><u>Project Co to provide as per Aconex MPX CCP-063 as set out in Schedule 1 (insert schedule reference) attaching all Aconex documentation documents the agreed change.</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>								

Item	Dispute	Description of Agreed Resolution
78	<p><b>Penetrations for services</b></p> <p><u>It is the Board's position that desks</u> fitted at touchdown bases have no penetrations for cabling that will need to be connected to sockets under the desks.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure)</u></p>	<p><del>This item shall be resolved through witnessing and testing of the system, to demonstrate compliance with the project / O&amp;M / Completion criteria.</del></p> <p><del>Through discussion and agreement MPX have confirmed that</del> The desk penetrations have now been fitted.</p> <p>This will be for <del>IT/ITe</del> desk mounted IT equipment to below desk sockets.</p> <p>The Board and Project Co agree this Dispute is closed and no further action is required.</p>
79	<p><b>Pendants</b></p> <p><u>It is the Board's position that there no</u> evident fibre cabling <u>has been provided</u> and <u>there is</u> no cut out to terminate cables.</p> <p><u>Project Co's position is that the design and installation meets the requirements of the Project Agreement and was based on the package approved through Schedule Part B (Review Procedure)</u></p>	<p><del>This item shall be resolved through Project Co to do so.</del></p> <p>Through discussion and agreement <del>MPX</del> between the Board and Project Co, the Board is to procure final patching leads direct <del>to</del> from the <del>MPX</del> Board's preferred supplier (OUT 904).</p> <p><u>Access MPX-CCP-046 OUT904 Connections <del>reference</del> set out in Schedule [insert schedule reference attaching all Access documentation] documents this position</u></p> <p><u>Project Co to provide leads of type T set out for the Board specified Group 1 pendants through MPX. The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
80	<p><b>Handheld devices</b></p> <p><u>As per the Board's position that as</u> per Delivery Area (Sub Section E) specification the handheld devices shall be provided by Project Co.</p> <p><u>Project Co's position is that there was a requirement for the systems to have compatibility with the hand held devices being procured by the Board</u></p>	<p><del>The Board does not require this item through the Review Procedure.</del></p> <p><del>Access agreed to review the MMS List of items requiring hand held devices on agenda not the MMS page provided. Project Co (via <del>MPX</del> the contractor and Mercury) <del>to do so</del> confirmed at meeting 13.08.18 that specialist(s) can provide compatibility for the provision to transmit via the <del>MMS</del> Board's paging system based on a "page out" vendor. This excludes the car parking (1) (2) where a specific APP is being provided as part of the car park barrier package. The Board and Project Co agree that the Board are to provide the handheld devices.</del></p> <p><u>As noted within Access MPX-CC-027190027515 as set out in Schedule [insert schedule reference attaching all Access documentation]</u></p> <p><u>The Board and Project Co agree this Dispute is closed and no further action is required.</u></p>
81	<u>Intake rooms located in separate parts of the building</u>	<u>Ret used</u>

Commented [GG66]: Not possible - without the sockets, how were cables to be routed through the desks.

Commented [GG67]: Warranty / cost issue to be resolved. Board turn key contractor undertook work for MPX (to assist MPX).

Commented [GG68]: Discussion with Sharon required to understand the status.

Item	Dispute	Description of Agreed Resolution
	<del>Dispute: Calc. HV-die but on a run compliant with DC 6310 section 8 Power supply of which states that the two state rooms should be located in two separate parts of the building. NOT USED.</del>	<del>This term is duplicate of term 4.</del>

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**From:** Ken Hall [REDACTED] on behalf of Ken Hall  
**Sent:** 16 April 2018 08:43  
**To:** Colin Grindlay  
**Subject:** MPX-GC-026400: Fwd: G1547 RHSC - 4 Bed Ward Revised Ventilation  
ACNXREF<yOttpt634qCmLOQXhIJSB>

You have received a new [General Correspondence: MPX-GC-026400](#)

**Project:** RHSC & DCN

**Type:** General Correspondence

**Mail Number:** MPX-GC-026400

**To:** Mr Douglas Anderson, Mott MacDonald Ltd (Head Office UK)  
Mr Kamil Kolodziejczyk, Mott MacDonald Ltd (Head Office UK)  
Colin MacRae, Mott MacDonald Ltd (Head Office UK)  
Mr Ronnie Henderson, NHS Lothian

**Cc:** **Mr Colin Grindlay, Multiplex Construction Europe**

Mr Andrew McColl, Multiplex Construction Europe

**From:** K Hall, Multiplex Construction Europe

**Sent:** 16/04/2018 8:42:45 AM BST (GMT +01:00)

**Status:** N/A

**Subject:** **Fwd: G1547 RHSC - 4 Bed Ward Revised Ventilation**

---

Ronnie

Copy of the red line drawings tabled at last Thursday's meeting.

Regards

Ken

---

**From:** B Rutherford  
**Sent:** 13/04/2018 3:47:18 PM BST (GMT +01:00)  
**To:** Colin Grindlay  
**Cc:** Ken Hall, Stewart McKechnie  
**Mail Number:** WWHIT-GC-003371  
**Subject:** G1547 RHSC - 4 Bed Ward Revised Ventilation

Colin,

See enclosed a copy of the revised ward ventilation proposals to achieve a room balance at 4ac/hr.



Can you please confirm when site access will be available and we will attend to review the routes and space constraints associated with the proposed ductwork.

Regards,

Brian

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**File Attachments**

Attachments are larger than the current Aconex system limit of 10MB for external email - or [view this Mail on Aconex](#) to retrieve them

[WW-Z3-03-PL-524-001 F.pdf](#)

[WW-Z4-00-PL-524-002 K.pdf](#)

[WW-Z4-00-PL-524-001 J.pdf](#)

[WW-Z4-03-PL-524-002 F.pdf](#)

[WW-Z4-03-PL-524-001 F.pdf](#)

[WW-Z4-01-PL-524-001 I.pdf](#)

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If you need assistance please contact our helpdesk at the following numbers :

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██████████

Regards,

The Aconex Team

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**From:** Mr Ken Hall - Multiplex Construction Europe [REDACTED] on behalf of Mr Ken Hall - Multiplex Construction Europe  
**Sent:** 18 April 2018 09:30  
**To:** Mr Stewart McKechnie - Wallace Whittle; Mr Kamil Kolodziejczyk - Mott MacDonald Ltd (Head Office UK); Mr Ronnie Henderson - NHS Lothian; Mr Douglas Anderson - Mott MacDonald Ltd (Head Office UK)  
**Cc:** Mr Colin Grindlay - Multiplex Construction Europe; Mr Andrew McColl - Multiplex Construction Europe  
**Subject:** Re: 12.04.18 4 Bed Workshop Summary

Hi Ronnie

4ACH is the brief - supply and extract. The rev 05 schedule is the previous schedule tabled from last year. If you use this schedule at this stage purely as identifying the room numbers for the 14 rooms so that TUV SUD are updating/changing the design to the correct 14 rooms.

The schedule will be reissued to Rev 06 capturing the revised design intent as part of the RDD process pack being pulled together following the site survey to assess feasibility of what was tabled last Thursday.

Regards

Ken

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**From:** R Henderson  
**Sent:** 18/04/2018 9:10:44 AM BST (GMT +01:00)  
**To:** Douglas Anderson, Kamil Kolodziejczyk, Ken Hall, Stewart McKechnie  
**Cc:** Colin Grindlay, Andrew McColl  
**Mail Number:** NHSL-GC-002953  
**Subject:** Re: 12.04.18 4 Bed Workshop Summary

Hi Ken,

I note the attached schedule rev 05 still refers to Air Change rates between 2.7 & 3.5, we are seeking design for 4 Air Changes to all 14 rooms. Can you confirm that this is the brief to WW

Regards

Ronnie

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**From:** K Hall  
**Sent:** 17/04/2018 2:52:00 PM BST (GMT +01:00)  
**To:** Douglas Anderson, Kamil Kolodziejczyk, Ronnie Henderson, Stewart McKechnie  
**Cc:** Colin Grindlay, Andrew McColl  
**Mail Number:** MPX-MM-000503  
**Subject:** 12.04.18 4 Bed Workshop Summary

Confirmation of Key Points discussed.

Attendees: as attached.

Marked Up Drawings Tabled: as attached.

Agenda: as below - (MPX-GC-026334)

Date and Time: 12.04.18 @ 13.00Hrs

1.0 SM noted concerns on agreement from the previous workshop No1 that the objective of workshop No2 was to obtain agreement in principle on the draft drawings being tabled to allow progress to continue on 4 bed design. This was due to NHSL held up at another meeting, and no delegated authority at the workshop.

**Action. Concerns resolved as Ronnie Henderson joined the workshop at 13.30.**

#### **A. 4 BED Agenda Item**

2.0 14 Rooms in question tabled based on the previous Rev 05 schedule. Rooms cross referenced drawings against the schedule. See attached schedule and drawings over viewed.

3.0 Room "M" type. NHSL noted environmental matrix notes supply and extract. Drawing tabled and site inspection has no changes to the extract.

**Action: TUV SUD to confirm design intent to comply with the environmental matrix.**

4.0 Area I + J. NHSL requested actual air change rates be confirmed given the increase in one extract system rather than perhaps introducing it across the 3 systems in the locale.

**Action: Increase in air change rate(s) to be identified due to noise concerns.**

5.0 Physical sizes of all increased duct sizes to be verified at site to confirm any spatial constraints.

**Post meeting note: Surveys confirmed to proceed 18.04.18. Findings to be shared with NHSL.**

6.0 NHSL confirmed agreement in principal to the strategy tabled, and to proceed to the next stage of site survey based on drawings tabled. Thereafter RDD pack to be submitted for speedy approval.

7.0 Spare capacity. TUV SUD tabled the initial draft assessment:

Supply: No impact as being maintained at 4ACH as per the Environmental Matrix.

Extract: AHU-04-06: extract up by 23%.

Extract: AHU-04-07: extract up by 10%.

Extract: AHU-04-08: extract up by 15%.

Extract: AHU-02-23: extract up by 36%.

Extract: AHU-04-04: extract up by 6%.

TUV SUD noted dialogue with Supplier of AHU being undertaken.

**Action: Spare capacity impact analysis document to be issued after site checks carried out on spatial review to identify impact on current spare capacity to allow NHSL to consider if the design can proceed on this basis.**

#### **B. Spare Capacity Document**

NHSL noted receipt of spare capacity document. Comments on the document to be tabled at next workshop.

8.0 NHSL noted the document issued per department had the comments removed that were in the original spare capacity document issued. Specifically for example the fans in relation to 10% spare capacity comment. NHSL reiterated clarity if the fans had 25% spare capacity, this was confirmed by TUV SUD.

Action: TUV SUD to confirm statement made at the meeting, ventilation 25% design spare capacity on the fans.

### C. Schneider Agreement

9.0 TUV SUD statement distributed at the meeting,

Action: NHSL to feedback at next workshop.

### D AOB

10.0 NHSL requested Thursday meetings continue, perhaps alternated mechanical and electrical depending on topics to be resolved.

11.0 TUV SUD queried if generator load profile document had been returned by NHSL / MPX.

MPX confirmed after meeting TUV SUD were issued the document on 10.04.18.

Action: TUV SUD to confirm feedback on NHSL comments received.

12.0 NHSL noted query regarding earth cable and fire rated cabling. To be discussed and agreed at next workshop. NHSL requested formal confirmation to the points raised within original calculations feedback.

Action: TUV SUD to respond to Aconex MPX-GC-026161 dated 29.03.18.

Next meeting: Thursday 19.04.18, agenda to be issued prior to meeting.

---

**From:** K Hall  
**Sent:** 11/04/2018 3:36:34 PM BST (GMT +01:00)  
**To:** Douglas Anderson, Ronnie Henderson, Stewart McKechnie  
**Cc:** Colin Grindlay, Andrew McColl  
**Mail Number:** MPX-GC-026334  
**Subject:** 12.04.18 Thursday M+E Workshop 13.00Hrs

Confirmation of agenda items to discuss tomorrow, 13.00Hrs, MPX Conference Room.

1.0 Tabling of 4 Bed Design - 14 Rooms

2.0 Feedback on Spare Capacity Review - Specific Departments

Clinical Management Suite

Family Hotel

Shelled rooms

Out patients

Child life and Health

Clinical Research Facility

Multidisciplinary offices in wards

Sphere

Class rooms

Health records

3.0 Update on Schneider Agreement - Electrical Distribution 90/70 degree debate v's BS 7671 Derating

Lyndsey Johnston TDV SOD REAL ESTATE	G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	01052018 WWHT-TRANSMIT-001069
BMEdinburgh DocControl MULTIPLY CONSTRUCTION EUROPE	Fwd: G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	01052018 MPX-TRANSMIT-010775
Kamil Kolodziejczyk MOTT MACDONALD LTD (HEAD OFFICE UK)	Re: G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	04052018 MM-GC-003998
Ken Hall MULTIPLY CONSTRUCTION EUROPE	Fwd: G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	01052018 MPX-GC-026820
Ken Hall MULTIPLY CONSTRUCTION EUROPE	Re: G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	01052018 MPX-GC-026904
Brian Rutherford TDV SOD REAL ESTATE	Re: G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	01052018 WWHT-GC-003409
Ken Hall MULTIPLY CONSTRUCTION EUROPE	Re: G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	01052018 MPX-GC-027108
Ken Hall MULTIPLY CONSTRUCTION EUROPE	Re: G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	01052018 MPX-GC-027178
Ken Hall MULTIPLY CONSTRUCTION EUROPE	Re: G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	01052018 MPX-GC-027256
Brian Rutherford TDV SOD REAL ESTATE	Re: G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	01052018 WWHT-GC-003435
Ken Hall MULTIPLY CONSTRUCTION EUROPE	Re: G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	01052018 MPX-GC-027301
Stewart McKechnie TDV SOD REAL ESTATE	Re: G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	01052018 WWHT-GC-003437
Ken Hall MULTIPLY CONSTRUCTION EUROPE	Fwd: G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	01052018 MPX-GC-027319
Ken Hall MULTIPLY CONSTRUCTION EUROPE	Re: G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	01052018 MPX-GC-027338
Brian Rutherford TDV SOD REAL ESTATE	Re: G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	01052018 WWHT-GC-003450
Ken Hall MULTIPLY CONSTRUCTION EUROPE	Fwd: G1547 RDD Review Ventilation Distribution GENERAL CORRESPONDENCE	01052018 MPX-GC-028789
Ken Hall MULTIPLY CONSTRUCTION EUROPE	Env Matrix Extract GENERAL CORRESPONDENCE	30032018 MPX-GC-027605

RHSC and DCN

Little France

Edinburgh

A47206723

Mott MacDonald Ltd (Head Office UK)

20-26 Wellesley Rd

Croydon

Scotland United Kingdom

## MAIL TYPE

General Correspondence

## MAIL NUMBER

MM-GC-003999

## REFERENCE NUMBER

WWHIT-TRANSMIT-001059

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Re: G1547 RDD Review Ventilation Distribution

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From Mr Kamil Kolodziejczyk - Mott MacDonald Ltd (Head Office UK)

To (3) Mr Colin Grindlay - Multiplex Construction Europe (+2 more...)

Cc (12) Mr Didier Blanchet - Bouygues E&amp;S FM (+11 more...)

Sent Friday, 4 May 2018 9:14:04 AM BST (GMT +01:00)

Status N/A

---

**MESSAGE**

**WITHOUT PREJUDICE TO LOTHIAN HEALTH BOARD'S WHOLE RIGHTS, REMEDIES AND PLEAS WHICH ARE RESERVED**

Colin,

The Board reviewed the ventilation distribution drawings as per MPX-TRANSMIT-010775 and has no comments on the proposal. Note however that associated documents such as (but not limited to) grille schedules and fire cause & effect need to be updated to reflect this updated design.

Regards

Kamil

*Please note that this email is issued entirely without prejudice to Lothian Health Board's whole rights, remedies and pleas and may not be referred to or founded upon in any circumstances whatsoever without Lothian Health Board's express consent.*

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**From:** B DocControl**Sent:** 02/05/2018 2:26:42 PM BST (GMT +01:00)**To:** Kelly Bain, Kamil Kolodziejczyk, NHSL RHSC + DCN**Cc:** Didier Blanchet, Richard Hair, Clive Hall, Paul Wandless, Wallace Weir, Liane Edwards-Scott, Alison Gordon, Colin Grindlay, Ken Hall, Kelly Hopkinson, Douglas McFall, Darren Pike, John Wales**Mail Number:** MPX-TRANSMIT-010775**Subject:** Fwd: G1547 RDD Review Ventilation Distribution



Please find attached RDD documents issued electronically for information. Documents have now been put into a workflow and a hard copy will be issued for your review.

Should you have any queries please do not hesitate to contact me.

Kind Regards,

Kara  
BM Edinburgh Document Control

Multiplex Construction Europe Ltd  
RHSC & DCN Site Office  
Little France Crescent  
EDINBURGH  
EH16 4TJ



---

**From:** L Johnston

**Sent:** 01/05/2018 3:58:52 PM BST (GMT +01:00)

**To:** Didier Blanchet, Richard Hair, Clive Hall, HLM Document Control, Jo Dorling, Mark Harrison, Lorraine Robertson HLM Architects, Ross Barrett HLM Architects, Eilidh Jane Simpson, Chris Youd, RHSC Document Control, Kieran Furley, Stacey Green, Neil Lancaster, Gavin Marsh, Gerry McDonnell, Jamie McLesh, Alison Mulrine, Gearoid Murray, Declan O'Donovan, Mark Quinn, Sinead Rogan, Brendan Rooney, Bob Violet, BMEinburgh DocControl, Liane Edwards-Scott, Colin Grindlay, Ken Hall, Andy Kerr, Jonathon Mays, Andrew McColl, Keith McIntee, RBG Document Control, Barry McCormack, Lyndsey Johnston, TÜV-SÜD WHITTLE

**Mail Number:** WWHIT-TRANSMIT-001059

**Subject:** G1547 RDD Review Ventilation Distribution

WW-23-03-PL-524-001 - General extract vent introduced into rooms 3-C1.2-023 & 3-C1.2-026 to achieve a room balance.

WW-24-00-PL-524-001 - General extract vent introduced into rooms G-A2-054 & G-A2-046 to achieve a room balance.

WW-24-00-PL-524-002 - General extract vent introduced into rooms G-A2-028 to achieve a room balance. Associated extract ductwork increased in size to accommodate additional air volume.

WW-24-01-PL-524-001 - General extract vent introduced into rooms 1-B1-065 to achieve a room balance.

WW-24-03-PL-524-001 - General extract vent introduced into rooms 3-C1.2-026 & 3-C1.2-023 to achieve a room balance.

Bay 1 en-suite 3-C1.2-025 dirty extract branch introduced together with door grilles plus a branch has been added into ductwork above room 3-C1.1-021.

WW-24-03-PL-524-002 - General extract vent introduced into rooms 3-09-022, 3-C1.1018 & 3-C1.1-046 to achieve a room balance.

**Regards**

**Lyndsey Johnston**

Document Controller

TÜV SÜD Real Estate

The Venlaw Building

349 Bath Street

Glasgow

A47206723

G2 4AA  
United Kingdom

[REDACTED]  
[REDACTED]

[www.tuv-sud.co.uk/realestate](http://www.tuv-sud.co.uk/realestate)

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## Multi Bed – Ventilation Amendment Proposal to Achieve Room Balance WW-SZ-XX-DC-XXX-010

### Proposed Solution to Rooms Identified as Being of Concern

Room Reference Location	Ventilation Layout Drawing Number	Room Number	Room Description	Proposed Solution	Severity of Works			Ductwork Fabricated
					Local	Medium	Major	Yes/No
A	WW-Z4-00-PL-524-001K	G-A2-054	Multi Bed (4) Room Occupancy 10 People	Retain the supply ventilation at 4ac/hr and the en-suite ventilation at 10ac/hr. Ducts servicing en-suite & toilets to be retained at their original sizes. Introduce new general extract ductwork and grille into the room to provide 4ac/hr overall. This will achieve a balanced room pressure. Branch ducts to be connected locally into the existing general extract ductwork main. Supply & Extract Duty 174l/s. (Equates to 17 people).		✓		Yes
B	WW-Z4-00-PL-524-001K	G-A2-046	Multi Bed (4) Room Occupancy 10 People	Retain the supply ventilation at 4ac/hr and the en-suite ventilation at 10ac/hr. Ducts servicing en-suite & toilets to be retained at their original sizes. Introduce new general extract ductwork and grille into the room to provide 4ac/hr overall. This will achieve a balanced room pressure. Branch ducts to be connected locally into the existing general extract ductwork main. Supply & Extract Duty 174l/s. (Equates to 17 people).		✓		Yes
C	WW-Z4-00-PL-524-002L	G-A2-028	Multi Bed (4) Room Occupancy 10 People	Retain the supply ventilation at 4ac/hr and the en-suite ventilation at 10ac/hr. Ducts servicing en-suite & toilets to be retained at their original sizes. Introduce new general extract ductwork and grille into the room to provide 4ac/hr overall. This will achieve a balanced room pressure. Branch ducts to be connected locally into the existing general extract ductwork main. The main itself will be increased in size over a defined length. Supply & Extract Duty 174l/s. (Equates to 17 people).		✓		Yes
D	WW-Z4-01-PL-524-001J	1-B1-063	Multi Bed (4) Room Occupancy 15 People	Retain the supply ventilation at 4ac/hr. Introduce new general extract ductwork and grille into the room to provide 4ac/hr overall. The existing general extract ductwork currently serving the room has been increased in size and another grille added to it to serve the room. This will achieve a balanced room pressure. New branch duct to be connected locally into the existing general extract ductwork main. Supply & Extract Duty 312l/s. (Equates to 31 people).		✓		Yes
E	WW-Z4-01-PL-524-001J	1-B1-031	Multi Bed (4) Room Occupancy 15 People	Retain the supply ventilation at 4ac/hr. Introduce new general extract ductwork and grille into the room to provide 4ac/hr overall. The existing general extract ductwork currently serving the room has been increased in size and another grille added to it to serve the room. This will achieve a balanced room pressure. New branch duct to be connected locally into the existing general extract ductwork main. Supply & Extract Duty 332l/s. (Equates to 33 people).		✓		Yes
F	WW-Z4-01-PL-524-001J	1-B1-009	Multi Bed (4) Room Occupancy 15 People	Retain the supply ventilation at 4ac/hr. Introduce new general extract ductwork and grille into the room to provide 4ac/hr overall. The existing general extract ductwork currently serving the room has been increased in size and another grille added to it to serve the room. This will achieve a balanced room pressure. New branch duct to be connected locally into the existing general extract ductwork main. The main itself will be increased in size over a defined length. Supply & Extract Duty 348l/s. (Equates to 34 people).		✓		Yes

Issue	Date	By	Checked
1	06/07/17	BR	SALK
2	14/02/17	BR	SALK
3	22/05/17	BR	SALK
4	11/05/17	BR	SALK
5	23/05/17	BR	SALK
6	14/05/18	BR	SALK
7	06/06/18	BR	SALK





## Multi Bed – Ventilation Amendment Proposal to Achieve Room Balance WW-SZ-XX-DC-XXX-010

Room Reference Location	Ventilation Layout Drawing Number	Room Number	Room Description	Proposed Solution	Severity of Works			Ductwork Fabricated
					Local	Medium	Major	Yes/No
G	WW-Z3-03-PL-524-001G	3-C1.3-011	Multi Bed (4) Room Occupancy 14 People	Retain the supply ventilation at 4ac/hr and the en-suite and shared wet room ventilation at 10ac/hr. Introduce new general extract ductwork and grille into the room to provide 4ac/hr overall. This will achieve a balanced room pressure. Branch ducts to be connected locally into the existing general extract ductwork main. The main itself will be increased in size over a defined length. Supply & Extract Duty 176l/s. (Equates to 17 people).		✓		Yes
H	WW-Z3-03-PL-524-001G	3-C1.3-013	Multi Bed (4) Room Occupancy 14 People	Retain the supply ventilation at 4ac/hr and the en-suite and the shared wet room ventilation at 10ac/hr. Introduce new general extract ductwork and grille into the room to provide 4ac/hr overall. This will achieve a balanced room pressure. Branch ducts to be connected locally into the existing general extract ductwork main. The main itself will be increased in size over a defined length. Supply & Extract Duty 174l/s. (Equates to 17 people).		✓		Yes
I	WW-Z4-03-PL-524-001G	3-C1.2-026	Multi Bed (4) Room Occupancy 14 People	Retain the supply ventilation at 4ac/hr. Bay 1 toilets, ventilation is 10ac/hr and shared en-suite ventilation is 17ac/hr. Introduce a new general extract and dirty extract ductwork and grilles into the respective rooms to provide 4ac/hr overall. This will achieve a balanced room pressure. Branch ducts to be connected locally into the existing general and dirty extract ductwork mains. Door grilles will be provided within the shared en-suite, shared en-suite ventilation will be 17ac/hr. Supply & Extract Duty 176l/s. (Equates to 17 people).		✓		Yes
J	WW-Z4-03-PL-524-001G	3-C1.2-023	Multi Bed (4) Room Occupancy 14 People	Retain the supply ventilation at 4ac/hr. Bay 1 toilets, ventilation is 10ac/hr and shared en-suite ventilation is 17ac/hr. Introduce a new general extract and dirty extract ductwork and grilles into the respective rooms to provide 4ac/hr overall. This will achieve a balanced room pressure. Branch ducts to be connected locally into the existing general and dirty extract ductwork mains. Door grilles will be provided within the shared en-suite, shared en-suite ventilation will be 17ac/hr. Supply & Extract Duty 176l/s. (Equates to 17 people).		✓		Yes
K	WW-Z4-03-PL-524-002G	3-C1.1-018	Multi Bed (4) Room Occupancy 15 People	Retain the supply ventilation at 4ac/hr and the en-suite ventilation at 17ac/hr. Ducts serving the en-suites and toilets to be increased in size. Introduce new general extract ductwork and grille into the room to provide 4ac/hr overall. This will achieve a balanced room pressure. Branch duct to be connected locally into the existing general extract ductwork main. Door grilles will be provided within the en-suite and toilets. Supply & Extract Duty 184l/s. (Equates to 18 people).		✓		Yes
L	WW-Z4-03-PL-524-002G	3-C1.1-046	Multi Bed (4) Room Occupancy 15 People	Retain the supply ventilation at 4ac/hr and the en-suite ventilation at 17ac/hr. Ducts serving the en-suites and toilets to be increased in size. Introduce new general extract ductwork and grille into the room to provide 4ac/hr overall. This will achieve a balanced room pressure. Branch duct to be connected locally into the existing general extract ductwork main. Door grilles will be provided within the en-suite and toilets. Supply & Extract Duty 186l/s. (Equates to 18 people).		✓		Yes

Issue	Date	By	Checked
1	06/07/17	BR	SAK
2	14/02/17	BR	SAK
3	22/05/17	BR	SAK
4	11/05/17	BR	SAK
5	23/05/17	BR	SAK
6	14/05/18	BR	SAK
7	06/06/18	BR	SAK





## Multi Bed – Ventilation Amendment Proposal to Achieve Room Balance WW-SZ-XX-DC-XXX-010

Room Reference Location	Ventilation Layout Drawing Number	Room Number	Room Description	Proposed Solution	Severity of Works			Ductwork Fabricated
					Local	Medium	Major	Yes/No
M	WW-Z4-01-PL-524-001J	1-B1-065	Multi Cot (3) Room Occupancy 9 People	Retain the supply ventilation at 4ac/hr. Introduce new general extract ductwork and grilles into the room to provide 4ac/hr. Branch duct to be connected locally into the existing general extract ductwork. The existing general extract ductwork currently serving this area has been increased in size. This will achieve a balanced room pressure. Supply & Extract Duty 144l/s. (Equates to 14 people).		✓		Yes
N	WW-Z4-01-PL-524-002F	1-L1-100	Multi Bed (4)	No change to the existing room ventilation provision and ductwork design, room is currently positive to corridor.	N/A	N/A	N/A	N/A
O	WW-Z4-01-PL-524-002F	1-L1-097	Multi Bed (4)	No change to the existing room ventilation provision and ductwork design, room is currently positive to corridor.	N/A	N/A	N/A	N/A
P	WW-Z4-03-PL-524-001F	3-C1.8-027	Multi Bed (4)	No change to the existing room ventilation provision and ductwork design, room is currently positive to corridor.	N/A	N/A	N/A	N/A
Q	WW-Z4-03-PL-524-001F	3-C1.8-016	Multi Bed (4)	No change to the existing room ventilation provision and ductwork design, room is currently positive to corridor.	N/A	N/A	N/A	N/A
R	WW-Z3-03-PL-524-002G	3-C1.4-084	Multi Bed (4)	No change to the existing room ventilation provision and ductwork design, room is currently positive to corridor.	N/A	N/A	N/A	N/A
S	WW-Z3-03-PL-524-002G	3-C1.4-061	Multi Bed (6)	No change to the existing room ventilation provision and ductwork design, room is currently positive to corridor.	N/A	N/A	N/A	N/A
T	WW-Z4-03-PL-524-002G	3-D9-022	Multi Bed (3) Room Occupancy 11 People	Retain the supply ventilation at 4ac/hr and the en-suite ventilation at 10ac/hr. Introduce new general extract ductwork and grilles into the room to provide 4ac/hr overall. This will achieve a balanced room pressure. Branch ducts to be connected locally into the existing general extract ductwork mains. One of the mains itself will be increased in size over a defined length. Supply & Extract Duty 122l/s. (Equates to 12 people)		✓		Yes

### Notes :-

- 1) Room occupancy is taken from the Clinical Output Based Specifications.
- 2) Bedroom ventilation is based on a fresh air rate allowance of 10l/s per person in line with SHTM 03-01.

Issue	Date	By	Checked
1	06/07/17	BR	SABK
2	14/02/17	BR	SABK
3	22/05/17	BR	SABK
4	11/05/17	BR	SABK
5	23/05/17	BR	SABK
6	14/05/18	BR	SABK
7	06/06/18	BR	SABK

**From:** MrDavidMartinR.A.M.AssetManagementLimited <-> on behalf of MrDavidMartinR.A.M.AssetManagementLimited  
**Sent:** 19 June 2017 16:18  
**To:** mrkamilkolodziejczyk@mottmacdonaldLtd  
**Cc:** graemegreer@mottmacdonaldLtd; mrgrahamcoupe@multiplexconstructioneurope; mrstuartjackson@multiplexconstructioneurope; mrskellybain@mottmacdonaldLtd; mrdarrenpike@multiplexconstructioneurope; mrkenhall@multiplexconstructioneurope; mrwallaceweir@hcsocialinfrastructurelimited; mrcolingrindlay@multiplexconstructioneurope; mrbriancurriens@lothian  
**Subject:** Fwd: Bedroom Ventilation  
**Attachments:** HLM-SZ-SL-RD-400-001 Room Data Sheets-285446739ma.pdf; WW-XX-XX-DC-001-285446739ma.pdf

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## Message

Kamil

4 Bed bay Ventilation.

Please find below and attached a response from Multiplex to the queries raised in your Aconex of 05/06/17 . It appears evident that the referenced BCR documents give very specific design instructions / specifications regarding the pressure regime for the 4 bed bays . Consequently we still consider that the requirements for balanced pressure to be a Board Change and as such request a Change Request to be issued.

Regards

David

---

**From:** C Grindlay  
**Sent:** 15/06/2017 6:17:35 PM BST (GMT +01:00)  
**To:** Wallace Weir, David Martin  
**Cc:** Graham Coupe, Ken Hall, Stuart Jackson, George McLatchie, Darren Pike, Stewart McKechnie, Brian Rutherford  
**Mail Number:** MPX-GC-018621  
**Subject:** Fwd: Bedroom Ventilation

David,

Please see response to R.A.M-GC-000280 as requested.

## Multi-Bed:

Please refer to attached RDS's contained within the PA & Building Contract 'Schedule Part 6 Section 6 Room Data Sheets', in particular Page 70 Revision 18/09/2014 (Multi-Bed: 4 Beds - G-A2-054 for example) clearly states 'positive pressure relative to the adjoining space'.



In addition, attached and contained within the PA & Building Contract 'Schedule Part 6 Section 6 Environmental Matrix' further clarifies and confirms 'relative pressure of 'positive to ensuite'.

The ADB (B0405) RDS referred to in mail MM-GC-002926: Re: Bedroom Ventilation (dated: 03/10/11) is not recognised and irrelevant to the project agreement.

We therefore conclude our design fully compliant with the PA & Building Contract.

**Single Bed:**

As an agreed design solution for single bedrooms and noted below the Board will receive PCo's Change for deviation of air change rates as recommended per SHTM 03-01.

Regards,

Colin

---

**From:** D Martin  
**Sent:** 05/06/2017 12:43:37 PM BST (GMT +01:00)  
**To:** Ken Hall  
**Mail Number:** R.A.M-GC-000280  
**Subject:** Fwd: Bedroom Ventilation

Ken  
FYI and review / response.  
For some reason KK left you off the distribution list.  
Can we please discuss when you have time .  
Thanks  
David.

---

**From:** K Kolodziejczyk  
**Sent:** 05/06/2017 11:55:02 AM BST (GMT +01:00)  
**To:** David Martin  
**Cc:** Georgia Villafior, Wallace Weir, Kelly Bain, Graeme Greer, Kamil Kolodziejczyk, Glenn Collins, Graham Coupe, Colin Grindlay, Stuart Jackson, Darren Pike, Brian Currie  
**Mail Number:** MM-GC-002926  
**Subject:** Re: Bedroom Ventilation

David,

As previously described under MM-GC-002408, the Board does not believe these updates to the environmental conditions constitutes a Board Change. Without these updates, PCo's design was not compliant with BCRs and relevant guidance, and also from a patient safety perspective, was not acceptable to the Board.

In relation to point 1 & 2 below, as per Schedule Part 8 (Review Procedure) of the Project Agreement, please note that the RDD review doesn't remove PCo's obligation under the Project Agreement, and the Board did not receive a derogation/change from PCo for an alternative design.

In terms of point 3, the WW design report states that current ventilation design for single room and general ward areas are fully compliant with SHTM 03-01, please note however that this is incorrect. PCo proposed air change rates do not align (as stated in the report) with SHTM recommendations hence, without PCo change, the design as it stands is not compliant. The Board expects to receive PCo's Change for deviation of air change rates as recommended per SHTM 03-01.

Additionally, the Board notes that PCo used wrong design criteria for the multi bed rooms. As explained by the Board at the meeting on Monday 23 January, a "ward" constitutes the total bed complement of a designated area. Multi-bed rooms are much smaller sections within a ward that allow patients to be nursed as a small group. Within Children's Services these areas are important for the purposes of clinical safety as they allow cohorting of patients who require enhanced level of nursing observation/support either because they have the same type of infection, or are at similar stages of acute post operative recovery. Additionally, these rooms aid the normal socialisation and development of young children. Similarly, within DCN multi-bed rooms within the ward are used to cohort patients requiring enhanced levels of nursing/monitoring that is more difficult to achieve within single room environment.

Please note that Table A1 is a summary extract from the Activity Database (ADB) and as stated in the SHTM, PCo should refer to the full ADB Sheets for further details relating to multibed rooms. Please find attached, for your information, the design criteria for multibed areas.

Regards

Kamil

---

**From:** D Martin  
**Sent:** 23/05/2017 11:06:06 AM BST (GMT +01:00)  
**To:** Kelly Bain  
**Cc:** Georgia Villafior, Wallace Weir, Graeme Greer, Kamil Kolodziejczyk, Glenn Collins, Graham Coupe, Colin Grindlay, Stuart Jackson, Darren Pike, Brian Currie  
**Mail Number:** R.A.M-GC-000278  
**Subject:** Bedroom Ventilation

Kelly

Please find attached the updated ventilation drawings and associated narrative which accommodates the Boards request to have the 4 bedded ward at a negative or balanced pressure.

Our opinion is that this amendment to the environmental conditions and operation of these rooms constitutes a change for the reasons noted below.

1.0 Environmental matrix was signed off as status B with the noted design parameters that the current ventilation design represents - as per MM-GC-001398.

2.0 Full RDD ventilation zonal design pack and workshops have been through RDD and signed off.

3.0 Copy of WW design document outlining compliance with the SHTMs is attached.

We anticipate that the costs of this Change will be in the Medium Value category.

We look forward to the Board's, positive response to this request.

Kind Regards

David

David Martin

for IHSL

# Reprovision of RHSC and DCN at Little France

## Room Data Sheets



### Notes:

Room Data Sheets for Generic and Key Rooms for Financial Close.

Document No	Revision
HLM-SZ-SL-RD-400-001	01
	Date
	18.09.14
	Drawn
	HLM
	Checked
	HLM

# Reprovision of RHSC and DCN at Little France

## Room Data Sheets

Rev No.	Date	Revision
01	18.09.14	First Issue

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## Generic Rooms

Code	Description	Room Number
M0251-01	Office: 1:1	1-P1-085
G0180-06	Parking bay: mobile equipment	1-P1-097
J0232-01	Reception: 1 person	2-L2-073
B0305	Single-bed room DCN	2-L2-130
V1643	En-suite: DCN	2-L2-131
Y0646-01	Disposal hold (General Waste)	2-R1-022
X0145	Treatment room: Inpatient	3-C1.1-043
T0152	Staff Base	G-A2-008
G0180-01	Resuscitation trolley	G-A2-016
Y0431	Dirty utility	G-A2-022
V1010	WC: ambulant	G-A2-024
G0180-03	Hoist Bay	G-A2-027
T0151	Touchdown Base	G-A2-049
V1643-01	En-suite: RHSC Also used with isolation ensuites	G-A2-051
B0305-01	Single-bed room RHSC	G-A2-052
B0405	Multi-bed room: 4 beds RHSC	G-A2-054
W1594-01	Linen Bay	G-A2-063
B0308	Single-bed room: isolation RHSC	G-A2-072
G0510	Lobby: Isolation RHSC	G-A2-074
V1736	Assisted Bathroom WC	G-A2-076
M0254	Multi disciplinary office	G-A2-077
M0251	Ward Management Office	G-A2-078
Y0646	Disposal hold	G-A2-082
M0724	Interview room	G-A2-083
P0627	Pantry	G-F1-057
V0922	WC: Accessible	G-M1-005
Y1510	DSR	G-M1-050
H1313-01	Meeting room: 4 person	G-Q1-054
H1313-02	Meeting room: 6 person	G-Q1-055



## Key Rooms

Code	Description	Room Number
B1609-01	4 beds Low Acuity	1-B1-031
G0510-01	Gowning Lobby: Isolation Room	1-B1-033
B1401-01	Single-bed cubicle: Isolation	1-B1-036
B1401	Single-bed cubicle	1-B1-037
B1609-02	4 beds High Acuity	1-B1-063
B1407-01	Open Plan Bay 3 cots: Neonatal	1-B1-065
B1421	Single cot cubicle: neonatal	1-B1-075
C0230	Consulting/examination room: Orthoptic	1-D3-007
C0517	ABR Room	1-D4-002
C0516	Observation/Control room	1-D4-006
C0515	Testing/Clinic room	1-D4-007
C0110-01	Distraction Free Treatment: SALT	1-D6-035
X0208	Rehabilitation Room:OT	1-D6-048
X0208-01	Rehabilitation Room: Physio	1-D6-053
X0208-02	Rehabilitation Room: Physio (CV Equip)	1-D6-054
X0242	Dressings Room	1-D7-003
S0027-01	Viewing Room	1-J1-003
B1411	Receiving/Resuscitation	1-L1-005
J1155	Waiting	1-L1-027
D1135	Discharge Lounge	1-P1-012
B2517	SDCU Recovery	1-P1-024
B2417	Post Anaesthetic Recovery:RHSC	1-P1-029
B2418	Post Anaesthetic Recovery Room: RHSC	1-P1-030
J1264	Waiting bay: 1 patient trolley/bed place	1-P1-057
E0801-02	Imaging room: Interoperative MRI	1-P1-064
E0604-05	Control room: Interoperative MRI	1-P1-065
N0305-01	Anaesthetic room: DCN	1-P1-069
N0106-03	Operating theatre: DCN	1-P1-070
E0311	Angiography Procedures Room	1-P1-093
X1026	Control room: Angiography Procedures	1-P1-094
B2417-01	Post Anaesthetic Recovery:DCN	1-P1-109
V0726	Changing Room	1-P1-127
D2155	Admissions Lounge	1-P1-128
N0106-01	Operating theatre: RHSC	1-P1-131
N0305	Anaesthetic room: RHSC	1-P1-132
T0526	Preparation room	1-P1-134
N0106-02	Operating theatre: Intraoperative	1-P1-155
G0510-02	Lobby: Isolation Room DCN	2-L2-134
B0308-01	Single-bed room: Isolation DCN	2-L2-135
Q0120	Activities of daily living: kitchen	2-M2-009
X0105-02	Distraction Free Treatment room	2-M2-011
X0318	Multi Purpose Rehabilitation Room	2-M2-023
X0111	Treatment Area	2-M3-003
X0136	EMG/Nerve Conduction Room	2-M4-008
X0125	EEG Recording room	2-M4-019
M0132-01	Open Plan Office	2-R1-055
T0101	Clean Utility: Inpatients RHSC	3-C1.1-042
E0604-06	Control / Observation room	3-C4-007
B0705	Sleep Room	3-C4-008
X1504	Patient Treatment Lounge	3-D9-016
H0202-01	Workshop / Tutorial Room	3-H3-001

L0102-03	Tissue Culture Store	4-H1-016
L0102-01	Molecular Biology Laboratory	4-H1-018
L0102-02	Physiology Laboratory	4-H1-027
X0242-04	Treatment: double-sided couch access (Mental Health)	G-A1-015
X0242-05	Resuscitation Room: 2 places	G-A1-028
X0242-06	Resuscitation Room: 2 places	G-A1-029
X0242-03	Triage room	G-A1-035
X0242-02	Treatment: Single sided couch access (ED only)	G-A1-060
X0242-01	Treatment: double sided couch access (ED only)	G-A2-020
X0206	Plaster Suite	G-D1-008
X0105-01	Treatment room: with Prep Area	G-D1-033
C0224-01	Consulting/examination: RHSC	G-D1-039
C0217-01	Consult/exam: multidisciplinary - RHSC	G-D1-040
C0715	Cardio Pulmonary Exercise Lab	G-D2-005
C0712	Treatment room: Echocardiography	G-D2-006
C0718-02	Lung Function Laboratory	G-D2-013
C0718-01	Excercise Tolerance Test Room	G-D2-014
C0903-01	Dental Surgery Standard	G-D5-008
J0132-03	Multi Functional Activity Zone	G-E1-001
J0132-01	Reception: 2 person	G-E1-002
J0132-02	Sub Wait With Nurse Base	G-E1-003
J1255	Main Waiting: RHSC	G-E1-011
H1107	Group room	G-F1-020
X0613	Therapy room	G-F1-034
D0608-02	Dining / Recreation (Day Prog)	G-F1-036
Q0121	Therapeutic kitchen	G-F1-037
B0510-01	Single-bed room (CAMHS)	G-F1-073
V1610	Shower room: en-suite: anti ligature	G-F1-074
C0217	Consult/exam: multidisciplinary - DCN	G-M1-012
X0105	Treatment room	G-M1-014
C0224	Consulting/examination: DCN	G-M1-018
E0128	Imaging Room: General X-ray	G-Q1-004
E0115	Ultrasound Treatment Room	G-Q1-010
E0716	Imaging Room: Gamma Camera	G-Q1-039
E0604-04	Control room: Gamma Camera	G-Q1-042
E0601	CT Room DCN	G-Q1-059
E0604-02	Control room: CT DCN	G-Q1-071
E0113	Doppler Ultrasound	G-Q1-081
E0715	Injection Room: DCN MRI	G-Q1-108
E0604-03	Control room: MRI DCN	G-Q1-111
E0801	Imaging room: MRI DCN	G-Q1-123
E0801-01	Imaging Room: MRI RHSC	G-Q1-134
E0604-01	Control room: CT/MRI RHSC	G-Q1-135
E0601-01	CT Room RHSC	G-Q1-136
E0135	Dental room	G-Q1-141

ADB	Room Data Sheet			M0251-01
Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	M0251-01	Office: 1:1		
Room Number:	1-P1-085	Revision Date:	18/09/2014	
Activities:	1) Clinical administration 2) Use of computer workstation(s) 3) Use of Telephone 4) Discussions and Interviews			
Personnel:	2 x staff			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,400
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		M0251-01
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	M0251-01	Office: 1:1	
Room Number:	1-P1-085		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  4.0 4.0 Balanced /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 25:  Ventilation Type: Central Supply and Extract.  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300   Y A	@ Desk 750 - 850 AFFL Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35   Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		M0251-01
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	M0251-01	Office: 1:1	
Room Number:	1-P1-085	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room			M0251-01	
Project:		11072	RHSC & DCN			
Department:		P1	Operating Theatres & RHSC Surgical Day Case Unit			
Room:		M0251-01	Dictation/ 1:1/Phone Booth (DCN)			
Room Number:		1-P1-085	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BOA2504	BOARD; marker; whiteboard; dry-wipe; with pen holder;magnetic; wall mounted; 600H 900W.		1
2		2	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
2		2	OUT010	SOCKET outlet, switched, 13amp, twin		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1
1		1	TEL1000	TELEPHONE; handset		3
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	WKT1003L	WORKTOP; 720 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1



ADB	Room Data Sheet		G0180-06
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	G0180-06	Parking bay: mobile equipment	
Room Number:	1-P1-097	Revision Date:	18/09/2014
Activities:	1) Parking, storage and charging of mobile equipment		
Personnel:	Intermittent use		
Planning Relationships:			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):
	Refer to HLM-SZ-SL-SH-200-001 for room areas.		
Ceiling height: To suit surrounding area/design.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)		
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		G0180-06
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	G0180-06	Parking bay: mobile equipment	
Room Number:	1-P1-097		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>   3.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 16 - 28  Ventilation Type: Central General Extract  None	
<b>General Notes:</b> Heating Type: Adjacent Space Transfer Air Cooling: None			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	200   Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40    N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  55:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		G0180-06
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	G0180-06	Parking bay: mobile equipment	
Room Number:	1-P1-097	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	N/A, open to circulation.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			

ADB			Schedule of Components by Room			G0180-06	
Project:		11072		RHSC & DCN			
Department:		P1		Operating Theatres & RHSC Surgical Day Case Unit			
Room:		G0180-06		Image Trolley Bay			
Room Number:		1-P1-097		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
1		1	IMG021	IMAGE INTENSIFIER UNIT; C-arm; mobile		3	
1		1	IMG023	IMAGE INTENSIFIER; monitor; (Part of IMG021)		3	
1		1	IMG024	IMAGE INTENSIFIER; monitor trolley; (Part of IMG021)		3	
2		2	OUT010	SOCKET outlet, switched, 13amp, twin		1	
1		1	OUT121	SOCKET outlet; computer data; double		1	
3		3	RAC196	RACK, x-ray lead apron, 5 hangers hinged, wall mounted		2	

ADB	Room Data Sheet			J0232-01
Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	J0232-01	Reception: 1 person		
Room Number:	2-L2-073	Revision Date:	18/09/2014	
Activities:	1) Reception and registration of patients 2) Use of computer workstation(s) 3) Dealing with enquiries 4) Use of Telephone 5) Control of access			
Personnel:	1 x staff 1 x patient/visitor			
Planning Relationships:	Close to, with clear view of, entrance and waiting area.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Ceiling height: To suit surrounding area/design.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision				

ADB	Room Environmental Data		J0232-01
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	J0232-01	Reception: 1 person	
Room Number:	2-L2-073		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  5.0 5.0 Positive /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 28  Ventilation Type: Central Supply And Extract  G4 - Minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300   Y A	@ floor Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40    N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  50:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB	Room Design Character		J0232-01
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	J0232-01	Reception: 1 person	
Room Number:	2-L2-073	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	N/A, open to circulation.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room			J0232-01	
Project:		11072	RHSC & DCN			
Department:		L2	DCN Inpatients - 43 Beds			
Room:		J0232-01	Reception (1 person)			
Room Number:		2-L2-073	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BIN2504	BIN; confidential waste		3
1		1	BIN900	BIN; Recycle waste		3
1		1	CAB056	CABINET; stationery; metal; 10 drawer with lock; 600H 280W 410D		3
1		1	CAS020	FIRST AID BOX		2
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COU1000	COUNTER; staff/nurse base; as per detailed design.		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
3		3	OUT010	SOCKET outlet, switched, 13amp, twin		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
2		2	OUT2512	SOCKET outlet; video entry.		1
1		1	SWC025	SWITCH, light		1
1		1	TEL1000	TELEPHONE; handset.		3
1		1	TEL901	VIDEO - entry/security; wall mounted, receiving.		1
1		1	TRO905	TROLLEY; Mobile Induction Loop		3
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1

ADB	Room Data Sheet			B0305
Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	B0305	Single-bed room DCN		
Room Number:	2-L2-130	Revision Date:	18/09/2014	
Activities:	1) Therapeutic and clinical attention from healthcare staff 2) Clinical handwashing 3) Patient records reviewed and recorded 4) Storage of clothing and personal belongings 5) Use of piped medical gases, vacuum and associated equipment 6) Rest and relaxation			
Personnel:	1 x patient 2 x staff 2 x visitors			
Planning Relationships:	En-suite sanitary facilities.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		B0305
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	B0305	Single-bed room DCN	
Room Number:	2-L2-130		Revision Date: 18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Natural & Central Supply Air	
Mechanical Ventilation (Extract ac/hr):		Via ensuite	
Pressure Relative to Adjoining Space:	Positive		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
General Notes: Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
LIGHTING			
Service Illumination (Lux):	100		
Service Illumination Night (Lux):	5.0		
Local Illumination (Lux):	300.0	@ Bed/trolley 1450 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra):80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
General Notes: Control with Dimmer			
NOISE			
Privacy Factor Required (dB):			
Mechanical Services (NR):	30	Intrusive Noise:	
Intrusive Noise (NR Leq):		SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
		40 daytime / 35 nighttime (LAeq,1hr) and 45 nighttime (LAmax,1)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated:			
(* alternative format)			
General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
SAFETY			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
General Notes: Maximum cold water discharge temperature (degC): 20			
FIRE			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		B0305
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	B0305	Single-bed room DCN	
Room Number:	2-L2-130	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				B0305
Project:	11072	RHSC & DCN				
Department:	L2	DCN Inpatients - 43 Beds				
Room:	B0305	Single Bedroom 3 (Adult)				
Room Number:	2-L2-130				Revision Date:	18/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BED013	BED Kings Fund; variable height; two-way tilt; adjustable backrest; bedstripper; on castors		3
1		1	BED2502	BED HEAD BUFFER; bed and wall protection; vertical; wall mounted.		1
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	BRA004	BRACKET; holder; suction unit; trunking/rail mounted		2
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CHA007	CHAIR; easy; with open arms; high back; upholstered, wipeable		3
2		2	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM905	IT Tablet		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOO019	HOOK, single, small, wall mounted		1
1		1	LIG005	LUMINAIRE, bedhead, dimmable, patient reading and general nursing care/examination		1
1		1	LOC002	LOCKER, bedside, 3 compartment, towel rail at rear, on castors, 902H 485W 485D		3
1		1	MAT004	MATTRESS; Kings Fund bed; standard backrest; 1955L 865W 125D		3
1		1	MIR2500	MIRROR; wall mounted; 1600H 400W unbreakable.		1
1		1	MON900	MONITOR; Low end monitor, general Ward /OPD use		3
1		1	MST007	TROLLEY; lockable; closed; with worktop; approx 900H 660W 500D; 600mm facing		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
2		2	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
2		2	OUT121	SOCKET outlet; computer data; double.		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
2		2	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	RAC362	RACK; catheter; vertical; 2 compartments; 420H 160W 65D		2
1		1	RAI130	RAIL, clinical equipment, wall mounted, 600mm		1
1		1	SHE2503	SHELF; 300mm deep; folding; length as drawn.		1
1		1	STA142	STAND; infusion; twin hook; breaks; mobile		3



ADB			Schedule of Components by Room		B0305	
Project:		11072	RHSC & DCN			
Department:		L2	DCN Inpatients - 43 Beds			
Room:		B0305	Single Bedroom 3 (Adult)			
Room Number:		2-L2-130	Revision Date:		18/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	STA2504	STAND; Roll stand for monitor		3
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1
1		1	TAB073	TABLE. overbed, cantilevered		3
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
1		1	TVM2500	TV / monitor flat screen with DVD player		3
1		1	WAR900	WARDROBE; lockable; 2700H 750W 500D.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1

<b>ADB</b>	<b>Room Data Sheet</b>	<b>V1643</b>
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Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	V1643	En-suite: DCN		
Room Number:	2-L2-131		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Use of toilet (with assistance if required)</li> <li>2) Use of wheelchair accessible hand-wash basin</li> <li>3) Dressing / undressing in privacy</li> <li>4) Hanging clothes and towels</li> <li>5) Use of shower (with assistance if required)</li> <li>6) Use of mobile hoist (if required)</li> <li>7) Use of call systems</li> </ol>
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Personnel:	1 x patient 1 x staff Intermittent use
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Planning Relationships:	En-suite to single-bed room.
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,400
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		V1643
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	V1643	En-suite: DCN	
Room Number:	2-L2-131		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>      10.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 20 - 28  Ventilation Type: Central Dirty Extract  None	
<b>General Notes:</b> Heating: Adjacent Space Transfer Air. Cooling: None			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	200   Y A	@ Floor Not applicable. None Colour rendering characteristics (Ra):80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40    N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  45:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		V1643
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	V1643	En-suite: DCN	
Room Number:	2-L2-131	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				V1643
Project:	11072	RHSC & DCN				
Department:	L2	DCN Inpatients - 43 Beds				
Room:	V1643	Shower Room:en-suite Bedroom 3				
Room Number:	2-L2-131				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS106	BASIN; medium; general pattern; vitreous china; 1 tap right hand hole; no overflow; bottom outlet; 500W 400D. HTM64LBGM		1
1		1	BIN2501	BIN; sanitary disposal		3
1		1	CAL005	CEILING, PULL CORD, patient/staff call.		1
1		1	CHA096	CHAIR; shower; mobile		3
1		1	CIS005	CISTERN, concealed, low level, reversible, 7.5 litres, 300H 500W 150D		1
1		1	CLE924	Toilet Brush and Holder		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOO019	HOOK, single, small, wall mounted		1
1		1	LIG063	LUMINAIRE, single fluorescent lamp, wall, 8 watt, 300 mm		1
1		1	MIR023	MIRROR; unbreakable; wall mounted; 650H 300W		1
1		1	OUT025	SOCKET outlet, shaver		1
5		5	RAI048	RAIL, grab, vertical, wall mounted, 600mm		1
2		2	RAI161	RAIL, grab, horizontal, wall mounted, 600mm		1
1		1	RAI174	RAIL, grab, hinged, wall mounted, 650mm with toilet roll holder		1
2		2	RAI175	RAIL; grab; hinged; wall mounted; 750mm.		1
1		1	SHE100	SHELF; 200mm deep; length as drawn.		1
1		1	SHO002	SHOWER; slip resistant floor with drainage outlet; 900W 900D		1
1		1	SHO018	SHOWER, valve, thermostatic mixer (associated with SHO020)		1
1		1	SHO020	SHOWER, adjustable shower head hand spray (associated with SHO018)		1
1		1	STF200	STORAGE UNIT; mid; shelf; 150H 300W 150D		1
1		1	SWC025	SWITCH, light		1
1		1	TAP289	TAP, monobloc, pillar mixer, integral thermostatic, short lever		1
1		1	WAS101	WASTE, unslotted recessed grated, metal, 1.1/4 in, with plug and chain		1
1		1	WAS107	TRAP, bottle, 1.1/4 in, plastic resealing		1
1		1	WCH006	WC with seat, 700mm projection, wall hung, hospital pattern, rimless pan, vitreous china.		1

<b>ADB</b>	<b>Room Data Sheet</b>	<b>Y0646-01</b>
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Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	Y0646-01	Disposal hold (General Waste)		
Room Number:	2-R1-022		Revision Date:	18/09/2014

Activities:	1) Holding domestic, clinical and recyclable waste for disposal or reprocessing			
Personnel:	1 x staff intermittent use			
Planning Relationships:	Adjacent to main circulation route.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			
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ADB	Room Environmental Data		Y0646-01
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	Y0646-01	Disposal hold (General Waste)	
Room Number:	2-R1-022	Revision Date:	18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>      10.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 28  Ventilation Type: Central Dirty Extract  None	
<b>General Notes:</b> Heating: Adjacent Space Transfer Air. Cooling: None			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	100    Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra):80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40      N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  Not Applicable	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		Y0646-01
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	Y0646-01	Disposal hold (General Waste)	
Room Number:	2-R1-022	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB			Schedule of Components by Room		Y0646-01	
Project:		11072	RHSC & DCN			
Department:		R1	Clinical / Management Suite			
Room:		Y0646-01	Disposal Hold (small)			
Room Number:		2-R1-022	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BIN037	BIN wheelle, 770 litre, 1360H1360W 800D		3
1		1	OUT030	SOCKET, outlet switched, 13amp single, splash proof.		1
1		1	PLA002	PLATFORM: step-stand: stackable: portable: 130H 480W 330D		3
1		1	SWC025	SWITCH, light		1

ADB	Room Data Sheet			X0145
Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	X0145	Treatment room: Inpatient		
Room Number:	3-C1.1-043	Revision Date:	18/09/2014	
Activities:	1) Dressing / undressing in privacy 2) Clinical handwashing 3) Assessment / updating of electronic patient records (EPRs) 4) Preparation of trays / packs for clinical procedures 5) Storage of sterile supplies and consumables on a trolley 6) Preparation for clinical procedures 7) Invasive clinical procedures from side of couch 8) Use of mobile diagnostic and therapeutic equipment 9) Holding/storing working supply of clean and sterile materials for immediate use			
Personnel:	1 x patient 2 x staff			
Planning Relationships:	Close to a clean utility room. Close to a dirty utility room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision				

ADB	Room Environmental Data		X0145
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	X0145	Treatment room: Inpatient	
Room Number:	3-C 1.1-043		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  10.0  Positive  /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Supply Air  F7- minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500  1,000.0 Y A	Not Applicable @ Bed/Trolley 1450 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35    Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		X0145
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	X0145	Treatment room: Inpatient	
Room Number:	3-C1.1-043	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A or Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				X0145
Project:	11072	RHSC & DCN				
Department:	C1.1	Medical Inpatients - 23 Beds				
Room:	X0145	Treatment Room				
Room Number:	3-C1.1-043				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BED2502	BED HEAD BUFFER: bed and wall protection: vertical: wall mounted.		1
1		1	BIN2503	BIN; sharps disposal		3
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	BRA004	BRACKET; holder; suction unit; trunking/rail mounted		2
2		2	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COU2506	COUCH; examination/treatment; (3 section); electric; variable height; retractable wheels; with paper roll holder.		3
1		1	DIS011	DISPENSER, barrier cream, disposable single cartridge, wall mounted		2
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOO024	HOOK; hat and coat; 1.		1
1		1	LIG963	LUMINAIRE; examination; ceiling; adjustable.		1
1		1	MSC045	CABINET tall; 600mm facing; 1 door hinged right; o/a height 2100.		1
1		1	MSC046	CABINET tall; 600mm facing; 1 door hinged LEFT; o/a height 2100.		1
1		1	MSC081	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
1		1	MSC082	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 900.		1
1		1	MSC127	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; wall mounted.		1
1		1	MSC128	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; wall mounted.		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
4		4	OUT010	SOCKET outlet, switched, 13amp, twin		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT215	SOCKET outlet, telephone		1
1		1	PRI015	PRINTER; label; portable		3
1		1	RAI132	RAIL, clinical equipment, wall mounted, 1200mm		1
1		1	SCA011	SCALE; baby		3
1		1	SCA2501	SCALE; free standing height column		3
1		1	SWC025	SWITCH, light		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1

ADB			Schedule of Components by Room		X0145	
Project:		11072	RHSC & DCN			
Department:		C1.1	Medical Inpatients - 23 Beds			
Room:		X0145	Treatment Room			
Room Number:		3-C1.1-043	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2
1		1	TRA1001	TRACK; curtain; door; length and shape as drawn.		1
1		1	TRO133	TROLLEY, dressing/instrument, stainless steel, buffered. 870H 750W 450D		3
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet			T0152
Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	T0152	Staff Base		
Room Number:	G-A2-008	Revision Date:	18/09/2014	
Activities:	1) Dealing with enquiries 2) Use of computer workstation(s) 3) Assessment / updating of electronic patient records (EPRs) 4) Supervision and observation of patients 5) Use of Telephone			
Personnel:	1 x staff 1 x visitor			
Planning Relationships:	Within a ward or clinical unit; adjacent to an individual clinical room, or patient bedrooms(s).			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	
	Refer to HLM-SZ-SL-SH-200-001 for room areas.  Ceiling height: To suit surrounding area/design.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		T0152
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	T0152	Staff Base	
Room Number:	G-A2-008		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  4.0 3.0 Positive /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 28  Ventilation Type: Central Supply Air  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300   Y A	@ Desk 750 - 850 AFFL Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		T0152
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	T0152	Staff Base	
Room Number:	G-A2-008	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A or clear, solar control.		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				T0152
Project:	11072	RHSC & DCN				
Department:	A2	Paediatric Acute Receiving Unit - 34 Beds				
Room:	T0152	Reception / Touchdown Base				
Room Number:	G-A2-008				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BIN2504	BIN: confidential waste		3
3		3	BOA022	BOARD: display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	CAS020	FIRST AID BOX		2
2		2	CHA063	CHAIR; height adjustable; with arms; high back; swivel; 5 star base; on castors		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
2		2	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
2		2	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COU1001	COUNTER; reception; DDA compliant; with below counter storage; as per detailed design.		1
2		2	DRA056	DRAWER UNIT, 2 drawer, lockable, on castors, 600H 410W 600D		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
4		4	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT2512	SOCKET outlet; video entry.		1
1		1	PAN063	PANEL; indicator.		1
1		1	TEL1000	TELEPHONE; handset.		3
1		1	TEL901	VIDEO - entry/security; wall mounted, receiving.		1
1		1	TRO905	TROLLEY; Mobile Induction Loop		3
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1



<b>ADB</b>	<b>Room Data Sheet</b>	<b>G0180-01</b>
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Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	G0180-01	Resuscitation trolley		
Room Number:	G-A2-016		Revision Date:	18/09/2014

Activities:	1) Parking, storage and charging of mobile equipment			
Personnel:	Intermittent use			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Ceiling height: To suit surrounding area/design.				

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			
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ADB	Room Environmental Data		G0180-01																																
Project:	11072	RHSC & DCN																																	
Department:	00	Generic Rooms (Financial Close)																																	
Room:	G0180-01	Resuscitation trolley																																	
Room Number:	G-A2-016	Revision Date:	18/09/2014																																
<table border="1"> <thead> <tr> <th>AIR</th> <th>Requirements</th> <th colspan="2">Notes</th> </tr> </thead> <tbody> <tr> <td>Winter Temperature (DegC):</td> <td></td> <td colspan="2">Permissible space temperature range (dry bulb) (degC): 18 - 28</td> </tr> <tr> <td>Summer Temperature (DegC):</td> <td></td> <td colspan="2">Ventilation Type: None</td> </tr> <tr> <td>Mechanical Ventilation (Supply ac/hr):</td> <td></td> <td colspan="2"></td> </tr> <tr> <td>Mechanical Ventilation (Extract ac/hr):</td> <td></td> <td colspan="2"></td> </tr> <tr> <td>Pressure Relative to Adjoining Space:</td> <td>N / A</td> <td colspan="2"></td> </tr> <tr> <td>Filtration (%DSE and % Arrestance):</td> <td>/</td> <td colspan="2">None</td> </tr> <tr> <td>Humidity (%RH):</td> <td></td> <td colspan="2"></td> </tr> </tbody> </table>				AIR	Requirements	Notes		Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28		Summer Temperature (DegC):		Ventilation Type: None		Mechanical Ventilation (Supply ac/hr):				Mechanical Ventilation (Extract ac/hr):				Pressure Relative to Adjoining Space:	N / A			Filtration (%DSE and % Arrestance):	/	None		Humidity (%RH):			
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<b>General Notes:</b> Heating Type: Adjacent Space air Transfer Cooling: None																																			
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<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)																																			
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ADB	Room Design Character		G0180-01
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	G0180-01	Resuscitation trolley	
Room Number:	G-A2-016		Revision Date: 18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	N/A. open to circulation		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			

ADB			Schedule of Components by Room		G0180-01		
Project:		11072	RHSC & DCN				
Department:		A2	Paediatric Acute Receiving Unit - 34 Beds				
Room:		G0180-01	Resuscitation Trolley Bay			Revision Date:	09/09/2014
Room Number:		G-A2-016					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
2		2	OUT010	SOCKET outlet, switched, 13amp, twin		1	
1		1	RSU010	DEFIBRILLATOR; Manual		3	
1		1	SUC004	SUCTION UNIT; electric; portable; 350H 320W 340D		3	
1		1	TRO310	TROLLEY, emergency/resuscitation, complete with defibrillator, 955H 825W 575D		3	

<b>ADB</b>	<b>Room Data Sheet</b>	<b>Y0431</b>
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Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	Y0431	Dirty utility		
Room Number:	G-A2-022		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Clinical handwashing</li> <li>2) Testing of urine specimens</li> <li>3) Holding SHARPS in a container</li> <li>4) Holding items requiring disposal or reprocessing</li> <li>5) Disposal of liquid waste</li> <li>6) Disposal of clinical waste</li> <li>7) Disposal of waste and contaminated materials</li> <li>8) Disposal of used protective clothing</li> </ol>
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Personnel:	1 x staff Intermittent use
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Planning Relationships:	Close to clinical area, particularly treatment rooms.
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		Y0431
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	Y0431	Dirty utility	
Room Number:	G-A2-022		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>      6.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Dirty Extract  None None	
<b>General Notes:</b> Heating: Adjacent Space Transfer Air. Cooling: None			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	200    Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra):80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40      N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  Not Applicable	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB	Room Design Character		Y0431
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	Y0431	Dirty utility	
Room Number:	G-A2-022	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				Y0431
Project:		11072	RHSC & DCN			
Department:		A2	Paediatric Acute Receiving Unit - 34 Beds			
Room:		Y0431	Dirty Utility			
Room Number:		G-A2-022	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BOA2504	BOARD; marker; whiteboard; dry-wipe; with pen holder;magnetic; wall mounted; 600H 900W.		1
1		1	CAB047	CABINET; urine test, lockable, wall mounted.		1
1		1	CUP006	CUPBOARD, flammable material, metal, lockable, liquid retaining shelf, floor standing, 760H 460W 485D		3
1		1	CUP2517	CUPBOARD; base unit; 2 door; lockable; 1200mm.		1
1		1	CUP2525	CUPBOARD; wall unit; LH door; 600h; lockable; 600mm.		1
1		1	CUP2526	CUPBOARD; wall unit; RH door; 600h; lockable; 600mm.		1
1		1	DIS004	DISPENSER, disposable bedpans, wall mounted		2
1		1	DIS005	DISPENSER, disposable urine bottles, wall mounted		2
2		2	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2501	DISPENSER; disposable vomit bowls; wall mounted.		2
1		1	DSU001	DISPOSAL UNIT (macerator), disposable bedpan, bedpan liners/urine bottles, 525W 650D		1
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	MSC045	CABINET tall; 600mm facing; 1 door hinged right; o/a height 2100.		1
1		1	MSC046	CABINET tall; 600mm facing; 1 door hinged LEFT; o/a height 2100.		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
2		2	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT075	OUTLET isolator 20amp; TP&N; wall mounted.		1
1		1	OUT301	OUTLET, cold water for equipment		1
1		1	SNS1003L	SINKTOP; inset; single bowl and drainer; stainless steel; left hand drainer.		1
1		1	SWC025	SWITCH, light		1
1		1	TAP809	TAP, bib, lever, hospital pattern, pair hot and cold, 1/2 in.		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
2		2	TRO235	TROLLEY, contaminated linen, single ring, stainless steel		3
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WAS102	WASTE, unslotted flush-grated, metal, 1.1/2 in		1
1		1	WAS108	TRAP, bottle, 1.1/2 in, plastic resealing		1
1		1	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet			V1010
Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	V1010	WC: ambulant		
Room Number:	G-A2-024	Revision Date:	18/09/2014	
Activities:	1) Use of toilet by ambulant person. 2) Hand-rinsing 3) Use of call systems			
Personnel:	1 x patient Intermittent use			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,400
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		V1010
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	V1010	WC: ambulant	
Room Number:	G-A2-024		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>      10.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Dirty Extract  None	
<b>General Notes:</b> Heating: Adjacent Space Transfer Air. Cooling: None			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	200    Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra):80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	45      N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  55:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		V1010
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	V1010	WC: ambulant	
Room Number:	G-A2-024	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				V1010
Project:	11072	RHSC & DCN				
Department:	A2	Paediatric Acute Receiving Unit - 34 Beds				
Room:	V1010	WC - Ambulant (Visitors)				
Room Number:	G-A2-024				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS105	BASIN; small; general pattern; vitreous china; 1 tap hole centred on basin; no overflow; bottom outlet; 400W 300D; HTM64LBGS		1
1		1	BIN2501	BIN; sanitary disposal		3
1		1	CAL005	CEILING, PULL CORD, patient/staff call.		1
1		1	CIS005	CISTERN, concealed, low level, reversible, 7.5 litres, 300H 500W 150D		1
1		1	CLE924	Toilet Brush and Holder		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS015	DISPENSER, toilet paper, dispense individual sheets, wall mounted		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO019	HOOK, single, small, wall mounted		1
1		1	MIR024	MIRROR; unbreakable; wall mounted; 800H 300W.		1
1		1	SEA001	2in1 toilet seat, plastic, double lid with large and small aperture suitable respectively for adults/ adolescents and small children.		1
1		1	SWC025	SWITCH, light		1
1		1	TAP289	TAP, monobloc, pillar mixer, integral thermostatic, short lever		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WCH002	WC with seat, 520-550 projection, wall hung, hospital pattern, rimless pan, vitreous china, HTM64WCH		1



<b>ADB</b>	<b>Room Data Sheet</b>	<b>G0180-03</b>
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Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	G0180-03	Holst Bay		
Room Number:	G-A2-027		Revision Date:	18/09/2014

Activities:	1) Parking, storage and charging of mobile equipment			
Personnel:	Intermittent use			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Ceiling height: To suit surrounding area/design.				

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			
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ADB	Room Environmental Data		G0180-03
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	G0180-03	Holst Bay	
Room Number:	G-A2-027		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>   3.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 16 - 28  Ventilation Type: Central General Extract  None	
<b>General Notes:</b> Heating Type: Adjacent Space Transfer Air Cooling: None			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	200   Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra):80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40     N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  55:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		G0180-03
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	G0180-03	Hoist Bay	
Room Number:	G-A2-027	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	N/A, open to circulation		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			

ADB			Schedule of Components by Room		G0180-03	
Project:		11072	RHSC & DCN			
Department:		A2	Paediatric Acute Receiving Unit - 34 Beds			
Room:		G0180-03	Hoist Bay			
Room Number:		G-A2-027	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	HOI003	HOIST PATIENT; chair type mobile		3
1		1	MSC123	CABINET top; 400mm facing; (400x300 inserts); with formed plastic liners; 1 door hinged left; wall mounted.		1
1		1	OUT010	SOCKET outlet, switched, 13amp, twln		1

ADB	Room Data Sheet		T0151
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	T0151	Touchdown Base	
Room Number:	G-A2-049	Revision Date:	18/09/2014
Activities:	1) Assessment / updating of electronic patient records (EPRs) 2) Use of computer workstation(s) 3) Supervision and observation of patients 4) Use of Telephone		
Personnel:	3 x staff intermittent use		
Planning Relationships:	Within a ward or clinical unit; adjacent to an individual clinical room, or patient bedroom(s).		
Space Data:	Area (m <sup>2</sup> ):		Height (mm):
Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Ceiling height: To suit surrounding area/design.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)		
Refer to HLM SZ 00 PL 331 001 Anti ligature Strategy for anti ligature provision			

ADB	Room Environmental Data		T0151
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	T0151	Touchdown Base	
Room Number:	G-A2-049		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  4.0 3.0 Positive /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 28  Ventilation Type: Central Supply and Extract  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: None			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300   Y A	@ Desk 750 - 850 AFFL Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB	Room Design Character		T0151
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	T0151	Touchdown Base	
Room Number:	G-A2-049	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room			T0151	
Project:		11072	RHSC & DCN			
Department:		A2	Paediatric Acute Receiving Unit - 34 Beds			
Room:		T0151	Touchdown Base 2			
Room Number:		G-A2-049	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BOA2504	BOARD; marker; whiteboard; dry-wipe; with pen holder;magnetic; wall mounted; 600H 900W.		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM035	COMPUTER PRINTER; line; small		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COM901	DOCKING STATION; tablet		2
1		1	LIG003	LUMINAIRE, reading, adjustable arm, 100 watt		1
2		2	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT059	CONNECTION UNIT switched 13amp, indicator light		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT2512	SOCKET outlet; video entry.		1
1		1	PAN063	PANEL; indicator.		1
1		1	PRI015	PRINTER; label; portable		3
1		1	STF151	STORAGE UNIT; lower; 2 drawer; on castors; 600H 500W 450D		3
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2
1		1	TEL901	VIDEO - entry/security; wall mounted, receiving.		1
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet			V1643-01
Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	V1643-01	En-suite: RHSC		
Room Number:	G-A2-051	Also used with isolation ensuites		Revision Date: 18/09/2014
Activities:	1) Use of shower (with assistance if required) 2) Use of toilet (with assistance if required) 3) Dressing / undressing in privacy 4) Hanging clothes and towels 5) Use of mobile hoist (if required) 6) Use of call systems 7) Use of wheelchair accessible hand-wash basin.			
Personnel:	1 x patient 1 x staff Intermittent use			
Planning Relationships:	En-suite to single-bed room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,400
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision				

ADB	Room Environmental Data		V1643-01
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	V1643-01	En-suite: RHSC	
Room Number:	G-A2-051	Also used with isolation ensuites	Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>   10.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 20 - 28  Ventilation Type: Central Dirty Extract  None	
<b>General Notes:</b> Heating: Adjacent Space Transfer Air, Cooling: None			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	200   Y A	@ Floor Not applicable None Colour rendering characteristics (Ra): 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40    N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and Lmax,1  45:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 262 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		V1643-01
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	V1643-01	En-suite: RHSC	
		Also used with isolation ensuites	
Room Number:	G-A2-051	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawings		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				V1643-01
Project:	11072	RHSC & DCN				
Department:	A2	Paediatric Acute Receiving Unit - 34 Beds				
Room:	V1643-01	En-suite wheelchair-accessible WC, Shower & wash Bedroom 8				
Room Number:	G-A2-051	Revision Date:				09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS106	BASIN; medium; general pattern; vitreous china; 1 tap right hand hole; no overflow; bottom outlet; 500W 400D. HTM64LBGM		1
1		1	BIN2501	BIN; sanitary disposal		3
1		1	CAL005	CEILING, PULL CORD, patient/staff call.		1
1		1	CHA096	CHAIR; shower; mobile		3
1		1	CIS005	CISTERN, concealed, low level, reversible, 7.5 litres, 300H 500W 150D		1
1		1	CLE924	Toilet Brush and Holder		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOO019	HOOK, single, small, wall mounted		1
1		1	LIG063	LUMINAIRE, single fluorescent lamp, wall, 8 watt, 300 mm		1
1		1	MIR023	MIRROR; unbreakable; wall mounted; 650H 300W		1
1		1	OUT025	SOCKET outlet, shaver		1
5		5	RAI048	RAIL, grab, vertical, wall mounted, 600mm		1
2		2	RAI161	RAIL, grab, horizontal, wall mounted, 600mm		1
1		1	RAI174	RAIL, grab, hinged, wall mounted, 650mm with toilet roll holder		1
2		2	RAI175	RAIL; grab; hinged; wall mounted; 750mm.		1
1		1	SEA001	2in1 toilet seat, plastic, double lid with large and small aperture suitable respectively for adults/ adolescents and small children.		1
1		1	SHE100	SHELF; 200mm deep; length as drawn.		1
1		1	SHO002	SHOWER; slip resistant floor with drainage outlet; 900W 900D		1
1		1	SHO018	SHOWER, valve, thermostatic mixer (associated with SHO020)		1
1		1	SHO020	SHOWER, adjustable shower head hand spray (associated with SHO018)		1
1		1	STF200	STORAGE UNIT; mid; shelf; 150H 300W 150D		1
1		1	SWC025	SWITCH, light		1
1		1	TAP289	TAP, monobloc, pillar mixer, integral thermostatic, short lever		1
1		1	WAS101	WASTE, unslotted recessed grated, metal, 1.1/4 in. with plug and chain		1
1		1	WAS107	TRAP, bottle, 1.1/4 in, plastic resealing		1
1		1	WCH006	WC with seat, 700mm projection, wall hung, hospital pattern, rimless pan, vitreous china.		1



ADB	Room Data Sheet			B0305-01
Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	B0305-01	Single-bed room RHSC		
Room Number:	G-A2-052	Revision Date:	18/09/2014	
Activities:	1) Clinical handwashing 2) Therapeutic and clinical attention from healthcare staff 3) Use of piped medical gases, vacuum and associated equipment 4) Storage of clothing and personal belongings 5) Patient records reviewed and recorded 6) Use of mobile hoist (if required) 7) Rest and relaxation 8) Provision for parent to stay overnight			
Personnel:	1 x patient 2 x staff 2 x visitors			
Planning Relationships:	En-suite sanitary facilities.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision				

ADB	Room Environmental Data		B0305-01																																
Project:	11072	RHSC & DCN																																	
Department:	00	Generic Rooms (Financial Close)																																	
Room:	B0305-01	Single-bed room RHSC																																	
Room Number:	G-A2-052	Revision Date:	18/09/2014																																
<table border="1"> <thead> <tr> <th>AIR</th> <th>Requirements</th> <th colspan="2">Notes</th> </tr> </thead> <tbody> <tr> <td>Winter Temperature (DegC):</td> <td></td> <td colspan="2">Permissible space temperature range (dry bulb) (degC) : 18 - 25</td> </tr> <tr> <td>Summer Temperature (DegC):</td> <td></td> <td colspan="2"></td> </tr> <tr> <td>Mechanical Ventilation (Supply ac/hr):</td> <td>4.0</td> <td colspan="2">Ventilation Type: Natural &amp; Central Supply Air</td> </tr> <tr> <td>Mechanical Ventilation (Extract ac/hr):</td> <td></td> <td colspan="2">via ensuite</td> </tr> <tr> <td>Pressure Relative to Adjoining Space:</td> <td>Positive</td> <td colspan="2"></td> </tr> <tr> <td>Filtration (%DSE and % Arrestance):</td> <td>/</td> <td colspan="2">G4 - minimum</td> </tr> <tr> <td>Humidity (%RH):</td> <td></td> <td colspan="2"></td> </tr> </tbody> </table>				AIR	Requirements	Notes		Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 18 - 25		Summer Temperature (DegC):				Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Natural & Central Supply Air		Mechanical Ventilation (Extract ac/hr):		via ensuite		Pressure Relative to Adjoining Space:	Positive			Filtration (%DSE and % Arrestance):	/	G4 - minimum		Humidity (%RH):			
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General Notes: Heating type: Adjacent space transfer air with BMS Adjustable Sensor. Cooling: Comfort Cooled Fresh Air.																																			
<table border="1"> <thead> <tr> <th>LIGHTING</th> <th></th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td>Service Illumination (Lux):</td> <td>100</td> <td colspan="2"></td> </tr> <tr> <td>Service Illumination Night (Lux):</td> <td>5.0</td> <td colspan="2"></td> </tr> <tr> <td>Local Illumination (Lux):</td> <td>300.0</td> <td colspan="2">@ Bed/trolley 1450 AFFL</td> </tr> <tr> <td>Colour Rendering Required:</td> <td>Y</td> <td colspan="2">Colour rendering characteristics (Ra):80</td> </tr> <tr> <td>Standby Lighting Grade:</td> <td>A</td> <td colspan="2">Lighting of the level and quality equal or nearly equal to that provided by normal lighting</td> </tr> </tbody> </table>				LIGHTING				Service Illumination (Lux):	100			Service Illumination Night (Lux):	5.0			Local Illumination (Lux):	300.0	@ Bed/trolley 1450 AFFL		Colour Rendering Required:	Y	Colour rendering characteristics (Ra):80		Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting									
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General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)																																			
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ADB	Room Design Character		B0305-01
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	B0305-01	Single-bed room RHSC	
Room Number:	G-A2-052	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				B0305-01	
Project:		11072		RHSC & DCN			
Department:		A2		Paediatric Acute Receiving Unit - 34 Beds			
Room:		B0305-01		Single Bedroom 7 (RHSC)		Revision Date: 09/09/2014	
Room Number:		G-A2-052					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1	
1		1	BED013	BED Kings Fund; variable height; two-way tilt; adjustable backrest; bedstripper; on castors		3	
1		1	BED2502	BED HEAD BUFFER; bed and wall protection; vertical; wall mounted.		1	
1		1	BED2508	BED; ward; fold down; 760 mm width mattress; vertical with services.		1	
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1	
1		1	BRA004	BRACKET; holder; suction unit; trunking/rail mounted		2	
1		1	BRA2502	BRACKET; TV; height adjustable; swivel; wall mounted.		1	
1		1	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1	
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1	
1		1	CHA007	CHAIR; easy; with open arms; high back; upholstered, wipeable		3	
2		2	CHA017	CHAIR; upright; upholstered; stacking		3	
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1	
1		1	CUP2600	CUPBOARD, wall mounted, 600H 1800W 500D.		1	
1		1	DIS013	DISPENSER, paper towel, wall mounted		2	
1		1	DIS024	DISPENSER, soap, wall mounted		2	
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2	
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
2		2	HOO019	HOOK, single, small, wall mounted		1	
1		1	LIG005	LUMINAIRE, bedhead, dimmable, patient reading and general nursing care/examination		1	
1		1	LOC002	LOCKER, bedside, 3 compartment, towel rail at rear, on castors, 902H 485W 485D		3	
1		1	MAT004	MATTRESS; Kings Fund bed; standard backrest; 1955L 865W 125D		3	
1		1	MON912	MONITOR; Oxygen/Saturation		3	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
2		2	OUT010	SOCKET outlet, switched, 13amp, twin		1	
4		4	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1	
2		2	OUT121	SOCKET outlet; computer data; double.		1	
1		1	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1	
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1	
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1	
2		2	OUT471	OUTLET; oxygen medical; trunking mounted.		1	
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1	
1		1	RAC362	RACK; catheter; vertical; 2 compartments; 420H 160W 65D		2	
1		1	RAI130	RAIL, clinical equipment, wall mounted, 600mm		1	
1		1	SCP900	STETHOSCOPE		3	
1		1	SHE2503	SHELF; 300mm deep; folding; length as drawn.		1	
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1	

ADB			Schedule of Components by Room		B0305-01	
Project:		11072		RHSC & DCN		
Department:		A2		Paediatric Acute Receiving Unit - 34 Beds		
Room:		B0305-01		Single Bedroom 7 (RHSC)		
Room Number:		G-A2-052		Revision Date:		09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	TAB073	TABLE, overbed, cantilevered		3
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
1		1	TVM2500	TV / monitor flat screen with DVD player		3
1		1	WAR900	WARDROBE; lockable; 2700H 750W 500D.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1



ADB	Room Data Sheet			B0405
Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	B0405	Multi-bed room: 4 beds RHSC		
Room Number:	G-A2-054	Revision Date:	18/09/2014	
Activities:	1) Clinical handwashing 2) Dressing / undressing in privacy 3) Therapeutic and clinical attention from healthcare staff 4) Use of piped medical gases, vacuum and associated equipment 5) Patient records reviewed and recorded 6) Storage of clothing and personal belongings 7) Use of mobile holst (if required) 8) Patient may take meals or refreshments in bed, by the bed or in the sitting space 9) Rest and relaxation 10) Use of entertainment services system 11) Provision for parent to stay overnight			
Personnel:	4 x patients 2 x staff 4 x visitors			
Planning Relationships:	Close to social space. En-suite sanitary facilities.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision				



<b>ADB</b>	<b>Room Environmental Data</b>	<b>B0405</b>
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Project:	11072	RHSC & DCN
Department:	00	Generic Rooms (Financial Close)
Room:	B0405	Multi-bed room: 4 beds RHSC
Room Number:	G-A2-054	Revision Date: 18/09/2014

AIR	Requirements	Notes
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 18 - 25
Summer Temperature (DegC):		
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Natural & Central Supply Air
Mechanical Ventilation (Extract ac/hr):		via ensuite
Pressure Relative to Adjoining Space:	Positive	
Filtration (%DSE and % Arrestance):		G4 - minimum
Humidity (%RH):		

General Notes: Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air

LIGHTING	Requirements	Notes
Service Illumination (Lux):	100	
Service Illumination Night (Lux):	5.0	
Local Illumination (Lux):	300.0	@ Bed/trolley 1450 AFFL
Colour Rendering Required:	Y	Colour rendering characteristics (Ra):80
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting

General Notes: Control with Dimmer

NOISE	Requirements	Notes
Privacy Factor Required (dB):		
Mechanical Services (NR):	30	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1
Intrusive Noise (NR Leq):		45 daytime / 35 nighttime (LAeq,1hr) and 45 nighttime (LAmax,1)
*Acceptable Sound Level [L10dB(A)]:		
*Speech Privacy Required:	N	
*Quality Which Cannot Be Tolerated: (* alternative format)		

General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)

SAFETY	Requirements	Notes
Hot Surface Max. Temp (DegC):	43	
Hot Water Max. Temp (DegC):	41	

General Notes: Maximum cold water discharge temperature (degC): 20

FIRE
Enclosure:
Automatic Detection:
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)

ADB	Room Design Character		B0405
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	B0405	Multi-bed room: 4 beds RHSC	
Room Number:	G-A2-054	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				B0405
Project:	11072	RHSC & DCN				
Department:	A2	Paediatric Acute Receiving Unit - 34 Beds				
Room:	B0405	4 Bed Room				
Room Number:	G-A2-054				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
4		4	BED013	BED Kings Fund; variable height; two-way tilt; adjustable backrest; bedstripper; on castors		3
1		1	BED020	BED; fold down; 760 mm width mattress; vertical.		1
3		3	BED2502	BED HEAD BUFFER; bed and wall protection; vertical; wall mounted.		1
3		3	BED2508	BED; ward; fold down; 760 mm width mattress; vertical with services.		1
1		1	BED2509	BED HEAD BUFFER; bed and wall protection; horizontal; wall mounted.		1
1		1	BIN2508	BIN; storage; toy box.		3
4		4	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
4		4	BRA004	BRACKET; holder; suction unit; trunking/rail mounted		2
4		4	BRA2502	BRACKET; TV; height adjustable; swivel; wall mounted.		1
4		4	BRA902	Bracket; Monitor oxygen/saturation inside room		2
4		4	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1
4		4	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
4		4	CHA007	CHAIR; easy; with open arms; high back; upholstered, wipeable		3
10		10	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM905	IT Tablet		3
4		4	CUP2600	CUPBOARD, wall mounted, 600H 1800W 500D.		1
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
2		2	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
4		4	LIG005	LUMINAIRE, bedhead, dimmable, patient reading and general nursing care/examination		1
4		4	LOC002	LOCKER, bedside, 3 compartment, towel rail at rear, on castors, 902H 485W 485D		3
4		4	MAT004	MATTRESS; Kings Fund bed; standard backrest; 1955L 865W 125D		3
4		4	MON912	MONITOR; Oxygen/Saturation		3
2		2	OUT005	SOCKET outlet, switched, 13amp, single		1
14		14	OUT010	SOCKET outlet, switched, 13amp, twin		1
16		16	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
10		10	OUT121	SOCKET outlet; computer data; double.		1
4		4	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
4		4	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
4		4	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
8		8	OUT471	OUTLET; oxygen medical; trunking mounted.		1
4		4	OUT476	OUTLET; vacuum medical; trunking mounted.		1

ADB		Schedule of Components by Room				B0405	
Project:		11072		RHSC & DCN			
Department:		A2		Paediatric Acute Receiving Unit - 34 Beds			
Room:		B0405		4 Bed Room		Revision Date: 09/09/2014	
Room Number:		G-A2-054					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	PRI015	PRINTER; label; portable		3	
4		4	RAC362	RACK; catheter; vertical; 2 compartments; 420H 160W 65D		2	
4		4	RAI130	RAIL, clinical equipment, wall mounted, 600mm		1	
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1	
1		1	TAB056	TABLE; occasional; round; 415H 610mm dia.		3	
4		4	TAB073	TABLE, overbed, cantilevered		3	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
4		4	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1	
4		4	TVM2500	TV / monitor flat screen with DVD player		3	
1		1	WAR2900	WARDROBE; lockable; 2700H 750W 500D.		1	
3		3	WAR900	WARDROBE; lockable; 2700H 750W 500D.		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	

<b>ADB</b>	<b>Room Data Sheet</b>	<b>W1594-01</b>
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Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	W1594-01	Linen Bay		
Room Number:	G-A2-063		Revision Date:	18/09/2014

Activities:	1) Holding exchange trolley			
Personnel:	Intermittent use			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Ceiling height: To suit surrounding area/design.				

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			
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ADB	Room Environmental Data		W1594-01
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	W1594-01	Linen Bay	
Room Number:	G-A2-063	Revision Date:	18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>   3.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 16 - 28  Ventilation Type: Central Extract  None	
<b>General Notes:</b> Heating: Adjacent Space Transfer Air. Cooling: None			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	200   Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40     N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  35:daytime (LAeq, 1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB	Room Design Character		W1594-01
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	W1594-01	Linen Bay	
Room Number:	G-A2-063	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	N/A, open to circulation.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			

ADB			Schedule of Components by Room		W1594-01	
Project:		11072		RHSC & DCN		
Department:		A2		Paediatric Acute Receiving Unit - 34 Beds		
Room:		W1594-01		Linen Bay (1 trolley)		
Room Number:		G-A2-063		Revision Date:		09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	TRO233	TROLLEY, clean linen exchange, 3 adjustable shelves, large, 1600H 1600W 680D		3

<b>ADB</b>	<b>Room Data Sheet</b>	<b>B0308</b>
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Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	B0308	Single-bed room: isolation RHSC		
Room Number:	G-A2-072		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Clinical handwashing</li> <li>2) Dressing / undressing in privacy</li> <li>3) Therapeutic and clinical attention from healthcare staff</li> <li>4) Use of piped medical gases, vacuum and associated equipment</li> <li>5) Patient records reviewed and recorded</li> <li>6) Rest and relaxation</li> <li>7) Patient may take meals or refreshments in bed, by the bed or in the sitting space</li> <li>8) Use of entertainment services system</li> <li>9) Storage of clothing and personal belongings</li> <li>10) Use of mobile hoist (if required)</li> </ol>			
Personnel:	<p>1 x patient 2 x staff 2 x visitors</p>			
Planning Relationships:	<p>Access via gowning lobby. En-suite sanitary facilities.</p>			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			
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ADB	Room Environmental Data		B0308
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	B0308	Single-bed room: isolation RHSC	
Room Number:	G-A2-072		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  10.0  Balanced  /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 21 - 25.  Ventilation Type: Supply via lobby  F7 - minimum	
<b>General Notes:</b> Heating type: Adjacent space transfer air with BMS Adjustable Sensor . Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	100 5.0 300.0 Y A	@ Bed/trolley 1450 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	30     Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime / 35:nighttime (LAeq,1hr) and 45:nighttime (LAmax,1)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		B0308
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	B0308	Single-bed room: isolation RHSC	
Room Number:	G-A2-072	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				B0308
Project:	11072	RHSC & DCN				
Department:	A2	Paediatric Acute Receiving Unit - 34 Beds				
Room:	B0308	Single Isolation Bedroom 1 (RHSC)				
Room Number:	G-A2-072				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BED013	BED Kings Fund; variable height; two-way tilt; adjustable backrest; bedstripper; on castors		3
1		1	BED2502	BED HEAD BUFFER; bed and wall protection; vertical; wall mounted.		1
1		1	BED2508	BED; ward; fold down; 760 mm width mattress; vertical with services.		1
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	BRA004	BRACKET; holder; suction unit; trunking/rail mounted		2
1		1	BRA2502	BRACKET; TV; height adjustable; swivel; wall mounted.		1
1		1	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CHA007	CHAIR; easy; with open arms; high back; upholstered, wipeable		3
2		2	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM905	IT Tablet		3
1		1	CUP2600	CUPBOARD, wall mounted, 600H 1800W 500D.		1
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO019	HOOK, single, small, wall mounted		1
1		1	LIG005	LUMINAIRE, bedhead, dimmable, patient reading and general nursing care/examination		1
1		1	LOC002	LOCKER, bedside, 3 compartment, towel rail at rear, on castors, 902H 485W 485D		3
1		1	MAT004	MATTRESS; Kings Fund bed; standard backrest; 1955L 865W 125D		3
1		1	MON912	MONITOR; Oxygen/Saturation		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
2		2	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
2		2	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
2		2	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	RAC362	RACK; catheter; vertical; 2 compartments; 420H 160W 65D		2
1		1	RAI130	RAIL, clinical equipment, wall mounted, 600mm		1
1		1	SCP900	STETHOSCOPE		3
1		1	SHE2503	SHELF; 300mm deep; folding; length as drawn.		1



ADB		Schedule of Components by Room				B0308	
Project:		11072		RHSC & DCN			
Department:		A2		Paediatric Acute Receiving Unit - 34 Beds			
Room:		B0308		Single Isolation Bedroom 1 (RHSC)			
Room Number:		G-A2-072		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	STA142	STAND; infusion; twin hook; breaks; mobile		3	
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1	
1		1	TAB073	TABLE. overbed, cantilevered		3	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1	
1		1	TVM2500	TV / monitor flat screen with DVD player		3	
1		1	WAR900	WARDROBE; lockable; 2700H 750W 500D.		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	

<b>ADB</b>	<b>Room Data Sheet</b>	<b>G0510</b>
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Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	G0510	Lobby; Isolation RHSC		
Room Number:	G-A2-074		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Clinical handwashing</li> <li>2) Dispensing disposable aprons.</li> <li>3) Dispensing disposable gloves.</li> <li>4) Disposal of non-clinical waste</li> <li>5) Donning gown and gloves.</li> <li>6) Removal and disposal of gown and gloves</li> </ol>
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Personnel:	1 x persons
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Planning Relationships:	Direct access to single-bed room.
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		G0510
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	G0510	Lobby: Isolation RHSC	
Room Number:	G-A2-074		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  69.0  Positive  /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 25  Ventilation Type: Central Supply  F7 - minimum	
<b>General Notes:</b> Heating type: Warm Air - reheat Battery with: BMS Adjustable Sensor. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	200   Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	30     Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime / 35:nighttime (LAeq,1hr) and 45:nighttime (LAmax,1)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		G0510
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	G0510	Lobby: Isolation RHSC	
Room Number:	G-A2-074	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				G0510	
Project:		11072		RHSC & DCN			
Department:		A2		Paediatric Acute Receiving Unit - 34 Beds			
Room:		G0510		Isolation Bedroom Entrance Lobby			
Room Number:		G-A2-074		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1	
1		1	DIS010	DISPENSER; pack; wall mounted; 600H 600W 300D		2	
1		1	DIS013	DISPENSER, paper towel, wall mounted		2	
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2	
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2	
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
4		4	HOO018	HOOK; coat; single.		1	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1, 1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	

<b>ADB</b>	<b>Room Data Sheet</b>	<b>V1736</b>
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Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	V1736	Assisted Bathroom WC		
Room Number:	G-A2-076		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Use of bath (with assistance)</li> <li>2) Use of toilet (with assistance if required)</li> <li>3) Use of wheelchair accessible hand-wash basin</li> <li>4) Dressing / undressing in privacy</li> <li>5) Hanging clothes and towels</li> <li>6) Use of sanitary chair/commode</li> <li>7) Use of shower chair</li> <li>8) Use of mobile hoist (if required)</li> <li>9) Use of call systems</li> </ol>
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Personnel:	1 x patient 1 x staff Intermittent use
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Planning Relationships:	
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
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Refer to HLM-SZ-SL-SH-200-001 for room areas.

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		V1736
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	V1736	Assisted Bathroom WC	
Room Number:	G-A2-076		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>    10.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 20 - 28  Ventilation Type: Central Dirty Extract  None	
<b>General Notes:</b> Heating: Adjacent Space Transfer Air. Cooling: None			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	200   Y A	@ Floor Not applicable. None Colour rendering characteristics (Ra):80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40    N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  45:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		V1736
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	V1736	Assisted Bathroom WC	
Room Number:	G-A2-076	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				V1736
Project:	11072	RHSC & DCN				
Department:	A2	Paediatric Acute Receiving Unit - 34 Beds				
Room:	V1736	Patients' Assisted Bathroom				
Room Number:	G-A2-076				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS106	BASIN; medium; general pattern; vitreous china; 1 tap right hand hole; no overflow; bottom outlet; 500W 400D. HTM64LBGM		1
1		1	BAT015	BATH; variable height; with control panel and all services.		1
1		1	BIN2501	BIN; sanitary disposal		3
1		1	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CHA094	CHAIR; bathroom		3
1		1	CIS005	CISTERN, concealed, low level, reversible, 7.5 litres, 300H 500W 150D		1
1		1	CLE924	Toilet Brush and Holder		3
1		1	CUP245	CUPBOARD; 1 shelf; lockable; wall mounted; 600H 600W 300D.		1
1		1	DIS013	DISPENSER, paper towel, wall mounted.		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	HOI006	HOIST PATIENT; electric; 24V; track ceiling mounted (Length of the track to suit the individual needs).		1
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO019	HOOK, single, small, wall mounted		1
1		1	MIR023	MIRROR; unbreakable; wall mounted; 650H 300W		1
1		1	MIR2500	MIRROR; wall mounted; 1600H 400W unbreakable.		1
1		1	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
1		1	OUT032	SOCKET outlet switched 13amp double; splashproof.		1
1		1	RAI048	RAIL, grab, vertical, wall mounted, 600mm		1
3		3	RAI048	RAIL, grab, vertical, wall mounted, 600mm		1
1		1	RAI061	RAIL; towel; single stainless steel; 15mm dia. 450mm.		1
2		2	RAI161	RAIL, grab, horizontal, wall mounted, 600mm		1
1		1	RAI174	RAIL, grab, hinged, wall mounted, 650mm with toilet roll holder		1
1		1	RAI175	RAIL; grab; hinged; wall mounted; 750mm.		1
1		1	SEA001	2in1 toilet seat, plastic, double lid with large and small aperture suitable respectively for adults/ adolescents and small children.		1
1		1	SWC025	SWITCH, light		1
1		1	TAP289	TAP, monobloc, pillar mixer, integral thermostatic, short lever		1
1		1	TRA1001	TRACK; curtain; door; length and shape as drawn.		1
1		1	TRO279	TROLLEY PATIENT, shower, 1900W 760D		3
1		1	WAS101	WASTE, unslotted recessed grated, metal, 1.1/4 in, with plug and chain		1
1		1	WAS107	TRAP, bottle, 1.1/4 in, plastic resealing		1
1		1	WCH006	WC with seat, 700mm projection, wall hung, hospital pattern, rimless pan, vitreous china.		1

<b>ADB</b>	<b>Room Data Sheet</b>	<b>M0254</b>
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Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	M0254	Multi disciplinary office		
Room Number:	G-A2-077		Revision Date:	18/09/2014

Activities:	1) Clinical administration 2) Use of computer workstation(s) 3) Use of Telephone 4) Use of Printer 5) Storage of Files and records 6) Secure holding/storing of personal belongings 7) Displaying of notices, information and/or messages			
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Personnel:	10 x staff			
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Planning Relationships:				
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Space Data	Area (m )		Height (mm):	2,400
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			
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ADB	Room Environmental Data		M0254
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	M0254	Multi disciplinary office	
Room Number:	G-A2-077		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  4.0 4.0 Balanced /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 25:  Ventilation Type: Central Supply and Extract.  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300   Y A	@ Desk 750 - 850 AFFL Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40    N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  50:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		M0254
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	M0254	Multi disciplinary office	
Room Number:	G-A2-077	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				M0254
Project:	11072	RHSC & DCN				
Department:	A2	Paediatric Acute Receiving Unit - 34 Beds				
Room:	M0254	Multi-Disciplinary Office				
Room Number:	G-A2-077					Revision Date: 09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BIN2504	BIN: confidential waste		3
1		1	BIN900	BIN: Recycle waste		3
2		2	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	BOA2500	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 900H 600W.		1
1		1	CAB057	CABINET; lateral filing; 4 rails; 2 door; 1830H 910W 560D		3
6		6	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
6		6	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
6		6	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
6		6	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
6		6	DRA056	DRAWER UNIT, 2 drawer, lockable, on castors, 600H 410W 600D		3
3		3	HOO024	HOOK; hat and coat; 1.		1
10		10	LOC012	LOCKER; wall mounted; 340H 300W 300D.		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
13		13	OUT010	SOCKET outlet, switched, 13amp, twin		1
13		13	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	PRI015	PRINTER; label; portable		3
2		2	STF238	STORAGE UNIT; tall; open shelf carcass; adjustable shelves and pack dispenser; 1600H 600W 300D		1
8		8	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1
1		1	TAB022	TABLE; foldaway; wall mounted; 1000H 850W 600D		1
4		4	TEL1000	TELEPHONE; handset.		3
2		2	TRO254	TROLLEY; ward; case notes; capacity up to 40 foolscap or x-ray folders; all-round bumper; 940H 930W 570D		3
2		2	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
2		2	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet			M0251
Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	M0251	Ward Management Office		
Room Number:	G-A2-078	Revision Date:	18/09/2014	
Activities:	1) Clinical administration 2) Use of computer workstation(s) 3) Use of Telephone 4) Use of Printer 5) Discussions and interviews 6) Storage of Files and records 7) Secure holding/storing of personal belongings 8) Assessment / updating of electronic patient records (EPRs) 9) Displaying of notices, information and/or messages			
Personnel:	1 x staff Up to x 2 others.			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,400
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		M0251
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	M0251	Ward Management Office	
Room Number:	G-A2-078		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  4.0 4.0 Balanced /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 25:  Ventilation Type: Central Supply and Extract.  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300   Y A	@ Desk 750 - 850 AFFL Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40    Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  50:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		M0251
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	M0251	Ward Management Office	
Room Number:	G-A2-078	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				M0251
Project:	11072	RHSC & DCN				
Department:	A2	Paediatric Acute Receiving Unit - 34 Beds				
Room:	M0251	Ward Management Office				
Room Number:	G-A2-078				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BIN2504	BIN: confidential waste		3
2		2	BOA2501	BOARD: combined magnetic display/whiteboard; dry-wipe; with pen holder; wall mounted: 900H 600W		1
1		1	CAB2503	CABINET: filing; 4 drawer; lockable; 1320H 465W 620D		3
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
2		2	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand. wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	DES022	DESK; cantilever; single pedestal 3 drawer; cable management; modesty panel; 1600W 800D		3
1		1	DRA056	DRAWER UNIT, 2 drawer, lockable, on castors, 600H 410W 600D		3
3		3	HOO020	HOOK, single, large, wall mounted		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
4		4	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	SWC025	SWITCH, light		1
1		1	TEL1000	TELEPHONE; handset.		3
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1



<b>ADB</b>	<b>Room Data Sheet</b>	<b>Y0646</b>
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Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	Y0646	Disposal hold		
Room Number:	G-A2-082		Revision Date:	18/09/2014

Activities:	1) Holding domestic, clinical and recyclable waste for disposal or reprocessing			
Personnel:	1 x staff intermittent use			
Planning Relationships:	Adjacent to main circulation route.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

**Notes:**

Refer to ME 571 series of drawings for access control (PCP 4.17)

Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision



ADB	Room Environmental Data		Y0646
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	Y0646	Disposal hold	
Room Number:	G-A2-082		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  6.0 10.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Dirty Extract  None	
<b>General Notes:</b> Heating: Adjacent Space Transfer Air. Cooling: None			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	100   Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra):80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40     N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  Not Applicable	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		Y0646
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	Y0646	Disposal hold	
Room Number:	G-A2-082	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			

ADB			Schedule of Components by Room		Y0646	
Project:		11072	RHSC & DCN			
Department:		A2	Paediatric Acute Receiving Unit - 34 Beds			
Room:		Y0646	Disposal Hold		Revision Date: 09/09/2014	
Room Number:		G-A2-082				
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BIN037	BIN wheelle, 770 litre, 1360H1360W 800D		3
1		1	BIN950	BIN, wheelle, 360L		3
1		1	BIN951	BIN, wheelle, 240L		3
1		1	OUT030	SOCKET, outlet switched, 13amp single, splash proof.		1
1		1	PLA002	PLATFORM; step-stand; stackable; portable; 130H 480W 330D		3
1		1	SWC025	SWITCH, light		1
1		1	TRO900	TROLLEY; linen cage		3

ADB	Room Data Sheet			M0724
Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	M0724	Interview room		
Room Number:	G-A2-083	Revision Date:	18/09/2014	
Activities:	1) Discussions and interviews. 2) Use of Telephone 3) Use of laptop computer(s) 4) Provision of information to patients, carers and visitors			
Personnel:	1 x patient 1 x staff 2 x escorts/visitors			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,400
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision.				



ADB	Room Design Character		M0724
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	M0724	Interview room	
Room Number:	G-A2-083	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB			Schedule of Components by Room			M0724			
Project:		11072	RHSC & DCN						
Department:		A2	Paediatric Acute Receiving Unit - 34 Beds						
Room:		M0724	Patient Interview Room				Revision Date: 09/09/2014		
Room Number:		G-A2-083							
Quantity			Code	Description	Alt. Code	Grp			
New	Trans	Total							
1		1	ALA001	PUSH BUTTON, security alarm		1			
2		2	CHA005	CHAIR: easy; low back; upholstered		3			
2		2	CHA017	CHAIR: upright; upholstered; stacking		3			
1		1	CHA079	UNIT CHAIR/SETTEE: 2 seater; easy; with arms; fully upholstered		3			
3		3	HOO024	HOOK: hat and coat; 1.		1			
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1			
1		1	OUT010	SOCKET outlet, switched, 13amp, twin		1			
1		1	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1			
1		1	OUT215	SOCKET outlet, telephone		1			
1		1	SIG2500	SIGN: vacant/engaged; wall mounted.		1			
1		1	SWC034	SWITCH, dimmer, modulating		1			
1		1	TAB056	TABLE: occasional; round; 415H 610mm dia.		3			
1		1	TEL2500	TELEPHONE: handset, wall mounted.		2			

<b>ADB</b>	<b>Room Data Sheet</b>	<b>P0627</b>
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Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	P0627	Pantry		
Room Number:	G-F1-057		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Use of Microwave oven</li> <li>2) Storage of small amounts of dry goods in cupboard(s)</li> <li>3) Storage of refrigerated provisions</li> <li>4) Holding/storing trays, crockery and cutlery</li> <li>5) Crockery and cutlery are washed mechanically</li> <li>6) Disposal of waste and contaminated materials</li> <li>7) Hand-rinsing</li> <li>8) Preparation of beverages, meals and snacks</li> </ol>			
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Personnel:	1 staff Intermittent use			
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Planning Relationships:	Close to in-patient beds and ward dining room, if provided.			
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,400
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			
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<b>ADB</b>	<b>Room Environmental Data</b>	<b>P0627</b>
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Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	P0627	Pantry	
Room Number:	G-F1-057		Revision Date: 18/09/2014

AIR	Requirements	Notes
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28
Summer Temperature (DegC):		
Mechanical Ventilation (Supply ac/hr):	6.0	Ventilation Type: Central Supply and Extract
Mechanical Ventilation (Extract ac/hr):	8.0	
Pressure Relative to Adjoining Space:	Negative	
Filtration (%DSE and % Arrestance):	/	G4 - minimum
Humidity (%RH):		

**General Notes:** Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air

LIGHTING	Requirements	Notes
Service Illumination (Lux):	300	@ Floor
Service Illumination Night (Lux):		Not Applicable
Local Illumination (Lux):		None
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting

**General Notes:** Control: Switch

NOISE	Requirements	Notes
Privacy Factor Required (dB):		
Mechanical Services (NR):	40	Intrusive Noise: SHTM 09-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1
Intrusive Noise (NR Eq):		50:daytime (LAeq,1hr)
*Acceptable Sound Level [L10dB(A)]:		
*Speech Privacy Required:	N	
*Quality Which Cannot Be Tolerated: (* alternative format)		

**General Notes:** Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)

SAFETY	Requirements	Notes
Hot Surface Max. Temp (DegC):	43	
Hot Water Max. Temp (DegC):	41	

**General Notes:** Maximum cold water discharge temperature (degC): 20

FIRE
Enclosure:
Automatic Detection:
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)

ADB	Room Design Character		P0627
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	P0627	Pantry	
Room Number:	G-F1-057	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				P0627
Project:	11072	RHSC & DCN				
Department:	F1	Child & Adolescent Mental Health Services - 12 Beds				
Room:	P0627	Pantry				
Room Number:	G-F1-057				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS015	BASIN; small; stainless steel; apron front; 1 tap hole; 500W 400D		1
1		1	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
1		1	CUP2501	CUPBOARD; base unit; LH door; lockable; 500mm.		1
2		2	CUP2507	CUPBOARD; base unit; 4 drawer; lockable; 500mm.		1
1		1	CUP2509	CUPBOARD; base unit; LH door; lockable; 600mm.		1
2		2	CUP2525	CUPBOARD; wall unit; LH door; 600h; lockable; 600mm.		1
1		1	CUP2526	CUPBOARD; wall unit; RH door; 600h; lockable; 600mm.		1
1		1	DIS007	DISPENSER; paper towel roll; wall mounted		2
1		1	DIS013	DISPENSER; paper towel; wall mounted		2
1		1	DIS030	DISPENSER; soap; disposable single cartridge; lever action; wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	OUT005	SOCKET outlet; switched; 13amp; single		1
4		4	OUT010	SOCKET outlet; switched; 13amp; twin		1
3		3	OUT052	CONNECTION UNIT; switched; 13 amp		1
3		3	OUT315	OUTLET; drinking water for equipment		1
1		1	OVE015	OVEN; microwave; super heavy duty; 1850watt; capacity 26 litres; stainless steel; 370H 465W 615D		3
1		1	REF120	REFRIGERATOR; capacity 160 litre refrigerator; 1650H 650W 610D		3
1		1	SNS1003L	SINKTOP; inset; single bowl and drainer; stainless steel; left hand drainer.		1
1		1	SWC025	SWITCH; light		1
1		1	TAP1000	TAP; hospital pattern; bib; integral thermostatic mixer; single lever with fixed horizontal nozzle. HTM64 TBH2a.		1
1		1	TAP2501	Tap; deck mounted mixer tap		1
1		1	TAP900	Hydro tap; provision of boiling and chilled filtered water; push button activated; complete with drain and underbench filtration unit		1
1		1	TOA2501	TOASTER; automatic; electric; 4 slices		3
1		1	WAS100	WASTE; unslotted flush-grated; metal; 1.1/4 in		1
1		1	WAS102	WASTE; unslotted flush-grated; metal; 1.1/2 in		1
1		1	WAS107	TRAP; bottle; 1.1/4 in; plastic resealing		1
1		1	WAS108	TRAP; bottle; 1.1/2 in; plastic resealing		1
1		1	WAS2500	DISHWASHER; under bench; high temperature; 2 drawer		2
1		1	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1



ADB	Room Data Sheet			V0922
Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	V0922	WC: Accessible		
Room Number:	G-M1-005	Revision Date:	18/09/2014	
Activities:	1) Independent use of wheelchair accessible toilet and adjacent hand-rinse basin 2) Use of call systems			
Personnel:	1 x patient 1 x escort Intermittent use			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,400
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			



ADB	Room Environmental Data		V0922
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	V0922	WC: Accessible	
Room Number:	G-M1-005		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>      10.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Dirty Extract  None	
<b>General Notes:</b> Heating: Adjacent Space Transfer Air. Cooling: None			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	200   Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra):80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	45    N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  55:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		V0922
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	V0922	WC: Accessible	
Room Number:	G-M1-005	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				V0922
Project:	11072	RHSC & DCN				
Department:	M1	DCN Outpatients				
Room:	V0922	WC - Wheelchair accessible				
Room Number:	G-M1-005				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS105	BASIN; small; general pattern; vitreous china; 1 tap hole centred on basin; no overflow; bottom outlet; 400W 300D; HTM64LBGS		1
1		1	BIN2501	BIN; sanitary disposal		3
1		1	CAL005	CEILING, PULL CORD, patient/staff call.		1
1		1	CIS005	CISTERN, concealed, low level, reversible, 7.5 litres, 300H 500W 150D		1
1		1	CLE924	Toilet Brush and Holder		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS015	DISPENSER, toilet paper, dispense individual sheets, wall mounted		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO019	HOOK, single, small, wall mounted		1
1		1	MIR2500	MIRROR; wall mounted; 1600H 400W unbreakable.		1
3		3	RAI048	RAIL, grab, vertical, wall mounted, 600mm		1
1		1	RAI161	RAIL, grab, horizontal, wall mounted, 600mm		1
1		1	RAI175	RAIL; grab; hinged; wall mounted; 750mm.		1
1		1	SWC025	SWITCH, light		1
1		1	TAP289	TAP, monobloc, pillar mixer, integral thermostatic, short lever		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WCH006	WC with seat, 700mm projection, wall hung, hospital pattern, rimless pan, vitreous china.		1

ADB	Room Data Sheet			Y1510
Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	Y1510	DSR		
Room Number:	G-M1-050	Revision Date:	18/09/2014	
Activities:	1) Disposal of liquid waste 2) Filling and emptying cleaning equipment and containers 3) Holding/storing cleaning equipment 4) Hand-rinsing 5) Use of sink			
Personnel:	1 x staff Intermittent use			
Planning Relationships:	Close to areas served.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,400
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision.			

ADB	Room Environmental Data		Y1510																								
Project:	11072	RHSC & DCN																									
Department:	00	Generic Rooms (Financial Close)																									
Room:	Y1510	DSR																									
Room Number:	G-M1-050	Revision Date:	18/09/2014																								
<table border="1"> <thead> <tr> <th>AIR</th> <th>Requirements</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>Winter Temperature (DegC):</td> <td></td> <td>Permissible space temperature range (dry bulb) (degC): 18 - 28</td> </tr> <tr> <td>Summer Temperature (DegC):</td> <td></td> <td>Ventilation Type: Central Dirty Extract</td> </tr> <tr> <td>Mechanical Ventilation (Supply ac/hr):</td> <td>10.0</td> <td></td> </tr> <tr> <td>Mechanical Ventilation (Extract ac/hr):</td> <td>Negative</td> <td>None</td> </tr> <tr> <td>Pressure Relative to Adjoining Space:</td> <td>/</td> <td></td> </tr> <tr> <td>Filtration (%DSE and % Arrestance):</td> <td></td> <td></td> </tr> <tr> <td>Humidity (%RH):</td> <td></td> <td></td> </tr> </tbody> </table>				AIR	Requirements	Notes	Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28	Summer Temperature (DegC):		Ventilation Type: Central Dirty Extract	Mechanical Ventilation (Supply ac/hr):	10.0		Mechanical Ventilation (Extract ac/hr):	Negative	None	Pressure Relative to Adjoining Space:	/		Filtration (%DSE and % Arrestance):			Humidity (%RH):		
AIR	Requirements	Notes																									
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28																									
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Mechanical Ventilation (Supply ac/hr):	10.0																										
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Pressure Relative to Adjoining Space:	/																										
Filtration (%DSE and % Arrestance):																											
Humidity (%RH):																											
General Notes: Heating: Adjacent Space Transfer Air. Cooling: None																											
<table border="1"> <thead> <tr> <th>LIGHTING</th> <th>Requirements</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>Service Illumination (Lux):</td> <td>100</td> <td>@ Floor</td> </tr> <tr> <td>Service Illumination Night (Lux):</td> <td></td> <td>Not Applicable</td> </tr> <tr> <td>Local Illumination (Lux):</td> <td></td> <td>None</td> </tr> <tr> <td>Colour Rendering Required:</td> <td>Y</td> <td>Colour rendering characteristics (Ra):80</td> </tr> <tr> <td>Standby Lighting Grade:</td> <td>A</td> <td>Lighting of the level and quality equal or nearly equal to that provided by normal lighting</td> </tr> </tbody> </table>				LIGHTING	Requirements	Notes	Service Illumination (Lux):	100	@ Floor	Service Illumination Night (Lux):		Not Applicable	Local Illumination (Lux):		None	Colour Rendering Required:	Y	Colour rendering characteristics (Ra):80	Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting						
LIGHTING	Requirements	Notes																									
Service Illumination (Lux):	100	@ Floor																									
Service Illumination Night (Lux):		Not Applicable																									
Local Illumination (Lux):		None																									
Colour Rendering Required:	Y	Colour rendering characteristics (Ra):80																									
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting																									
General Notes: Control: Presence Detection																											
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ADB	Room Design Character		Y1510
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	Y1510	DSR	
Room Number:	G-M1-050	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				Y1510
Project:	11072	RHSC & DCN				
Department:	M1	DCN Outpatients				
Room:	Y1510	DSR				
Room Number:	G-M1-050	Revision Date:				09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
4		4	BUC004	Bucket; plastic hand pails		3
1		1	CIS004	CISTERN disposal unit; concealed; reversible. To suit disposal unit HTM64.		1
1		1	CLE008	SCRUBBING/POLISHING MACHINE, single brush, 110v machine		3
1		1	CLE018	CLEANER VACUUM, dry suction, tub, with accessories, filtered air exhaust		3
1		1	CLE900	CLEANER VACUUM; Vacumat; 22T; Taski-Johnson Diversey		3
2		2	CLE901	MOPS; box		3
1		1	CLE904	Fleece poles		3
1		1	CLE905	High dusters		3
1		1	CLE909	HS Pad drive		3
1		1	CLE910	Scrubbing brush 17		3
1		1	CLE911	Water tank		3
1		1	CLE912	Strainer		3
1		1	CLE913	Mop frame		3
1		1	CLE914	Mop handle		3
1		1	CLE916	DUST PAN		3
1		1	CLE917	SQUEEGEE SWEEPER		3
1		1	CLE922	FREEDOM HANDLE		3
1		1	CLE923	Doodle bug hand scrubber		3
1		1	CLE929	Wands (Dusting)		3
1		1	CLE930	Wands Sleeves		3
1		1	CLE931	Interchange Handles		3
2		2	CLI017	CLIP; spring; 32mm dia. 3; mounted on a wooden batten; wall mounted.		1
6		6	CON061	CONE, warning, 'wet floor'		3
1		1	CUP2517	CUPBOARD; base unit; 2 door; lockable; 1200mm.		1
1		1	CUP263	CUPBOARD; 2 shelves; lockable; wall mounted; 600H 1200W 300D.		1
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DSU013	DISPOSAL UNIT, hopper with flushing rim, 110mm outlet, no tap holes no overflow, back inlet, stainless steel, 900H 600W 600D		1
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
6		6	HOO020	HOOK, single, large, wall mounted		1
1		1	LAD002	LADDER; 3 tread; platform type 750mm height; folding		3
2		2	LOC012	LOCKER; wall mounted; 340H 300W 300D.		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
1		1	OUT010	SOCKET outlet, switched, 13amp, twin		1
2		2	SHE1002	SHELF; 300mm deep; length as drawn.		1
1		1	SWC025	SWITCH, light		1
2		2	TAP809	TAP, bib, lever, hospital pattern, pair hot and cold, 1/2 in.		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TRO068	TROLLEY, cleaners, mop bucket, 3 shelves tray and waste sack holder, 980H 1170W 550D		3

ADB			Schedule of Components by Room		Y1510	
Project:		11072	RHSC & DCN			
Department:		M1	DCN Outpatients			
Room:		Y1510	DSR			
Room Number:		G-M1-050	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WAS102	WASTE, unslotted flush-grated, metal, 1.1/2 in		1
1		1	WAS105	WASTE DISPOSAL UNIT; sink waste.		1
2		2	WAS108	TRAP, bottle, 1.1/2 in, plastic resealing		1
1		1	WKT300R	WORKTOP; dished; stainless steel; with right hand sink bowl; cantilevered from wall; 1200W 650D; HTM63		1

ADB	Room Data Sheet			H1313-01
Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	H1313-01	Meeting room: 4 person		
Room Number:	G-Q1-054	Revision Date:	18/09/2014	
Activities:	1) Meetings and discussions. 2) Use of Multimedia equipment 3) Use of laptop computer(s)			
Personnel:	4 x staff Intermittent use			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,400
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		H1313-01
Project:	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	H1313-01	Meeting room: 4 person	
Room Number:	G-Q1-054		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>           <b>Balanced</b>  /	<b>Notes</b>  Permissible space temperature range (dry bulb) (degC): 18 - 25  Ventilation Type: Central Supply and Extract 10 litres a second per person  G4 - Minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Ceiling Cassette - Chilled Water			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300    Y A	@ Desk 750 - 850 AFFL Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35      Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		H1313-01
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	H1313-01	Meeting room: 4 person	
Room Number:	G-Q1-054	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				H1313-01	
Project:		11072		RHSC & DCN			
Department:		Q1		Radiology			
Room:		H1313-01		Meeting Room - 4 person			
Room Number:		G-Q1-054		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	BOA006	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 1200H 1800W.		1	
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1	
4		4	CHA018	CHAIR; upright; with arms; upholstered; stacking		3	
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1	
1		1	COM033	COMPUTER KEYBOARD		3	
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3	
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
3		3	OUT010	SOCKET outlet, switched, 13amp, twin		1	
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1	
1		1	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1	
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1	
1		1	TAB002	TABLE; 650H 1200W 600D		3	
1		1	TEL1000	TELEPHONE; handset.		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	



ADB	Room Data Sheet			H1313-02
Project:	11072	RHSC & DCN		
Department:	00	Generic Rooms (Financial Close)		
Room:	H1313-02	Meeting room: 6 person		
Room Number:	G-Q1-055	Revision Date:	18/09/2014	
Activities:	1) Meetings and discussions. 2) Use of Multimedia equipment 3) Use of laptop computer(s)			
Personnel:	6 x staff Intermittent use			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			



ADB	Room Design Character		H1313-02
Project	11072	RHSC & DCN	
Department:	00	Generic Rooms (Financial Close)	
Room:	H1313-02	Meeting room: 6 person	
Room Number:	G-Q1-055	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				H1313-02	
Project:		11072		RHSC & DCN			
Department:		Q1		Radiology			
Room:		H1313-02		Meeting Room - 6 person			
Room Number:		G-Q1-055		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	BOA006	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 1200H 1800W.		1	
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1	
6		6	CHA018	CHAIR; upright; with arms; upholstered; stacking		3	
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1	
1		1	COM033	COMPUTER KEYBOARD		3	
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3	
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3	
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
3		3	OUT010	SOCKET outlet, switched, 13amp, twin		1	
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1	
1		1	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1	
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1	
2		2	TAB122	Table; committee; unit type; 720H 1400W 700D		3	
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	

ADB	Room Data Sheet			B1609-01
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	B1609-01	4 beds Low Acuity		
Room Number:	1-B1-031	Revision Date:	18/09/2014	
Activities:	1) Clinical handwashing 2) Patient records reviewed and recorded 3) Patient examinations and assessment 4) Therapeutic and clinical attention from healthcare staff 5) Use of piped medical gases, vacuum and associated equipment 6) Rest and relaxation			
Personnel:	4 x patients 5 x staff 6 x visitors			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,000
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			



ADB	Room Environmental Data		B1609-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B1609-01	4 beds Low Acuity	
Room Number:	1-B1-031		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Natural & Central Supply Air	
Mechanical Ventilation (Extract ac/hr):			
Pressure Relative to Adjoining Space:	Positive		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	100		
Service Illumination Night (Lux):	5.0		
Local Illumination (Lux):	300.0	@ Bed/Trolley 1450 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b>			
Privacy Factor Required (dB):			
Mechanical Services (NR):	30	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		45 daytime / 35 nighttime (LAeq,1hr) and 45 nighttime (LAmax,1)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB	Room Design Character		B1609-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B1609-01	4 beds Low Acuity	
Room Number:	1-B1-031	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				B1609-01
Project:	11072	RHSC & DCN				
Department:	B1	PICU and HDU's - 24 Beds				
Room:	B1609-01	Open Plan Bay (4 beds)				
Room Number:	1-B1-031				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
4		4	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
2		2	BED003	BED; cot; baby; dropside; standard size		3
2		2	BED016	BED, CCU/ITU, radio translucent rising backrest, two-way tilt, height adjustable (685-860), on castors		3
4		4	BED2501	Mobile bed divider 1600W 1350H		3
4		4	BIN2503	BIN; sharps disposal		3
4		4	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted,		1
4		4	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
8		8	CHA2512	CHAIR; upright; with arms; vinyl plastic; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
4		4	COM904	CIS; CART; with CPU ; screen; keyboard & mouse		3
4		4	CON902	Remote monitor control (cabling integrated into the pendant or WIFI)		3
4		4	DIS013	DISPENSER, paper towel, wall mounted		2
4		4	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
4		4	DIS2500	DISPENSER; danicentre; combined glove/apron,		2
4		4	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
4		4	DRA900	Drawer for monitoring consumables.		1
2		2	HOI006	HOIST PATIENT; electric; 24V; track ceiling mounted (Length of the track to suit the individual needs).		1
9		9	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
8		8	HOO900	Drip hook for water bag required.		1
8		8	HOO901	Integral adjustable drip stand with 6 hanging hooks.		1
4		4	HOO902	Hook for suction support; Upper Medirail mounted.		1
4		4	LIG900	Uplighter, pendant mounted.		1
4		4	LIG901	Small examination light.		1
2		2	MAT006	MATTRESS; ITU/CCU bed; extra care		3
2		2	MAT901	MATTRESS, reliever		3
4		4	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3
4		4	MON909	MONITOR; Transport monitor for ITU/Theatre/High Acuity		3
2		2	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
4		4	OUT005	SOCKET outlet, switched, 13amp, single		1
21		21	OUT010	SOCKET outlet, switched, 13amp, twin		1
192		192	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
16		16	OUT095	Earth bonding point, pendant mounted.		1
4		4	OUT121	SOCKET outlet; computer data; double.		1
16		16	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
16		16	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
16		16	OUT470	OUTLET, oxygen, medical		1
16		16	OUT475	OUTLET, vacuum, medical		1
4		4	OUT480	OUTLET, gas scavenging (AGS), medical		1

ADB		Schedule of Components by Room				B1609-01
Project:	11072	RHSC & DCN				
Department:	B1	PICU and HDU's - 24 Beds				
Room:	B1609-01	Open Plan Bay (4 beds)				
Room Number:	1-B1-031				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
8		8	OUT900	Data Input Box for CIS with 16 input channels (Lantronix); uses 1 plug, 1 data point		3
4		4	PEN1000L	PENDANT; critical care; twin arm; left hand monitor arm, with elbow joints; multi movement.		1
4		4	PEN1000R	PENDANT; critical care; twin arm; right hand monitor arm, with elbow joints; multi movement.		1
4		4	PEN1004	PENDANT; critical care; CIS; single arm with elbow joints; multi movement (to NHSL specification).		1
4		4	PRI015	PRINTER; label; portable		3
8		8	RAI900	Lower Medirail with mounts for suction pressure, suction control unused suction catheters.		1
4		4	RAI901	Monitor module rack pole mounted plus CO2/Press.		1
4		4	RAI903	Shelf and mount for monitor (tilt and swivel of screen required)		1
4		4	RAI904	Integral drip stand for transducers with hooks		1
8		8	SHE900	Shelf for airway consumables		1
4		4	SHE901	Lower height adjustable shelf for small monitors.		1
2		2	SUP2500	SUPPORT LEG; for 920 high worktop		1
1		1	SUP2501	SUPPORT LEG; for 720 high worktop		1
4		4	SUR985	Humidifier: 1 plug, 1 Data (Lantronix) cable		3
4		4	SUR986	Docking station with 7 volumetric pumps: 1 plug, 1 Data (Lantronix) cable		3
4		4	SUR987	Nebuliser mounted on Medirail : 1 plug		3
8		8	SUR989	Alaris volumetric pumps; 2 plugs		3
4		4	SUR991	Double oxygen flow meter: Upper Medirail mounted		3
4		4	SUR992	Air flow meter: Upper Medirail mounted		3
4		4	SUR993	Airway pressure monitor: Upper Medirail mounted		3
4		4	SUR999	Enteral feed pump		3
1		1	SWC025	SWITCH, light		1
4		4	SWC034	SWITCH, dimmer, modulating		1
4		4	SYR004	SYRINGE pump; anaesthetic use; with dilrifusor; 115H 400W 180D		3
4		4	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
4		4	TEL1000	TELEPHONE; handset		3
4		4	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
4		4	TRO131	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 450W 450D		3
4		4	UPS003	Uninterrupted power supply (UPS).		1
4		4	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
4		4	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1

<b>ADB</b>	<b>Room Data Sheet</b>	<b>G0510-01</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	G0510-01	Gowning Lobby; Isolation Room		
Room Number:	1-B1-033		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Clinical handwashing</li> <li>2) Dispensing disposable aprons.</li> <li>3) Dispensing disposable gloves.</li> <li>4) Disposal of non-clinical waste</li> <li>5) Donning gown and gloves.</li> <li>6) Removal and disposal of gown and gloves</li> </ol>			
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Personnel:	1 x persons			
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Planning Relationships:	Direct access to single-bed room.			
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			
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ADB	Room Environmental Data		G0510-01																																				
Project:	11072	RHSC & DCN																																					
Department:	01	Key Rooms (Financial Close)																																					
Room:	G0510-01	Gowning Lobby: Isolation Room																																					
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General Notes: Heating type: Warm Air - Reheat Battery with local / BMS Adjustable Sensor Cooling: Comfort Cooled Fresh Air																																							
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ADB	Room Design Character		G0510-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	G0510-01	Gowning Lobby; Isolation Room	
Room Number:	1-B1-033		Revision Date: 18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				G0510-01	
Project:		11072		RHSC & DCN			
Department:		B1		PICU and HDU's - 24 Beds			
Room:		G0510-01		Gowning Lobby Cubicle 10			
Room Number:		1-B1-033		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1	
1		1	DIS010	DISPENSER; pack; wall mounted; 600H 600W 300D		2	
1		1	DIS013	DISPENSER, paper towel, wall mounted		2	
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2	
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2	
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
2		2	HOO019	HOOK, single, small, wall mounted		1	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1, 1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	

ADB	Room Data Sheet			B1401-01
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	B1401-01	Single-bed cubicle: Isolation		
Room Number:	1-B1-036	Revision Date:	18/09/2014	
Activities:	1) Clinical handwashing 2) Patient records reviewed and recorded 3) Patient examinations and assessment 4) Therapeutic and clinical attention from healthcare staff 5) Use of piped medical gases, vacuum and associated equipment 6) Rest and relaxation			
Personnel:	1 x patient 5 x staff 2 x visitors			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm)	3,000
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		B1401-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B1401-01	Single-bed cubicle: Isolation	
Room Number:	1-B1-036	Revision Date:	18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 21-25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	10.0	Supply via lobby	
Mechanical Ventilation (Extract ac/hr):			
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	F7 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating type: Adjacent space transfer air with BMS Adjustable Sensor . Cooling: Comfort Cooled Fresh Air			
LIGHTING	Requirements	Notes	
Service Illumination (Lux):	100		
Service Illumination Night (Lux):	5.0		
Local Illumination (Lux):	300.0	@ Bed/trolley 1450 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
NOISE	Requirements	Notes	
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	30	SHTM 09-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime / 35:nighttime (LAeq,1hr) and 45:nighttime (LAmax,1)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
SAFETY	Requirements	Notes	
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
FIRE	Requirements	Notes	
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		B1401-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B1401-01	Single-bed cubicle: Isolation	
Room Number:	1-B1-036	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				B1401-01	
Project:		11072		RHSC & DCN			
Department:		B1		PICU and HDU's - 24 Beds			
Room:		B1401-01		Single Bed Isolation Cubicle 10		Revision Date: 09/09/2014	
Room Number:		1-B1-036					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	PEN1000L	PENDANT; critical care; twin arm; left hand monitor arm, with elbow joints; multi movement.		1	
1		1	PEN1000R	PENDANT; critical care; twin arm; right hand monitor arm, with elbow joints; multi movement.		1	
1		1	PEN1004	PENDANT; critical care; CIS; single arm with elbow joints; multi movement (to NHS specification).		1	
1		1	PRI015	PRINTER; label; portable		3	
2		2	RAI900	Lower Medirail with mounts for suction pressure, suction control unused suction catheters.		1	
1		1	RAI901	Monitor module rack pole mounted plus CO2/Press.		1	
1		1	RAI903	Shelf and mount for monitor (tilt and swivel of screen required)		1	
1		1	RAI904	Integral drip stand for transducers with hooks		1	
2		2	SHE900	Shelf for airway consumables		1	
1		1	SHE901	Lower height adjustable shelf for small monitors.		1	
1		1	SUR985	Humidifier: 1 plug, 1 Data (Lantronix) cable		3	
1		1	SUR986	Docking station with 7 volumetric pumps; 1 plug, 1 Data (Lantronix) cable		3	
1		1	SUR987	Nebulser mounted on Medirail : 1 plug		3	
2		2	SUR989	Alaris volumetric pumps: 2 plugs		3	
1		1	SUR991	Double oxygen flow meter: Upper Medirail mounted		3	
1		1	SUR992	Air flow meter: Upper Medirail mounted		3	
1		1	SUR993	Airway pressure monitor: Upper Medirail mounted		3	
1		1	SUR999	Enteral feed pump		3	
1		1	SWC025	SWITCH, light		1	
1		1	SWC034	SWITCH, dimmer, modulating		1	
1		1	SYR004	SYRINGE pump; anaesthetic use; with diprifusor; 115H 400W 180D		3	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL1000	TELEPHONE; handset.		3	
1		1	TRO131	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 450W 450D		3	
1		1	TVM2500	TV / monitor flat screen with DVD player.		3	
1		1	UPS003	Uninterrupted power supply (UPS).		1	
1		1	VEN2500	Ventilator free standing: 1 plug, 1 Data (Lantronix) cable (would be the Servo I)		3	
2		2	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	



ADB		Schedule of Components by Room				B1401-01	
Project:		11072		RHSC & DCN			
Department:		B1		PICU and HDU's - 24 Beds			
Room:		B1401-01		Single Bed Isolation Cubicle 10		Revision Date: 09/09/2014	
Room Number:		1-B1-036					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1	
1		1	BED003	BED; cot; baby; dropside; standard size		3	
1		1	BED2501	Mobile bed divider 1500W 1350H		3	
1		1	BIN2503	BIN; sharps disposal		3	
1		1	BRA2502	BRACKET; TV; height adjustable; swivel; wall mounted.		1	
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1	
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3	
2		2	CHA2512	CHAIR; upright; with arms; vinyl plastic; stacking		3	
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1	
1		1	COM904	CIS; CART; with CPU ; screen; keyboard & mouse		3	
1		1	CON902	Remote monitor control (cabling integrated into the pendant or WiFi)		3	
1		1	DIS013	DISPENSER, paper towel, wall mounted		2	
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2	
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2	
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
1		1	DRA900	Drawer for monitoring consumables.		1	
1		1	HOI006	HOIST PATIENT; electric; 24V; track ceiling mounted (Length of the track to suit the individual needs).		1	
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
2		2	HOO900	Drip hook for water bag required.		1	
2		2	HOO901	Integral adjustable drip stand with 6 hanging hooks.		1	
1		1	HOO902	Hook for suction support: Upper Medirail mounted.		1	
1		1	LIG900	Uplighter, pendant mounted.		1	
1		1	LIG901	Small examination light.		1	
1		1	MAT901	MATTRESS, reliever		3	
1		1	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3	
1		1	MON909	MONITOR; Transport monitor for ITU/Theatre/High Acuity		3	
1		1	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
5		5	OUT010	SOCKET outlet, switched, 13amp, twin		1	
48		48	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1	
4		4	OUT095	Earth bonding point, pendant mounted.		1	
1		1	OUT121	SOCKET outlet; computer data; double.		1	
4		4	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1	
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1	
4		4	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1	
4		4	OUT470	OUTLET, oxygen, medical		1	
4		4	OUT475	OUTLET, vacuum, medical		1	
1		1	OUT480	OUTLET, gas scavenging (AGS), medical		1	
2		2	OUT900	Data Input Box for CIS with 16 input channels (Lantronix); uses 1 plug, 1 data point		3	



ADB	Room Data Sheet			B1401
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	B1401	Single-bed cubicle		
Room Number:	1-B1-037	Revision Date:	18/09/2014	
Activities:	1) Clinical handwashing 2) Patient records reviewed and recorded 3) Patient examinations and assessment 4) Therapeutic and clinical attention from healthcare staff 5) Use of piped medical gases, vacuum and associated equipment 6) Rest and relaxation			
Personnel:	1 x patient 5 x staff 2 x visitors			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm)	3,000
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligatureStrategy for anti-ligature provision			

ADB	Room Environmental Data		B1401
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B1401	Single-bed cubicle	
Room Number:	1-B1-037		Revision Date: 18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18-25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Natural & Central Supply Air	
Mechanical Ventilation (Extract ac/hr):		via ensuite	
Pressure Relative to Adjoining Space:	Positive		
Filtration (%DSE and % Arrestance):	/	G4 - Minimum	
Humidity (%RH):			
General Notes: Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
LIGHTING			
Service Illumination (Lux):	100		
Service Illumination Night (Lux):	5.0		
Local Illumination (Lux):	300.0	@ Bed/trolley 1450 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra):80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
General Notes: Control with Dimmer			
NOISE			
Privacy Factor Required (dB):			
Mechanical Services (NR):	30	Intrusive Noise:	
Intrusive Noise (NR Leq):		SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
		40 daytime / 35 nighttime (LAeq,1hr) and 45 nighttime (LAmax,1)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated:			
(* alternative format)			
General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
SAFETY			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
General Notes: Maximum cold water discharge temperature (degC): 20			
FIRE			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		B1401
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B1401	Single-bed cubicle	
Room Number:	1-B1-037	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				B1401
Project:	11072	RHSC & DCN				
Department:	B1	PICU and HDU's - 24 Beds				
Room:	B1401	Single Bed Cubicle 9				
Room Number:	1-B1-037				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BED003	BED; cot; baby; dropside; standard size		3
1		1	BED2501	Mobile bed divider 1500W 1350H		3
1		1	BIN2503	BIN; sharps disposal		3
1		1	BRA2502	BRACKET; TV; height adjustable; swivel; wall mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
2		2	CHA2512	CHAIR; upright; with arms; vinyl plastic; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM904	CIS; CART; with CPU ; screen; keyboard & mouse		3
1		1	CON902	Remote monitor control (cabling integrated into the pendant or WiFi)		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DRA900	Drawer for monitoring consumables.		1
1		1	HOI006	HOIST PATIENT; electric; 24V; track ceiling mounted (Length of the track to suit the individual needs).		1
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO900	Drip hook for water bag required.		1
2		2	HOO901	Integral adjustable drip stand with 6 hanging hooks.		1
1		1	HOO902	Hook for suction support: Upper Medirail mounted.		1
1		1	LIG900	Uplighter, pendant mounted.		1
1		1	LIG901	Small examination light.		1
1		1	MAT901	MATTRESS, reliever		3
1		1	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3
1		1	MON909	MONITOR; Transport monitor for ITU/Theatre/High Acuity		3
1		1	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
5		5	OUT010	SOCKET outlet, switched, 13amp, twin		1
48		48	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
4		4	OUT095	Earth bonding point, pendant mounted.		1
1		1	OUT121	SOCKET outlet; computer data; double.		1
4		4	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
4		4	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
4		4	OUT470	OUTLET, oxygen, medical		1
4		4	OUT475	OUTLET, vacuum, medical		1
1		1	OUT480	OUTLET, gas scavenging (AGS), medical		1
2		2	OUT900	Data Input Box for CIS with 16 input channels (Lantronix); uses 1 plug, 1 data point		3



ADB		Schedule of Components by Room				B1401
Project:	11072	RHSC & DCN				
Department:	B1	PICU and HDU's - 24 Beds				
Room:	B1401	Single Bed Cubicle 9				
Room Number:	1-B1-037				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	PEN1000L	PENDANT; critical care; twin arm; left hand monitor arm, with elbow joints; multi movement.		1
1		1	PEN1000R	PENDANT; critical care; twin arm; right hand monitor arm, with elbow joints; multi movement.		1
1		1	PEN1004	PENDANT; critical care; CIS; single arm with elbow joints; multi movement (to NHS specification).		1
1		1	PRI015	PRINTER; label; portable		3
2		2	RAI900	Lower Medirail with mounts for suction pressure, suction control unused suction catheters.		1
1		1	RAI901	Monitor module rack pole mounted plus CO2/Press.		1
1		1	RAI903	Shelf and mount for monitor (tilt and swivel of screen required)		1
1		1	RAI904	Integral drip stand for transducers with hooks		1
2		2	SHE900	Shelf for airway consumables		1
1		1	SHE901	Lower height adjustable shelf for small monitors.		1
1		1	SUR985	Humidifier: 1 plug, 1 Data (Lantronix) cable		3
1		1	SUR986	Docking station with 7 volumetric pumps; 1 plug, 1 Data (Lantronix) cable		3
1		1	SUR987	Nebulser mounted on Medirail : 1 plug		3
2		2	SUR989	Alaris volumetric pumps: 2 plugs		3
1		1	SUR991	Double oxygen flow meter: Upper Medirail mounted		3
1		1	SUR992	Air flow meter: Upper Medirail mounted		3
1		1	SUR993	Airway pressure monitor: Upper Medirail mounted		3
1		1	SUR999	Enteral feed pump		3
1		1	SWC025	SWITCH, light		1
1		1	SWC034	SWITCH, dimmer, modulating		1
1		1	SYR004	SYRINGE pump; anaesthetic use; with diprifusor; 115H 400W 180D		3
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset.		3
1		1	TRO131	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 450W 450D		3
1		1	TVM2500	TV / monitor flat screen with DVD player.		3
1		1	UPS003	Uninterrupted power supply (UPS).		1
1		1	VEN2500	Ventilator free standing: 1 plug, 1 Data (Lantronix) cable (would be the Servo I)		3
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1

ADB	Room Design Character		B1609-02
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B1609-02	4 beds High Acuity	
Room Number:	1-B1-063	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB	Room Data Sheet			B1609-02
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	B1609-02	4 beds High Acuity		
Room Number:	1-B1-063	Revision Date:	18/09/2014	
Activities:	1) Clinical handwashing 2) Patient records reviewed and recorded 3) Patient examinations and assessment 4) Therapeutic and clinical attention from healthcare staff 5) Use of piped medical gases, vacuum and associated equipment 6) Rest and relaxation			
Personnel:	4 x patients 5 x staff 6 x visitors			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,000
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		B1609-02
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B1609-02	4 beds High Acuity	
Room Number:	1-B1-063		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Natural & Central Supply Air	
Mechanical Ventilation (Extract ac/hr):			
Pressure Relative to Adjoining Space:	Positive		
Filtration (%DSE and % Arrestance):	/	G4 minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	100		
Service Illumination Night (Lux):	5.0		
Local Illumination (Lux):	300.0	@ Bed/Trolley 1450 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b>			
Privacy Factor Required (dB):	30	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Mechanical Services (NR):		45 daytime / 35 nighttime (LAeq,1hr) and 45 nighttime (LAmax,1)	
Intrusive Noise (NR Eq):			
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	N		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB		Schedule of Components by Room				B1609-02
Project:	11072	RHSC & DCN				
Department:	B1	PICU and HDU's - 24 Beds				
Room:	B1609-02	Open Plan Bay (4 beds)				
Room Number:	1-B1-063					Revision Date: 09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
4		4	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
2		2	BED003	BED; cot; baby; dropside; standard size		3
2		2	BED016	BED, CCU/ITU, radio translucent rising backrest, two-way tilt, height adjustable (685-860), on castors		3
4		4	BED2501	Mobile bed divider 1600W 1350H		3
4		4	BIN2503	BIN; sharps disposal		3
4		4	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted,		1
4		4	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
8		8	CHA2512	CHAIR; upright; with arms; vinyl plastic; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
4		4	COM904	CIS; CART; with CPU ; screen; keyboard & mouse		3
4		4	CON902	Remote monitor control (cabling integrated into the pendant or WIFI)		3
4		4	DIS013	DISPENSER, paper towel, wall mounted		2
4		4	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
4		4	DIS2500	DISPENSER; danicentre; combined glove/apron,		2
4		4	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
4		4	DRA900	Drawer for monitoring consumables.		1
2		2	HOI006	HOIST PATIENT; electric; 24V; track ceiling mounted (Length of the track to suit the individual needs).		1
9		9	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
8		8	HOO900	Drip hook for water bag required.		1
8		8	HOO901	Integral adjustable drip stand with 6 hanging hooks.		1
4		4	HOO902	Hook for suction support; Upper Medirail mounted.		1
4		4	LIG900	Uplighter, pendant mounted.		1
4		4	LIG901	Small examination light.		1
2		2	MAT006	MATTRESS; ITU/CCU bed; extra care		3
2		2	MAT901	MATTRESS, reliever		3
4		4	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3
4		4	MON909	MONITOR; Transport monitor for ITU/Theatre/High Acuity		3
2		2	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
4		4	OUT005	SOCKET outlet, switched, 13amp, single		1
21		21	OUT010	SOCKET outlet, switched, 13amp, twin		1
192		192	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
16		16	OUT095	Earth bonding point, pendant mounted.		1
4		4	OUT121	SOCKET outlet; computer data; double.		1
16		16	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
16		16	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
16		16	OUT470	OUTLET, oxygen, medical		1
16		16	OUT475	OUTLET, vacuum, medical		1
4		4	OUT480	OUTLET, gas scavenging (AGS), medical		1



ADB		Schedule of Components by Room			B1609-02	
Project:		11072	RHSC & DCN			
Department:		B1	PICU and HDU's - 24 Beds			
Room:		B1609-02	Open Plan Bay (4 beds)		Revision Date: 09/09/2014	
Room Number:		1-B1-063				
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
8		8	OUT900	Data Input Box for CIS with 16 input channels (Lantronix); uses 1 plug, 1 data point		3
4		4	PEN1000L	PENDANT; critical care; twin arm; left hand monitor arm, with elbow joints; multi movement.		1
4		4	PEN1000R	PENDANT; critical care; twin arm; right hand monitor arm, with elbow joints; multi movement.		1
4		4	PEN1004	PENDANT; critical care; CIS; single arm with elbow joints; multi movement (to NHS specification).		1
4		4	PRI015	PRINTER; label; portable		3
8		8	RAI900	Lower Medirail with mounts for suction pressure, suction control unused suction catheters.		1
4		4	RAI901	Monitor module rack pole mounted plus CO2/Press.		1
4		4	RAI903	Shelf and mount for monitor (tilt and swivel of screen required)		1
4		4	RAI904	Integral drip stand for transducers with hooks		1
8		8	SHE900	Shelf for airway consumables		1
4		4	SHE901	Lower height adjustable shelf for small monitors.		1
2		2	SUP2500	SUPPORT LEG; for 920 high worktop		1
4		4	SUR985	Humidifier: 1 plug, 1 Data (Lantronix) cable		3
4		4	SUR986	Docking station with 7 volumetric pumps: 1 plug, 1 Data (Lantronix) cable		3
4		4	SUR987	Nebuliser mounted on Medirail : 1 plug		3
8		8	SUR989	Alaris volumetric pumps: 2 plugs		3
4		4	SUR991	Double oxygen flow meter: Upper Medirail mounted		3
4		4	SUR992	Air flow meter: Upper Medirail mounted		3
4		4	SUR993	Airway pressure monitor: Upper Medirail mounted		3
4		4	SUR999	Enteral feed pump		3
1		1	SWC025	SWITCH, light		1
4		4	SWC034	SWITCH, dimmer, modulating		1
4		4	SYR004	SYRINGE pump; anaesthetic use; with diprifusor; 115H 400W 180D		3
4		4	TAP834	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
4		4	TEL1000	TELEPHONE; handset		3
4		4	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
4		4	TRO131	TROLLEY; dressing/instrument, stainless steel, buffered, 870H 450W 450D		3
4		4	UPS003	Uninterrupted power supply (UPS).		1
4		4	VEN2500	Ventilator free standing: 1 plug, 1 Data (Lantronix) cable (would be the Servo i)		3
4		4	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
4		4	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet			B1407-01
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	B1407-01	Open Plan Bay 3 cots: Neonatal		
Room Number:	1-B1-065	Revision Date:	18/09/2014	
Activities:	1) Observation, medical and nursing care and treatment of baby needing intensive care and/or segregation facilities 2) Feeding a baby in an incubator, or sitting in a chair 3) Holding/storing sterile equipment 4) Disposal of waste and contaminated materials 5) Preparation of intravenous fluids for infusion 6) Donning gown and gloves. 7) Disposal of used protective clothing 8) Nappy changing			
Personnel:	3 x neonates 2 x staff (up to 5 per cot in an emergency). 6 x visitors			
Planning Relationships:	Staff base; located nearby.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,000
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision				

ADB	Room Environmental Data		B1407-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B1407-01	Open Plan Bay 3 cots: Neonatal	
Room Number:	1-B1-065	Revision Date:	18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18-25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Natural & Central Supply Air	
Mechanical Ventilation (Extract ac/hr):		via ensuite	
Pressure Relative to Adjoining Space:	Positive		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
General Notes: Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
LIGHTING			
Service Illumination (Lux):	100		
Service Illumination Night (Lux):	5.0		
Local Illumination (Lux):	300.0	@ Bed/trolley 1450 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra):80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
General Notes: Control with Dimmer			
NOISE			
Privacy Factor Required (dB):			
Mechanical Services (NR):	30	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Leq):		45 daytime / 35 nighttime (LAeq,1hr) and 45 nighttime (LAmax,1)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	N		
*Quality Which Cannot Be Tolerated:			
(* alternative format)			
General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
SAFETY			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
General Notes: Maximum cold water discharge temperature (degC): 20			
FIRE			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB	Room Design Character		B1407-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B1407-01	Open Plan Bay 3 cots: Neonatal	
Room Number:	1-B1-065	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				B1407-01
Project:	11072	RHSC & DCN				
Department:	B1	PICU and HDU's - 24 Beds				
Room:	B1407-01	Open Plan Bay (3 cots)				
Room Number:	1-B1-065				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
3		3	BIN2503	BIN; sharps disposal		3
3		3	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
3		3	CHA017	CHAIR; upright; upholstered; stacking		3
3		3	CHA054	CHAIR nursing with side panels		3
3		3	CHA2509	CHAIR; height adjustable 540-790		3
3		3	COM904	CIS; CART; with CPU ; screen; keyboard & mouse		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
3		3	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
3		3	DRA900	Drawer for monitoring consumables.		1
6		6	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
3		3	HOO900	Drip hook for water bag required.		1
3		3	HOO902	Hook for suction support: Upper Medirail mounted.		1
3		3	INC004	INCUBATOR; baby		3
3		3	LIG901	Small examination light.		1
3		3	LOC002	LOCKER, bedside, 3 compartment, towel rail at rear, on castors, 902H 485W 485D		3
3		3	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3
3		3	MON909	MONITOR; Transport monitor for ITU/Theatre/High Acuity		3
3		3	OUT005	SOCKET outlet, switched, 13amp, single		1
12		12	OUT010	SOCKET outlet, switched, 13amp, twin		1
72		72	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
6		6	OUT095	Earth bonding point, pendant mounted.		1
3		3	OUT121	SOCKET outlet; computer data; double.		1
6		6	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
6		6	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
6		6	OUT470	OUTLET, oxygen, medical		1
6		6	OUT475	OUTLET, vacuum, medical		1
3		3	OUT480	OUTLET, gas scavenging (AGS), medical		1
3		3	OUT900	Data Input Box for CIS with 16 input channels (Lantronix); uses 1 plug, 1 data point		3
3		3	PEN1004	PENDANT; critical care; CIS; single arm with elbow joints; multi movement (to NHSL specification).		1
3		3	PEN1005	PENDANT; critical care; single arm (to NHSL specification).		1
3		3	RAI900	Lower Medirail with mounts for suction pressure, suction control unused suction catheters.		1
3		3	RAI903	Shelf and mount for monitor (tilt and swivel of screen required)		1
6		6	RAI904	Integral drip stand for transducers with hooks		1
2		2	SHE901	Lower height adjustable shelf for small monitors.		1
2		2	STA142	STAND; infusion; twin hook; breaks; mobile		3
6		6	SUR990	Alaris volumetric pumps; 2 plugs		3

ADB			Schedule of Components by Room		B1407-01	
Project:		11072		RHSC & DCN		
Department:		B1		PICU and HDU's - 24 Beds		
Room:		B1407-01		Open Plan Bay (3 cots)		
Room Number:		1-B1-065		Revision Date:		09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
3		3	SUR991	Double oxygen flow meter: Upper Medirail mounted		3
3		3	SUR992	Air flow meter: Upper Medirail mounted		3
3		3	SUR993	Airway pressure monitor: Upper Medirail mounted		3
3		3	SUR999	Enteral feed pump		3
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1
6		6	SYR004	SYRINGE pump; anaesthetic use; with diprifusor; 115H 400W 180D		3
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
3		3	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
3		3	TRO902	GRATNELL TROLLEY 500x500 x870mm		3
3		3	UPS003	Uninterrupted power supply (UPS).		1
2		2	VEN2501	Ventilator free standing; 1 plug, 1 Data (Lantronix) cable (would be the SIPAP)		3
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1

ADB	Room Data Sheet			B1421
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	B1421	Single cot cubicle: neonatal		
Room Number:	1-B1-075	Revision Date:	18/09/2014	
Activities:	1) Observation, medical and nursing care and treatment of baby needing intensive care and/or segregation facilities 2) Feeding a baby in an incubator, or sitting in a chair 3) Disposal of waste and contaminated materials 4) Use of scrub-up trough 5) Medication prepared for administration 6) Preparation of intravenous fluids for infusion 7) Donning gown and gloves. 8) Disposal of used protective clothing 9) Nappy changing			
Personnel:	1 x patient 5 x staff 2 x visitors			
Planning Relationships:	Within view from the staff communications base.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,000
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision				



ADB	Room Environmental Data		B1421
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B1421	Single cot cubicle: neonatal	
Room Number:	1-B1-075	Revision Date:	18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18-25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Natural & Central Supply Air	
Mechanical Ventilation (Extract ac/hr):		via ensuite	
Pressure Relative to Adjoining Space:	Positive		
Filtration (%DSE and % Arrestance):		G4 - minimum	
Humidity (%RH):			
General Notes: Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
LIGHTING			
Service Illumination (Lux):	100		
Service Illumination Night (Lux):	5.0		
Local Illumination (Lux):	300.0	@ Bed/trolley 1450 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra):80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
General Notes: Control with Dimmer			
NOISE			
Privacy Factor Required (dB):			
Mechanical Services (NR):	30	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Leq):		40 daytime / 35 nighttime (LAeq,1hr) and 45 nighttime (LAmax,1)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
SAFETY			
Hot Surface Max. Temp (DegC):	41		
Hot Water Max. Temp (DegC):	43		
General Notes: Maximum cold water discharge temperature (degC): 20			
FIRE			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		B1421
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B1421	Single cot cubicle: neonatal	
Room Number:	1-B1-075	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				B1421
Project:	11072	RHSC & DCN				
Department:	B1	PICU and HDU's - 24 Beds				
Room:	B1421	Single Cot Cubicle				
Room Number:	1-B1-075				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BED020	BED; fold down; 760 mm width mattress; vertical.		1
1		1	BIN2503	BIN; sharps disposal		3
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	BRA2501	BRACKET; holder; suction unit; pendant mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CHA054	CHAIR nursing with side panels		3
1		1	CHA2509	CHAIR; height adjustable 540-790		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
2		2	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DRA900	Drawer for monitoring consumables.		1
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOO900	Drip hook for water bag required.		1
1		1	HOO902	Hook for suction support: Upper Medirail mounted.		1
1		1	INC004	INCUBATOR; baby		3
1		1	LIG901	Small examination light.		1
1		1	LOC002	LOCKER, bedside, 3 compartment, towel rail at rear, on castors, 902H 485W 485D		3
1		1	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3
1		1	MON909	MONITOR; Transport monitor for ITU/Theatre/High Acuity		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
6		6	OUT010	SOCKET outlet, switched, 13amp, twin		1
24		24	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
2		2	OUT095	Earth bonding point, pendant mounted.		1
1		1	OUT121	SOCKET outlet; computer data; double.		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
2		2	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
2		2	OUT470	OUTLET, oxygen, medical		1
2		2	OUT475	OUTLET, vacuum, medical		1
1		1	OUT480	OUTLET, gas scavenging (AGS), medical		1
1		1	OUT900	Data Input Box for CIS with 16 input channels (Lantronix): uses 1 plug, 1 data point		3
1		1	PEN1004	PENDANT; critical care; CIS; single arm with elbow joints; multi movement (to NHSL specification).		1
1		1	PEN1005	PENDANT; critical care; single arm (to NHSL specification).		1
1		1	PRI015	PRINTER; label; portable		3
1		1	RAI900	Lower Medirail with mounts for suction pressure, suction control unused suction catheters.		1

ADB		Schedule of Components by Room				B1421	
Project:		11072		RHSC & DCN			
Department:		B1		PICU and HDU's - 24 Beds			
Room:		B1421		Single Cot Cubicle			
Room Number:		1-B1-075		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	RAI903	Shelf and mount for monitor (tilt and swivel of screen required)		1	
2		2	RAI904	Integral drip stand for transducers with hooks		1	
1		1	SHE901	Lower height adjustable shelf for small monitors.		1	
1		1	STA142	STAND; infusion; twin hook; breaks; mobile		3	
2		2	SUR990	Alaris volumetric pumps: 2 plugs		3	
1		1	SUR991	Double oxygen flow meter: Upper Medirail mounted		3	
1		1	SUR992	Air flow meter: Upper Medirail mounted		3	
1		1	SUR993	Airway pressure monitor: Upper Medirail mounted		3	
1		1	SUR999	Enteral feed pump		3	
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1	
2		2	SYR004	SYRINGE pump; anaesthetic use; with dilrifusor; 115H 400W 180D		3	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2	
1		1	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1	
1		1	TRO902	GRATNELL TROLLEY 500x500 x870mm		3	
1		1	TVM2500	TV / monitor flat screen with DVD player		3	
1		1	UPS003	Uninterrupted power supply (UPS).		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	

ADB	Room Data Sheet			C0230
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	C0230	Consulting/examination room: Orthoptic		
Room Number:	1-D3-007	Revision Date:	18/09/2014	
Activities:	1) Consultations. 2) Assessment / updating of electronic patient records (EPRs) 3) Clinical handwashing 4) Storage of sterile supplies and consumables on a trolley 5) Minimally invasive clinical procedures undertaken from one or both sides of the couch.			
Personnel:	1 x patient 2 x staff 2 x escorts			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		C0230
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0230	Consulting/examination room: Orthoptic	
Room Number:	1-D3-007		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	3.0	Ventilation Type: Central Supply and extract	
Mechanical Ventilation (Extract ac/hr):	3.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	300		
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):	1,000.0	@ Bed/Trolley 1450 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/Dimmer			
<b>NOISE</b>			
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	35	SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB	Room Design Character		C0230
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0230	Consulting/examination room: Orthoptic	
Room Number:	1-D3-007	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:	Blinds will be required to darken room for general ophthalmic examination.		

ADB		Schedule of Components by Room				C0230
Project:	11072	RHSC & DCN				
Department:	D3	Orthoptics				
Room:	C0230	C/E Orthoptic (6 metre room)				
Room Number:	1-D3-007				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BLI2500	Blind; total blackout boxed; length as indicated. Wipeable.		1
1		1	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
1		1	CAS900	OPHTHALMOSCOPE; indirect		3
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
1		1	CHA031	CHAIR; child; upright; stacking; seat height 380mm		3
2		2	CHA083	CHAIR, stacking, polypropylene, with back and seat pads		3
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	DIA2501	DIAGNOSTIC SET; retinoscope/ophthalmoscope; wall mounted.		2
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DRA056	DRAWER UNIT, 2 drawer, lockable, on castors, 600H 410W 600D		3
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO024	HOOK; hat and coat; 1.		1
1		1	LEN900	LENS SET, Trial		3
1		1	LIG003	LUMINAIRE, reading, adjustable arm, 100 watt		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
3		3	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1
2		2	STF125	STORAGE UNIT; lower; cupboard; 1 door; 1 shelf; 550H 500W 450D		1
3		3	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1
1		1	SYN001	SYNOPTOPHORE; includes set of 12 pairs of slides; with accessories set; orthoptics		3
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset.		3
1		1	TES005	Bailey-Lovie-LugMar; 6m; with controls; wall mounted		2
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1



ADB	Room Data Sheet			C0517
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	C0517	ABR Room		
Room Number:	1-D4-002	Revision Date:	18/09/2014	
Activities:	1) Audiometric examination and test procedures 2) Use of specialised visual aids and multi-media equipment 3) Use of recording equipment 4) Use of computer workstation(s) 5) Recording of patient data/notes			
Personnel:	1 x patient 3 x staff 2 x escorts			
Planning Relationships:	Easy access from waiting area.  Adjacent to Audiology observation and control room.  Clinical handwash to be located outside of the room/booth.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM SZ SL SH 200 001 for room area Height is the nominal internal dimension of a standard booth and is subject to design/local decision.  Room area includes booth wall thickness but excludes surrounding void and space for basin.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		C0517
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0517	ABR Room	
Room Number:	1-D4-002		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  10.0  Positive /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Supply Air  F7 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500  1,000.0 Y A	Not Applicable @ Bed / Trolley 1450 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35    Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		C0517
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0517	ABR Room	
Room Number:	1-D4-002	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB			Schedule of Components by Room				C0517	
Project:		11072		RHSC & DCN				
Department:		D4		Audiology				
Room:		C0517		ABR Room				
Room Number:		1-D4-002		Revision Date:		09/09/2014		
Quantity			Code	Description	Alt. Code	Grp		
New	Trans	Total						
1		1	ALA001	PUSH BUTTON, security alarm		1		
1		1	ALA020	LAMP INDICATING fire alarm initiation, wall mounted		1		
1		1	AUD005	AUDIOMETER; clinical; diagnostic; 195H 475W 450D		3		
1		1	AUD8000	EVOKED POTENTIAL Instrument: complete unit with Videotoscopy; 380H 365W 255D		3		
1		1	AUD8001	TYMPANOMETER; High Frequency; 380H 365W 255D		3		
1		1	AUD8002	Automated Auditory Brainstem Responses (AABR)		3		
1		1	AUR2500	AURICLE; with videotoscopy		3		
2		2	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3		
1		1	CHA006	CHAIR; easy; with open arms; low back; upholstered		3		
1		1	CHA091	CHAIR; easy; reclining; 1000H 630W 1880D		3		
1		1	COM033	COMPUTER KEYBOARD		3		
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3		
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3		
3		3	CUP2563	CUPBOARD; 2 shelves; free standing; 800H x 600W x 500D		3		
1		1	DES2504	DESK UNIT; free standing with drawers; cable management; adjustable legs; modesty panel; 1600W 800D		3		
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2		
2		2	DRA056	DRAWER UNIT, 2 drawer, lockable, on castors, 600H 410W 600D		3		
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3		
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1		
11		11	OUT010	SOCKET outlet, switched, 13amp, twin		1		
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1		
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1		
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1		
1		1	TRO021	TROLLEY; 4 sets of runners; 850H 600W 600D		3		

<b>ADB</b>	<b>Room Data Sheet</b>	<b>C0516</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	C0516	Observation/Control room		
Room Number:	1-D4-006		Revision Date:	18/09/2014

Activities:	1) Observing activities within Audiology booth through panel 2) Use of computer workstation(s)			
Personnel:	3 x staff.			
Planning Relationships:	Adjacent to paediatric audiology booth.			
Space Data	Area (m )		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			
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ADB	Room Environmental Data		C0516
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0516	Observation/Control room	
Room Number:	1-D4-006		Revision Date: 18/09/2014
<b>AIR</b>			
Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>   4.0 4.0 Balanced /	<b>Notes</b>  Permissible space temperature range (dry bulb) (degC) : 18 - 25:  Ventilation Type: Central Supply and Extract.  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	 300   Y A	@ Desk 750-850 AFFL Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b>			
Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	 35    Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB	Room Design Character		C0516
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0516	Observation/Control room	
Room Number:	1-D4-006	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Observation panel, one-way viewing from control room into booth.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room			C0516	
Project:		11072	RHSC & DCN			
Department:		D4	Audiology			
Room:		C0516	Obs/Control			
Room Number:		1-D4-006	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	AMP2500	AMPLIFIER SYSTEM		1
1		1	AUD005	AUDIOMETER; clinical; diagnostic; 195H 475W 450D		3
1		1	AUR2500	AURICLE; with videotoscopy		3
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, intefral back outlet, 500W 400D		1
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
1		1	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CHA032	CHAIR; child; upright; stacking; seat height 420mm		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	CON2503	Control Unit for induction loop.		1
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	MON017	MONITOR and CONTROL for CCTV; complete with flat screen monitor; keyboard; digital recorder (computer) and power supply.		1
1		1	MSC2533	CABINET base; drawer line, 400mm facing: (400x600 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 680.		1
1		1	MSC2535	CABINET base; drawer lined, 400mm facing: (400x600 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 680.		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
10		10	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
3		3	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT2502	LOOP; induction.		1
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1
2		2	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1
1		1	SWC033	SWITCH dimmer; 3 position; wall mounted		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet			C0515
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	C0515	Testing/Clinic room		
Room Number:	1-D4-007	Revision Date:	18/09/2014	
Activities:	1) Assessment / updating of electronic patient records (EPRs) 2) Use of monitoring/diagnostic or therapeutic equipment 3) Use of mobile diagnostic and therapeutic equipment 4) Audlometric examination and test procedures			
Personnel:	1 x patient 1 x staff 2 x escorts			
Planning Relationships:	Close to a clean utility room. Close to a dirty utility room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2.700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision.				

ADB	Room Environmental Data		C0515
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0515	Testing/Clinic room	
Room Number:	1-D4-007		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	3.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	3.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	300	Not Applicable	
Service Illumination Night (Lux):		@ Bed/Trolley 1450 AFFL	
Local Illumination (Lux):	1,000.0	Colour rendering characteristics (Ra) 80	
Colour Rendering Required:	Y	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
Standby Lighting Grade:	A		
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):	35	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Mechanical Services (NR):		40:daytime (LAeq,1hr)	
Intrusive Noise (NR Eq):			
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		C0515
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0515	Testing/Clinic room	
Room Number:	1-D4-007	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:	Blinds will be required to darken room for general ophthalmic examination.		



ADB		Schedule of Components by Room				C0515
Project:	11072	RHSC & DCN				
Department:	D4	Audiology				
Room:	C0515	Testing/Clinic Room				
Room Number:	1-D4-007				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	ALA020	LAMP INDICATING fire alarm initiation, wall mounted		1
1		1	AMP2500	AMPLIFIER SYSTEM		1
1		1	AUD003	METER; sound level; 265H 75W 60D		3
1		1	AUD005	AUDIOMETER; clinical; diagnostic; 195H 475W 450D		3
1		1	AUD8001	TYMPANOMETER; High Frequency; 380H 365W 255D		3
1		1	AUR2500	AURICLE; with videotoscopy		3
2		2	BEN002	PLAY-BENCH UNIT; with 3 storage boxes; 360H 1035W 470D		3
1		1	BLI2500	Blind; total blackout boxed; length as indicated. Wipeable.		1
2		2	CAM031	CAMERA; CCTV; pan/tilt/zoom.		1
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
2		2	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CHA032	CHAIR; child; upright; stacking; seat height 420mm		3
1		1	CHA2514	D CHAIR; with safety straps		3
1		1	COM031	COMPUTER; standard with keyboard and screen.		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
1		1	DES022	DESK; cantilever; single pedestal 3 drawer; cable management; modesty panel; 1600W 800D		3
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
13		13	OUT010	SOCKET outlet, switched, 13amp, twin		1
2		2	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT2502	LOOP; induction.		1
2		2	SPE2500	SPEAKERS; high specification		1
1		1	SWC033	SWITCH dimmer; 3 position; wall mounted		1
1		1	TAB054	TABLE, occasional, undershelf, 450H 610W 610D		3
4		4	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
2		2	VRA2500	VRA record unit; 3 toy stack		2



ADB	Room Data Sheet			C0110-01
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	C0110-01	Distraction Free Treatment: SALT		
Room Number:	1-D6-035	Revision Date:	18/09/2014	
Activities:	1) Clinical handwashing 2) Use of monitoring/diagnostic or therapeutic equipment 3) Use of computer workstation(s) 4) Use of Telephone			
Personnel:	1 x patient 2 x staff 2 x escorts			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2.700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision.				

ADB	Room Environmental Data		C0110-01																																
Project:	11072	RHSC & DCN																																	
Department:	01	Key Rooms (Financial Close)																																	
Room:	C0110-01	Distraction Free Treatment: SALT																																	
Room Number:	1-D6-035	Revision Date:	18/09/2014																																
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General Notes: Control: Switch																																			
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<table border="1"> <thead> <tr> <th>SAFETY</th> <th>Requirements</th> <th colspan="2">Notes</th> </tr> </thead> <tbody> <tr> <td>Hot Surface Max. Temp (DegC):</td> <td>43</td> <td colspan="2"></td> </tr> <tr> <td>Hot Water Max. Temp (DegC):</td> <td>41</td> <td colspan="2"></td> </tr> </tbody> </table>				SAFETY	Requirements	Notes		Hot Surface Max. Temp (DegC):	43			Hot Water Max. Temp (DegC):	41																						
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ADB	Room Design Character		C0110-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0110-01	Distraction Free Treatment: SALT	
Room Number:	1-D6-035	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				C0110-01	
Project:		11072		RHSC & DCN			
Department:		D6		RHSC Therapies			
Room:		C0110-01		Standard Distraction Free Treatment Room		Revision Date: 09/09/2014	
Room Number:		1-D6-035					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1	
1		1	BOA037	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 900H 1200W.		1	
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1	
3		3	CHA017	CHAIR; upright; upholstered; stacking		3	
2		2	CHA2500	Chair; child; upright; lockable; height adjustable		3	
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1	
1		1	COM033	COMPUTER KEYBOARD		3	
1		1	COM035	COMPUTER PRINTER; line; small		3	
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3	
1		1	CUP2999	CUPBOARD, built in, sliding doors, distraction free treatment		1	
1		1	DIS013	DISPENSER, paper towel, wall mounted		2	
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2	
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2	
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
1		1	EXE2518	EXERCISE MAT; 1520W 2130L		3	
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
2		2	HOO024	HOOK; hat and coat; 1.		1	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
5		5	OUT010	SOCKET outlet, switched, 13amp, twin		1	
5		5	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1	
1		1	PEG002	PEGS; equipment; medium; 2; wide spacing; wall mounted.		1	
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1	
1		1	STF151	STORAGE UNIT; lower; 2 drawer; on castors; 600H 500W 450D		3	
1		1	STO023	STOOL; laboratory; complete with footring		3	
1		1	SWC025	SWITCH, light		1	
1		1	TAB2506	TABLE; for child; adjustable height; 900W 600D		3	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL1000	TELEPHONE; handset.		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1	

<b>ADB</b>	<b>Room Data Sheet</b>	<b>X0208</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0208	Rehabilitation Room:OT		
Room Number:	1-D6-048		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Clinical handwashing</li> <li>2) Assessment / rehabilitative work under supervision of occupational therapy staff</li> <li>3) Assessment / updating of electronic patient records (EPRs)</li> <li>4) Use of monitoring/diagnostic or therapeutic equipment</li> <li>5) Use of mobile diagnostic and therapeutic equipment</li> <li>6) Storage / preparation of dressing/instrument trolleys</li> <li>7) Sterile supplies and consumables are held</li> </ol>
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Personnel:	6 x patients 4 x staff 6 x escorts
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Planning Relationships:	Close to a clean utility room. Close to a dirty utility room.
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,200
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		X0208
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0208	Rehabilitation Room:OT	
Room Number:	1-D6-048		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  10.0  Positive  /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Supply Air  F7- minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500  1,000.0  Y  A	Not Applicable @ Bed/Trolley 1450 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35      Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB	Room Design Character		X0208
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0208	Rehabilitation Room:OT	
Room Number:	1-D6-048	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A or Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X0208
Project:	11072	RHSC & DCN				
Department:	D6	RHSC Therapies				
Room:	X0208	Rehabilitation Room (Physio)				
Room Number:	1-D6-048				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
2		2	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	BRA904	BRACKET; for Wii		2
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CAM2500	VIDEO MONITORING EQUIPMENT; camera.		2
2		2	CHA017	CHAIR; upright; upholstered; stacking		3
2		2	CHA031	CHAIR; child; upright; stacking; seat height 380mm		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	DIS013	DISPENSER, paper towel, wall mounted.		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	EXE002	EXERCISE BARS; junior foldable parallel; 650mm H X 1860mm L X 360mm W		3
1		1	EXE004	EXERCISE BARS; foldable parallel; 1000mm H X 2300mm L X 610mm W		3
1		1	EXE2501	Motamed Bike (Wheelchair Accessible)		3
1		1	EXE2512	RECUMBENT BIKE; 1660 x660		3
1		1	EXE2513	RACK; gym ball storage; adjustable; wall mounted		2
1		1	EXE2517	EXERCISE STAIR; corner		3
2		2	EXE2518	EXERCISE MAT; 1520W 2130L		3
1		1	GAM1002	Gaming; Wii		1
1		1	HOI006	HOIST PATIENT; electric; 24V; track ceiling mounted (Length of the track to suit the individual needs).		1
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	MIR2501	MIRROR; unbreakable; wall mounted; 1600 H 1600W.		1
1		1	MSC081	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
1		1	MSC127	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; wall mounted.		1
1		1	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
6		6	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT059	CONNECTION UNIT switched 13amp, indicator light		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
2		2	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	PEG002	PEGS; equipment; medium; 2; wide spacing; wall mounted.		1

ADB		Schedule of Components by Room				X0208	
Project:		11072		RHSC & DCN			
Department:		D6		RHSC Therapies			
Room:		X0208		Rehabilitation Room (Physio)		Revision Date: 09/09/2014	
Room Number:		1-D6-048					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	PLI042	PLINTH; 3 section; variable height 380/1010H 2100W 1000D		3	
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1	
1		1	STO004	STOOL, height adjustable, swivel, mobile		3	
1		1	STO023	STOOL, laboratory; complete with footring		3	
1		1	SUP2500	SUPPORT LEG; for 920 high worktop		1	
1		1	SWC025	SWITCH, light		1	
1		1	TAB2506	TABLE; for child; adjustable height; 900W 600D		3	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL1000	TELEPHONE; handset.		3	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
2		2	TVM2500	TV / monitor flat screen with DVD player		3	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	

<b>ADB</b>	<b>Room Data Sheet</b>	<b>X0208-01</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0208-01	Rehabilitation Room: Physio		
Room Number:	1-D6-053		Revision Date:	18/09/2014

Activities:	1) Clinical handwashing 2) Invasive clinical procedures from side of couch 3) Assessment / updating of electronic patient records (EPRs) 4) Use of mobile diagnostic and therapeutic equipment 5) Rehabilitation exercises			
Personnel:	6 x patients 4 x staff 6 x escorts			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,200
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			
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ADB	Room Environmental Data		X0208-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0208-01	Rehabilitation Room: Physio	
Room Number:	1-D6-053		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28	
Summer Temperature (DegC):	10.0	Ventilation Type: Central Supply Air	
Mechanical Ventilation (Supply ac/hr):	Positive	F7 - minimum	
Mechanical Ventilation (Extract ac/hr):	/		
Pressure Relative to Adjoining Space:			
Filtration (%DSE and % Arrestance):			
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	500	Not Applicable	
Service Illumination Night (Lux):	1,000.0	@ Bed/Trolley 1450 AFFL	
Local Illumination (Lux):	Y	Colour rendering characteristics (Ra) 80	
Colour Rendering Required:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
Standby Lighting Grade:			
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):	35	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Mechanical Services (NR):		40:daytime (LAeq,1hr)	
Intrusive Noise (NR Eq):			
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		X0208-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0208-01	Rehabilitation Room: Physio	
Room Number:	1-D6-053	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A or Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				X0208-01	
Project:		11072		RHSC & DCN			
Department:		D6		RHSC Therapies			
Room:		X0208-01		Rehabilitation Room (Physio)		Revision Date: 09/09/2014	
Room Number:		1-D6-053					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1	
1		1	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1	
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1	
1		1	CAM2500	VIDEO MONITORING EQUIPMENT; camera.		2	
4		4	CHA031	CHAIR; child; upright; stacking; seat height 380mm		3	
8		8	CHA317	CHAIR, upright, upholstered, stacking, wipeable		3	
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1	
1		1	COM033	COMPUTER KEYBOARD		3	
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3	
1		1	DIS013	DISPENSER, paper towel, wall mounted		2	
1		1	DIS024	DISPENSER, soap, wall mounted		2	
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2	
1		1	DIS2502	DISPENSER; plinth roller towel		2	
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
1		1	EXE007	EXERCISE BARS; wall; 2400H 920W.		2	
1		1	EXE008	EXERCISE BENCH; 400H 3400W 260D		3	
1		1	EXE2513	RACK; gym ball storage; adjustable; wall mounted		2	
2		2	EXE2518	EXERCISE MAT; 1520W 2130L		3	
1		1	HOI006	HOIST PATIENT; electric; 24V; track ceiling mounted (Length of the track to suit the individual needs).		1	
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
1		1	MIR2501	MIRROR; unbreakable; wall mounted; 1600 H 1600W.		1	
1		1	MSC082	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 900.		1	
1		1	MSC128	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; wall mounted.		1	
1		1	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
6		6	OUT010	SOCKET outlet, switched, 13amp, twin		1	
1		1	OUT059	CONNECTION UNIT switched 13amp, indicator light		1	
2		2	OUT121	SOCKET outlet; computer data; double.		1	
1		1	OUT215	SOCKET outlet, telephone		1	
1		1	PEG002	PEGS; equipment; medium; 2; wide spacing; wall mounted.		1	
1		1	PLI041	PLINTH; 3 section; variable height 380/1010H 1880W 710D		3	
1		1	RIN005	RING; basket ball; includes: ring; fixing; basket ball and net; 500mm dia.		2	
2		2	SCR2503	SCREEN, mobile 2500L 480W 1700H		3	
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1	
2		2	STO004	STOOL, height adjustable, swivel, mobile		3	
1		1	STO023	STOOL; laboratory; complete with footring		3	
1		1	SUP2500	SUPPORT LEG; for 920 high worktop		1	
1		1	SWC025	SWITCH, light		1	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL1000	TELEPHONE; handset.		3	

ADB			Schedule of Components by Room		X0208-01		
Project:		11072	RHSC & DCN				
Department:		D6	RHSC Therapies				
Room:		X0208-01	Rehabilitation Room (Physio)			Revision Date:	09/09/2014
Room Number:		1-D6-053					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	

ADB	Room Data Sheet			X0208-02
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0208-02	Rehabilitation Room: Physio (CV Equip)		
Room Number:	1-D6-054	Revision Date:	18/09/2014	
Activities:	1) Clinical handwashing 2) Assessment / updating of electronic patient records (EPRs) 3) Use of mobile diagnostic and therapeutic equipment 4) Rehabilitation exercises 5) Relaxation activities 6) Use of bicycle / exercise equipment.			
Personnel:	6 x patients 4 x staff 6 x escorts			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,200
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		X0208-02																																
Project:	11072	RHSC & DCN																																	
Department:	01	Key Rooms (Financial Close)																																	
Room:	X0208-02	Rehabilitation Room: Physio (CV Equip)																																	
Room Number:	1-D6-054	Revision Date:	18/09/2014																																
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ADB	Room Design Character		X0208-02
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0208-02	Rehabilitation Room: Physio (CV Equip)	
Room Number:	1-D6-054	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A or Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				X0208-02
Project:	11072	RHSC & DCN				
Department:	D6	RHSC Therapies				
Room:	X0208-02	Rehabilitation Room (inc CV equip)				
Room Number:	1-D6-054					Revision Date: 09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
4		4	CHA031	CHAIR; child; upright; stacking; seat height 380mm		3
8		8	CHA317	CHAIR, upright, upholstered, stacking, w/peable		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2502	DISPENSER; plinth roller towel		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DIS2505	DISPENSER; WATER COOLER, mains supply.		1
1		1	EXE014	EXERCISE BICYCLE; ergometer; 1170 x 530		3
1		1	EXE2509	CROSS TRAINER; 2030 x 940		3
1		1	EXE2511	ROWING MACHINE; 2090 x 540		3
1		1	EXE2513	RACK; gym ball storage; adjustable; wall mounted		2
2		2	EXE2518	EXERCISE MAT; 1520W 2130L		3
1		1	EXE901	MACHINE; unweighting system		3
1		1	HOI006	HOIST PATIENT; electric; 24V; track ceiling mounted (Length of the track to suit the individual needs).		1
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	MIR2501	MIRROR; unbreakable; wall mounted; 1600 H 1600W.		1
1		1	MSC081	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
1		1	MSC127	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; wall mounted.		1
2		2	MSC157	CABINET tall; 400mm facing; with 6 shelves; 1 door hinged right; on plinth; o/a height 2100.		1
1		1	MSC158	CABINET tall; 400mm facing; with 6 shelves; 1 door hinged left; on plinth; o/a height 2100.		1
1		1	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
6		6	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
5		5	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT315	OUTLET, drinking water for equipment		1
1		1	PEG002	PEGS; equipment; medium; 2; wide spacing; wall mounted.		1
1		1	PLI041	PLINTH; 3 section; variable height 380/1010H 1880W 710D		3
2		2	SCR2503	SCREEN, mobile 2500L 480W 1700H		3
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1
2		2	STO004	STOOL, height adjustable, swivel, mobile		3



ADB		Schedule of Components by Room			X0208-02		
Project:		11072	RHSC & DCN				
Department:		D6	RHSC Therapies				
Room:		X0208-02	Rehabilitation Room (inc CV equip)			Revision Date:	09/09/2014
Room Number:		1-D6-054					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	STO023	STOOL; laboratory; complete with footing		3	
1		1	SUP2500	SUPPORT LEG; for 920 high worktop		1	
1		1	SWC025	SWITCH, light		1	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL1000	TELEPHONE; handset		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	

ADB	Room Data Sheet			X0242
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0242	Dressings Room		
Room Number:	1-D7-003	Revision Date:	18/09/2014	
Activities:	1) Clinical handwashing 2) Dressing / undressing in privacy 3) Assessment / updating of electronic patient records (EPRs) 4) Invasive clinical procedures from side of couch 5) Preparation of trays / packs for clinical procedures 6) Sterile packs, lotions and drugs prepared for immediate use 7) Storage of sterile supplies and consumables on a trolley 8) Use of mobile diagnostic and therapeutic equipment			
Personnel:	1 x patient 1 x staff 2 x escorts			
Planning Relationships:	Close to a clean utility room. Close to a dirty utility room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,000
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		X0242
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0242	Dressings Room	
Room Number:	1-D7-003		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	3.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	3.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	300		
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):	1,000.0	@ Bed/Trolley 1450 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	35	SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated:			
(* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		X0242
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0242	Dressings Room	
Room Number:	1-D7-003	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A or Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				X0242
Project:	11072	RHSC & DCN				
Department:	D7	Plastics Dressings Clinic				
Room:	X0242	Dressings Room (Burns)				
Room Number:	1-D7-003				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	BRA902	Bracket; Monitor oxygen/saturation inside room		2
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
2		2	CHA083	CHAIR, stacking, polypropylene, with back and seat pads		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM034	COMPUTER PRINTER, inkjet, colour		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	DEV900	DEVICE; Ditto Diversional		3
1		1	DIS011	DISPENSER, barrier cream, disposable single cartridge, wall mounted		2
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS016	DISPENSER, paper sheet (for couch/trolley), wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	HOI006	HOIST PATIENT; electric; 24V; track ceiling mounted (Length of the track to suit the individual needs).		1
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO024	HOOK; hat and coat; 1.		1
1		1	LIG050	LUMINAIRE operating (minor)		1
1		1	MON900	MONITOR; Low end monitor, general Ward /OPD use		3
1		1	MSC081	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
1		1	MSC082	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 900.		1
1		1	MSC127	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; wall mounted.		1
1		1	MSC128	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; wall mounted.		1
1		1	MSC2511	CUPBOARD; 600mm facing; medicine; 1 door hinged left; 1700mm.		1
1		1	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
1		1	OUT006	SOCKET outlet, switched, 13amp, single		1
6		6	OUT010	SOCKET outlet, switched, 13amp, twin		1
3		3	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
1		1	OUT121	SOCKET outlet; computer data; double.		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
1		1	OUT453	OUTLET, 4kPa compressed air, medical		1
1		1	OUT470	OUTLET, oxygen, medical		1

ADB			Schedule of Components by Room			X0242	
Project:		11072	RHSC & DCN				
Department:		D7	Plastics Dressings Clinic				
Room:		X0242	Dressings Room (Burns)				
Room Number:		1-D7-003			Revision Date:	09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	OUT475	OUTLET, vacuum, medical		1	
1		1	RAI132	RAIL, clinical equipment, wall mounted, 1200mm		1	
1		1	STA102	STAND; 2 lotion bowls; stainless steel		3	
1		1	STF286	STORAGE UNIT; upper; cupboard; medicine; 2 door; lockable; 550H 600W 300D		1	
1		1	STO013	STOOL; swivel; with back; 710 height		3	
1		1	SWC025	SWITCH, light		1	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL1000	TELEPHONE; handset		3	
1		1	TRO1000	TROLLEY PATIENT; ARJO Huntleigh - AKRON Streamline 2 section 2221A, height adjustable 460-910H 640W 1880D		3	
1		1	TRO131	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 450W 450D		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	TVM2500	TV / monitor flat screen with DVD player		3	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	



<b>ADB</b>	<b>Room Data Sheet</b>	<b>S0027-01</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	S0027-01	Viewing Room		
Room Number:	1-J1-003		Revision Date:	18/09/2014

Activities:	1) Clinical handwashing 2) Storage of working supply of linen 3) Preparation of the body for viewing. 4) Viewing Body			
Personnel:	1 x body (child) 1 x staff 2 x relatives			
Planning Relationships:	En-suite sanitary facilities.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,400
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision.			
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ADB	Room Environmental Data		S0027-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	S0027-01	Viewing Room	
Room Number:	1-J1-003		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  4.0 6.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 25  Ventilation Type: Central Supply and Extract  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Ceiling Cassette - Chilled Water			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300   Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra):80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35    Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		S0027-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	S0027-01	Viewing Room	
Room Number:	1-J1-003	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Observation panel, viewing from sitting room		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				S0027-01	
Project:		11072		RHSC & DCN			
Department:		J1		Bereavement Suite			
Room:		S0027-01		Body Viewing Room		Revision Date: 09/09/2014	
Room Number:		1-J1-003					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	ALA001	PUSH BUTTON, security alarm		1	
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1	
1		1	BED004	BED, divan style, fixed height, with legs, on lockable castors, 1950L 900W		3	
1		1	BED2500	Moses basket		3	
1		1	BLI2501	BLIND; ROLLER; length as drawn.		1	
1		1	BOO016	BOOKCASE: 3 shelves; cupboard under; 1800H 940W 350D		2	
2		2	CHA078	UNIT CHAIR; easy; with arms; fully upholstered		3	
1		1	DIS013	DISPENSER, paper towel, wall mounted		2	
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2	
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
3		3	OUT010	SOCKET outlet, switched, 13amp, twin		1	
1		1	OUT215	SOCKET outlet, telephone		1	
1		1	SPA2505	Fittings with basin and storage to artist design. To include tall shelved cupboard for linen storage.		1	
1		1	SWC033	SWITCH dimmer; 3 position; wall mounted		1	
1		1	TAB053	TABLE, occasional, square, 415H 610W 610D		3	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	

<b>ADB</b>	<b>Room Data Sheet</b>	<b>B1411</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	B1411	Receiving/Resuscitation		
Room Number:	1-L1-005		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Clinical handwashing</li> <li>2) Medical and nursing procedures requiring all sides access to patient whilst 1-4 staff using mobile equipment</li> <li>3) Minimally invasive clinical procedures undertaken from one or both sides of the couch.</li> <li>4) Non invasive clinical procedures from side of couch or plinth</li> <li>5) Examinations carried out from one or both sides of the couch</li> <li>6) Recording of patient data/notes</li> </ol>
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Personnel:	1 x patient 8 x staff
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Planning Relationships:	
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Space Data:	Area (m <sup>2</sup> ):		Height (mm)	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		B1411																								
Project:	11072	RHSC & DCN																									
Department:	01	Key Rooms (Financial Close)																									
Room:	B1411	Receiving/Resuscitation																									
Room Number:	1-L1-005		Revision Date: 18/09/2014																								
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ADB	Room Design Character		B1411
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B1411	Receiving/Resuscitation	
Room Number:	1-L1-005	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				B1411
Project:	11072	RHSC & DCN				
Department:	L1	DCN Acute Care - 24 Beds				
Room:	B1411	Receiving/Resuscitation Area				
Room Number:	1-L1-005				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	ANA001	ANAESTHETIC MACHINE/WORKSTATION electrically powered piston ventilator, mobile, 1350H 750W 650D		3
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BOA2500	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 900H 600W.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted,		1
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
1		1	COM1000	COMPUTER MONITOR, TFT; Sunray digital flat panel display; desk top		3
1		1	COM2503	COMPUTER MONITOR, PACS REVIEW STATION; 2 21", high-resolution screens,		3
1		1	DIA2500	DIAGNOSTIC SET; auroscope/ophthalmoscope; wall mounted.		2
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	INF001	INFUSION volumetric pump; 356H 178W 178D		3
1		1	LIG081	LUMINAIRE fitted with single fluorescent lamp with switch; below drug cupboard; 8watt; 400mm.		1
1		1	LIG963	LUMINAIRE; examination; ceiling; adjustable.		1
1		1	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3
1		1	MON909	MONITOR; Transport monitor for ITU/Theatre/High Acuity		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
5		5	OUT010	SOCKET outlet, switched, 13amp, twin		1
16		16	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
4		4	OUT121	SOCKET outlet; computer data; double.		1
4		4	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT215	SOCKET outlet, telephone		1
2		2	OUT453	OUTLET, 4kPa compressed air, medical		1
2		2	OUT461	OUTLET, nitrous oxide, medical		1
2		2	OUT470	OUTLET, oxygen, medical		1
2		2	OUT475	OUTLET, vacuum, medical		1
2		2	PEN002	PENDANT; Anaesthetic; medical & power supply unit; vertical movement; ceiling mounted; outlets comprising.		1
1		1	PRI015	PRINTER; label; portable		3
1		1	REF091	REFRIGERATOR; drug; capacity 35 litres; external temperature gauge; lockable; wall mounted; 510H 380W 445D		2
1		1	STF127	STORAGE UNIT; lower; cupboard; 2 door; 1 shelf; 550H 600W 450D		1

ADB			Schedule of Components by Room		B1411	
Project:		11072	RHSC & DCN			
Department:		L1	DCN Acute Care - 24 Beds			
Room:		B1411	Receiving/Resuscitation Area			
Room Number:		1-L1-005	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	STF290	STORAGE UNIT; upper; cupboard; controlled drugs; 1 door; lockable; with inner lockable cupboard and warning light; 550H 600W 300D		1
1		1	SUC004	SUCTION UNIT; electric; portable; 350H 320W 340D		3
1		1	SUP2500	SUPPORT LEG; for 920 high worktop		1
2		2	SWC025	SWITCH, light		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
2		2	TEL2500	TELEPHONE; handset, wall mounted.		2
2		2	TRO131	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 450W 450D		3
1		1	TRO282	TROLLEY PATIENT; accident; image top; with tilt and brakes; 540-1000H 740W 2110D		3
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	UPS003	Uninterrupted power supply (UPS).		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1



ADB	Room Data Sheet			J1155
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	J1155	Waiting		
Room Number:	1-L1-027	Revision Date:	18/09/2014	
Activities:	1) Patients, relatives and escorts wait to be seen 2) Displaying information			
Personnel:	5 x patients 5 x escorts			
Planning Relationships:	Adjacent to reception area. Close to clinical or work area. Close to WC facilities.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
	Ceiling height: To suit surrounding area/design.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision.			



ADB	Room Environmental Data		J1155
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	J1155	Waiting	
Room Number:	1-L1-027		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  5.0 5.0 Balanced /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 28  Ventilation Type: Central Supply and Extract  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300   Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40     N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  50:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		J1155
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	J1155	Waiting	
Room Number:	1-L1-027	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	N/A, open to circulation.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				J1155
Project:	11072	RHSC & DCN				
Department:	L1	DCN Acute Care - 24 Beds				
Room:	J1155	Patient Waiting Area				
Room Number:	1-L1-027				Revision Date:	18/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BIN900	BIN: Recycle waste		3
1		1	BOA2502	BOARD; display/notice; magnetic; wall mounted; 900H 1200W		1
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
6		6	CHA017	CHAIR; upright; upholstered; stacking		3
3		3	CHA047	CHAIR; easy; with open arms; high back; with wings; upholstered		3
1		1	CHA900	Bariatric Chair		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
1		1	COM1000	COMPUTER MONITOR: TFT; Sunray digital flat panel display; desk top		3
1		1	COU1001	COUNTER; reception; DDA compliant; with below counter storage; as per detailed design.		1
1		1	DRA056	DRAWER UNIT, 2 drawer, lockable, on castors, 600H 410W 600D		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
9		9	OUT010	SOCKET outlet, switched, 13amp, twin		1
3		3	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
1		1	OUT2512	SOCKET outlet; video entry.		1
1		1	RAC094	RACK; magazine; double sided; mobile		3
1		1	RAC440	RACK; leaflet; wall mounted; 915H 250W 105D.		1
2		2	SWC025	SWITCH, light		1
2		2	TAB056	TABLE; occasional; round; 415H 610mm dia.		3
1		1	TEL1000	TELEPHONE; handset.		3
1		1	TEL901	VIDEO - entry/security; wall mounted, receiving.		1
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	TVM2500	TV / monitor flat screen with DVD player.		3

ADB	Room Data Sheet			D1135
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	D1135	Discharge Lounge		
Room Number:	1-P1-012	Revision Date:	18/09/2014	
Activities:	1) Rest and relaxation 2) Viewing television and/or DVDs / videos 3) Reading 4) Consumption of beverages, meals and snacks.			
Personnel:	10 x patients 2 x staff 10 x visitors			
Planning Relationships:	External view/outlook.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2.700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision.			

ADB	Room Environmental Data		D1135
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	D1135	Discharge Lounge	
Room Number:	1-P1-012		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	6.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	8.0		
Pressure Relative to Adjoining Space:	Negative		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	300	@ Floor	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):		None	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	40	SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		50:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	N		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	



ADB	Room Design Character		D1135
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	D1135	Discharge Lounge	
Room Number:	1-P1-012	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				D1135
Project:	11072	RHSC & DCN				
Department:	P1	Operating Theatres & RHSC Surgical Day Case Unit				
Room:	D1135	SDCU Discharge Lounge				
Room Number:	1-P1-012				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BOA2502	BOARD; display/notice; magnetic; wall mounted; 900H 1200W		1
4		4	BRA003	BRACKET; holder, suction unit, wall mounted		2
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
4		4	CHA017	CHAIR; upright; upholstered; stacking		3
4		4	CHA031	CHAIR; child; upright; stacking; seat height 380mm		3
1		1	CHA063	CHAIR; height adjustable; with arms; high back; swivel; 5 star base; on castors		3
6		6	CHA078	UNIT CHAIR; easy; with arms; fully upholstered		3
4		4	CHA091	CHAIR; easy; reclining; 1000H 630W 1880D		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
2		2	CUP2517	CUPBOARD; base unit; 2 door; lockable; 1200mm.		1
1		1	CUP2525	CUPBOARD; wall unit; LH door; 600h; lockable; 600mm.		1
3		3	CUP2526	CUPBOARD; wall unit; RH door; 600h; lockable; 600mm.		1
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
4		4	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	OUT005	SOCKET outlet, switched, 13amp, single		1
12		12	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1
2		2	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
4		4	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	RAC440	RACK; leaflet; wall mounted; 915H 250W 105D.		1
1		1	SNS1003L	SINKTOP; inset; single bowl and drainer; stainless steel; left hand drainer.		1
2		2	SUP2501	SUPPORT LEG; for 720 high worktop		1
2		2	SWC025	SWITCH, light		1
1		1	TAB109	TABLE; occasional; square		3
1		1	TAP359	TAP, pillar, high neck, long lever, pair hot and cold, 1/2 in		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2
1		1	TRO1010	TROLLEY, low, for tv		3
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1

ADB			Schedule of Components by Room		D1135		
Project:		11072	RHSC & DCN				
Department:		P1	Operating Theatres & RHSC Surgical Day Case Unit				
Room:		D1135	SDCU Discharge Lounge			Revision Date:	09/09/2014
Room Number:		1-P1-012					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
2		2	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	TVM2501	TV / monitor flat screen		3	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WAS102	WASTE, unslotted flush-grated, metal, 1.1/2 in		1	
1		1	WAS108	TRAP, bottle, 1.1/2 in, plastic resealing		1	
2		2	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1	

ADB	Room Data Sheet			B2517
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	B2517	SDCU Recovery		
Room Number:	1-P1-024	Revision Date:	18/09/2014	
Activities:	1) Post anaesthetic recovery of patients 2) Medical and nursing procedures 3) Observation by medical and nursing staff 4) Clinical handwashing 5) Use of mobile equipment and services may be used 6) Manoeuvring beds. 7) Use of monitoring/diagnostic or therapeutic equipment 8) Use of piped medical gases, vacuum and associated equipment			
Personnel:	8 x patients 4 x staff 8 x visitors			
Planning Relationships:	Part of multi-bay area. Overall area to include staff communication base and utilities. Close to operating theatre.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		B2517
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B2517	SDCU Recovery	
Room Number:	1-P1-024		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 20 - 28	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	15.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	15.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	500	Not Applicable	
Service Illumination Night (Lux):		@ Bed/Trolley 1450 AFFL	
Local Illumination (Lux):	1,000.0	Colour rendering characteristics (Ra) 80	
Colour Rendering Required:	Y	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
Standby Lighting Grade:	A		
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b>			
Privacy Factor Required (dB):	30	Intrusive Noise:	
Mechanical Services (NR):		SHTM 09-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		45 daytime / 35 nighttime (LAeq,1hr) and 45 nighttime (LAmax,1)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	N		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	



ADB	Room Design Character		B2517
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B2517	SDCU Recovery	
Room Number:	1-P1-024	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				B2517
Project:	11072	RHSC & DCN				
Department:	P1	Operating Theatres & RHSC Surgical Day Case Unit				
Room:	B2517	SDCU Recovery				
Room Number:	1-P1-024				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
4		4	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
8		8	BED2502	BED HEAD BUFFER: bed and wall protection: vertical: wall mounted.		1
8		8	BRA003	BRACKET, holder, suction unit, wall mounted		2
8		8	BRA015	BRACKET, flat panel monitor, height adjustable, wall mounted		2
8		8	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted,		1
16		16	CHA017	CHAIR; upright; upholstered; stacking		3
8		8	CHA083	CHAIR, stacking, polypropylene, with back and seat pads		3
4		4	DIS013	DISPENSER, paper towel, wall mounted		2
4		4	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
4		4	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
8		8	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
12		12	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
8		8	LIG005	LUMINAIRE, bedhead, dimmable, patient reading and general nursing care/examination		1
8		8	MON900	MONITOR; Low end monitor, general Ward /OPD use		3
8		8	MST005	TROLLEY; half size open frame; up to 5 sets of runners; 400mm facing; approx 850H 450W 350D		3
9		9	OUT010	SOCKET outlet, switched, 13amp, tw/in		1
24		24	OUT012	SOCKET outlet switched 13amp tw/in; trunking/pendant mounted.		1
9		9	OUT121	SOCKET outlet; computer data; double.		1
8		8	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
8		8	OUT471	OUTLET; oxygen medical; trunking mounted.		1
8		8	OUT476	OUTLET; vacuum medical; trunking mounted.		1
8		8	RAI135	RAIL; clinical equipment; wall mounted; 2100mm.		1
8		8	SHE2503	SHELF; 300mm deep; folding; length as drawn.		1
8		8	STA142	STAND; infusion; twin hook; breaks; mobile		3
1		1	STO002	STOOL, height adjustable, 380H 480 dia.		3
8		8	SUR991	Double oxygen flow meter: Upper Medirail mounted		3
8		8	SUR992	Air flow meter: Upper Medirail mounted		3
1		1	SWC025	SWITCH, light		1
8		8	SWC035	SWITCH; dimmer trunking mounted.		1
4		4	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
8		8	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
8		8	TRO296	TROLLEY PATIENT; tilting/reclining		3
8		8	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
4		4	WAS100	WASTE, unslotted flush-grated, metal, 1, 1/4 in		1
4		4	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet			B2417
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	B2417	Post Anaesthetic Recovery:RHSC		
Room Number:	1-P1-029	Revision Date:	18/09/2014	
Activities:	1) Post anaesthetic recovery of patients 2) Medical and nursing procedures 3) Observation by medical and nursing staff 4) Clinical handwashing 5) Use of mobile equipment and services may be used 6) Manoeuvring beds. 7) Use of monitoring/diagnostic or therapeutic equipment 8) Use of piped medical gases, vacuum and associated equipment			
Personnel:	7 x patients (1 per bay) 7 x staff 7 x visitors			
Planning Relationships:	Part of multi-bay area. Overall area to include staff communication base and utilities. Close to operating theatre.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		B2417
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B2417	Post Anaesthetic Recovery:RHSC	
Room Number:	1-P1-029		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 20 - 28	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	15.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	15.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	500		
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):	1,000.0	@ Bed/Trolley 1450 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b>			
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	30	SHTM 09-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		45 daytime / 35 nighttime (LAeq,1hr) and 45 nighttime (LAmax,1)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	N		
*Quality Which Cannot Be Tolerated:			
(* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		B2417
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B2417	Post Anaesthetic Recovery:RHSC	
Room Number:	1-P1-029	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				B2417
Project:	11072	RHSC & DCN				
Department:	P1	Operating Theatres & RHSC Surgical Day Case Unit				
Room:	B2417	Post Anaesthetic Recovery:RHSC				
Room Number:	1-P1-029				Revision Date:	18/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
7		7	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
7		7	BED2502	BED HEAD BUFFER: bed and wall protection: vertical: wall mounted.		1
7		7	BIN2509	BIN; sharps disposal; 7 litre; rail mounted		3
7		7	BRA004	BRACKET; holder; suction unit; trunking/rail mounted		
7		7	BRA015	BRACKET, flat panel monitor, height adjustable, wall mounted		
7		7	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1
7		7	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
7		7	DIS013	DISPENSER, paper towel, wall mounted		
7		7	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		
7		7	DIS2500	DISPENSER; danicentre; combined glove/apron.		
9		9	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		
15		15	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
7		7	LIG005	LUMINAIRE, bedhead, dimmable, patient reading and general nursing care/examination		1
7		7	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3
3		3	OUT005	SOCKET outlet, switched, 13amp, single		1
7		7	OUT010	SOCKET outlet, switched, 13amp, tw/in		1
28		28	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
7		7	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT215	SOCKET outlet, telephone		1
7		7	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
14		14	OUT471	OUTLET; oxygen medical; trunking mounted.		1
7		7	OUT476	OUTLET; vacuum medical; trunking mounted.		1
14		14	RAI136	RAIL; clinical equipment; wall mounted; 2100mm.		1
7		7	SHE2503	SHELF; 300mm deep; folding; length as drawn.		1
4		4	STA142	STAND; infusion; twin hook; breaks; mobile		3
7		7	STA2508	STAND; drip, rail mounted		3
7		7	STO002	STOOL, height adjustable, 380H 480 dia.		3
1		1	SWC025	SWITCH, light		1
7		7	SWC035	SWITCH; dimmer trunking mounted.		1
7		7	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL2500	TELEPHONE; handset, wall mounted.		
7		7	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
10		10	TRO021	TROLLEY; 4 sets of runners; 850H 600W 600D		3
3		3	TRO133	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 750W 450D		3
1		1	TRO235	TROLLEY, contaminated linen, single ring, stainless steel		3
7		7	TRO296	TROLLEY PATIENT; tilting/reclining		3
7		7	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
1		1	UPS003	Uninterrupted power supply (UPS).		1

ADB			Schedule of Components by Room		B2417	
Project:		11072	RHSC & DCN			
Department:		P1	Operating Theatres & RHSC Surgical Day Case Unit			
Room:		B2417	Post Anaesthetic Recovery:RHSC			
Room Number:		1-P1-029	Revision Date:		18/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
7		7	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
7		7	WAS1000	TRAP; concealed waste; for back outlet basins.		1

ADB	Room Data Sheet			B2418
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	B2418	Post Anaesthetic Recovery Room: RHSC		
Room Number:	1-P1-030	Revision Date:	18/09/2014	
Activities:	1) Post anaesthetic recovery of patients 2) Medical and nursing procedures 3) Observation by medical and nursing staff 4) Clinical handwashing 5) Use of mobile equipment and services may be used 6) Manoeuvring beds. 7) Use of monitoring/diagnostic or therapeutic equipment 8) Use of piped medical gases, vacuum and associated equipment			
Personnel:	1 x patients 1 x staff 1 x visitors			
Planning Relationships:	Close to operating theatre.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision				

ADB	Room Environmental Data		B2418																																
Project:	11072	RHSC & DCN																																	
Department:	01	Key Rooms (Financial Close)																																	
Room:	B2418	Post Anaesthetic Recovery Room: RHSC																																	
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Humidity (%RH):																																			
General Notes: Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air																																			
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General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)																																			
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ADB	Room Design Character		B2418
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B2418	Post Anaesthetic Recovery Room: RHSC	
Room Number:	1-P1-030	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				B2418
Project:	11072	RHSC & DCN				
Department:	P1	Operating Theatres & RHSC Surgical Day Case Unit				
Room:	B2418	Post Anaesthetic Recovery Room				
Room Number:	1-P1-030				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BED2502	BED HEAD BUFFER: bed and wall protection: vertical: wall mounted.		1
1		1	BIN2509	BIN; sharps disposal; 7 litre; rail mounted		3
1		1	BRA004	BRACKET; holder; suction unit; trunking/rail mounted		2
1		1	BRA015	BRACKET, flat panel monitor, height adjustable, wall mounted		2
1		1	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
2		2	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
3		3	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	LIG005	LUMINAIRE, bedhead, dimmable, patient reading and general nursing care/examination		1
1		1	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
1		1	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
1		1	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT215	SOCKET outlet, telephone		1
2		2	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
2		2	OUT471	OUTLET; oxygen medical; trunking mounted.		1
2		2	OUT476	OUTLET; vacuum medical; trunking mounted.		1
2		2	RAI136	RAIL; clinical equipment; wall mounted; 2100mm.		1
1		1	SHE2503	SHELF; 300mm deep; folding; length as drawn.		1
1		1	STA2508	STAND; drip, rail mounted		3
1		1	STO002	STOOL, height adjustable, 380H 480 dia.		3
1		1	SWC025	SWITCH, light		1
1		1	SWC035	SWITCH; dimmer trunking mounted.		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2
1		1	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
1		1	TRO021	TROLLEY; 4 sets of runners; 850H 600W 600D		3
1		1	TRO181	TROLLEY, general purpose, 3 tier, buffered, 950H 890W 590D		3
1		1	TRO296	TROLLEY PATIENT; tilting/reclining		3
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
1		1	UPS003	Uninterrupted power supply (UPS).		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1,1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1

ADB	Room Data Sheet		J1264
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	J1264	Waiting bay: 1 patient trolley/bed place	
Room Number:	1-P1-057	Revision Date:	18/09/2014
Activities:	1) Parking, storage of patients' trolley(s) 2) Patient may wait on trolley/bed, under nursing observation		
Personnel:	1 x Patient		
Planning Relationships:			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):
Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Ceiling height: To suit surrounding area/design.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)		
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		J1264
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	J1264	Waiting bay: 1 patient trolley/bed place	
Room Number:	1-P1-057		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>   3.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 16 - 28  Ventilation Type: Central General Extract  None	
<b>General Notes:</b> Heating Type: Adjacent Space Transfer Air Cooling: None			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	200   Y A	@ Floor 0m AFFL Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40     N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  55:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		J1264
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	J1264	Waiting bay: 1 patient trolley/bed place	
Room Number:	1-P1-057	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	N/A, open to circulation.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			

ADB			Schedule of Components by Room		J1264	
Project:		11072	RHSC & DCN			
Department:		P1	Operating Theatres & RHSC Surgical Day Case Unit			
Room:		J1264	Trolley Bay			
Room Number:		1-P1-057	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
2		2	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	PEG2500	HOOK; Pat Slide.		1
1		1	SLI2500	PATSLIDE		3
1		1	TRO263	TROLLEY PATIENT; non-ferrous materials; full length tilt; adjustable head rest; side rails; 2075L 625D		3



ADB	Room Data Sheet			E0801-02
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0801-02	Imaging room: Interoperative MRI		
Room Number:	1-P1-064	Revision Date:	18/09/2014	
Activities:	1) Patient is positioned or repositioned for examination 2) Use of radiation protection equipment 3) Imaging x-ray examination of patient 4) Use of oxygen and vacuum services for resuscitation 5) Storage of small items of equipment 6) Storage of Positioning aids e.g. wedges pillows and other immobilisation devices 7) Clinical handwashing			
Personnel:	1 x patient			
Planning Relationships:	Adjacent to viewing/reporting area. Direct access from changing cubicles - optional.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,100
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		E0801-02
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0801-02	Imaging room: Interoperative MRI	
Room Number:	1-P1-064		Revision Date: 18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	8.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	8.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	F7 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Warm Air - Reheat Battery with BMS Adjustable Sensor. Cooling: Comfort Cooled			
LIGHTING	Requirements	Notes	
Service Illumination (Lux):	300	Not Applicable	
Service Illumination Night (Lux):		@ General working plane 1000 AFFL	
Local Illumination (Lux):	1,000.0	Colour rendering characteristics (Ra) 80	
Colour Rendering Required:	Y	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
Standby Lighting Grade:	A		
<b>General Notes:</b> Control: Switch/ Dimmer			
NOISE	Requirements	Notes	
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	35	SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated:			
(* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
SAFETY	Requirements	Notes	
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):			
<b>General Notes:</b>			
FIRE	Requirements	Notes	
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		E0801-02
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0801-02	Imaging room: Interoperative MRI	
Room Number:	1-P1-064	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings Floor Recess required Radiation protection to be agreed with NHSL RPO		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A or in accordance with radiation protection advice, blackout/dim-out.		
Internal Glazing:	Viewing panel from control room, radiation protection.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				E0801-02
Project:	11072	RHSC & DCN				
Department:	P1	Operating Theatres & RHSC Surgical Day Case Unit				
Room:	E0801-02	MRI Room				
Room Number:	1-P1-064				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ANA007	ANAESTHETIC MACHINE/WORKSTATION; MRI compatible; electrically powered piston ventilator; mobile; 1350H 750W 650D		3
1		1	BIN2506	BIN; disposal; general purpose; MRI compatible; plastic		3
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	BUT2500	Quench button.		5
2		2	CAM2505	CAMERA CCTV; pan/tilt/zoom; MRI compatible.		5
1		1	CHR901	CHAIR; MR Compatible		3
1		1	CUP112	CUPBOARD UNIT; non-ferrous; open; 3 adjustable shelf; on plinth; 850H 1000W 500D.		1
1		1	CUP116	CUPBOARD/DRAWER UNIT; non-ferrous; 2 drawer, 1 adjustable shelf; on plinth; 850H 1000W 500D.		1
2		2	DET2500	Ferromagnetic detector		1
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	IMG086	TABLE PATIENT - MRI imager; floating top; (Part of IMG081)		5
1		1	IMG2501	Coil Holder.		5
2		2	IMG2507	Wave Guide.		5
1		1	IMG2508	IMAGER; MAGNETIC RESONANCE IMAGING (MRI); closed bore; 3 Tesla unit		5
1		1	INF901	INFUSION volumetric pump; MR Compatible 356H 178W 178D		3
1		1	MON051	MONITOR; patient; MR compatible; vital signs; multi-parameter; includes pulse oximeter		3
5		5	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
1		1	OUT463	OUTLET; nitrous oxide; medical, trunking mounted.		1
2		2	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	OUT481	OUTLET; gas scavenging (AGS); medical, trunking mounted.		1
2		2	STA2510	STAND; drip, twin hooks, MR compatible		3
2		2	STO900	STOOL; MR Compatible		3
1		1	SUC902	SUCTION UNIT; pipeline; high pressure; theatre; MRI compatible		3
1		1	SWC025	SWITCH, light		1
2		2	SWC062	EMERGENCY STOP switch button, wall mounted		1
1		1	SYR005	SYRINGE INJECTOR; MRI compatible; automatic; hi pressure injection; media contrast		5
1		1	TAB903	TABLE operating patient; MR Compatible Top powered with 250mm transverse top; complete with specialty accessories; 715H 600W 2102D		3
1		1	TRO139	TROLLEY; dressing/instrument; MRI compatible; 870H 450W 450D		3
1		1	TRO901	TROLLEY; Coil cupd		3
1		1	TVM2503	TV / monitor flat screen with DVD player, MRI compatible		3

ADB			Schedule of Components by Room		E0801-02	
Project:		11072	RHSC & DCN			
Department:		P1	Operating Theatres & RHSC Surgical Day Case Unit			
Room:		E0801-02	MRI Room			
Room Number:		1-P1-064	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	UPS003	Uninterrupted power supply (UPS).		1



ADB	Room Data Sheet			E0604-05
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0604-05	Control room: Interoperative MRI		
Room Number:	1-P1-065	Revision Date:	18/09/2014	
Activities:	1) Radiographer operates an x-ray Simulator 2) Monitoring of patient on Simulator couch through leaded glass window 3) Use of computer workstation(s) 4) Viewing of X-ray films 5) Displaying notices 6) Maintenance and storage of EBME equipment records and reports 7) Viewing diagnostic images on VDT			
Personnel:	2 x staff Access to visitors, researchers			
Planning Relationships:	Direct access to/from MRIR room. Access may be required to medical conference room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm)	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		E0604-05
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0604-05	Control room: Interoperative MRI	
Room Number:	1-P1-065		Revision Date: 18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	4.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
LIGHTING			
Service Illumination (Lux):	300	@ Desk 750 - 850 AFFL	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):		None	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
NOISE			
Privacy Factor Required (dB):			
Mechanical Services (NR):	35	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated:			
(* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
SAFETY			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):			
<b>General Notes:</b>			
FIRE			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		E0604-05
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0604-05	Control room: Interoperative MRI	
Room Number:	1-P1-065		Revision Date: 18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to MRI Room to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Viewing panel to MRI room, radiation protection.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				E0604-05
Project:	11072	RHSC & DCN				
Department:	P1	Operating Theatres & RHSC Surgical Day Case Unit				
Room:	E0604-05	Control Room - MRI				
Room Number:	1-P1-065				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BIN2504	BIN: confidential waste		3
1		1	BOA022	BOARD: display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	BOA034	BOARD: marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
1		1	BUT2500	Quench button.		5
3		3	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
2		2	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
2		2	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
1		1	COM913	Hard drive for MRI scanner		5
1		1	CUP332	CUPBOARD; key; 30 hooks; lockable; wall mounted; 305H 230W 70D.		1
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	IMG112	CONTROL CONSOLE; for MRI		5
1		1	IMG2507	Wave Guide.		5
2		2	LOC012	LOCKER; wall mounted; 340H 300W 300D.		1
1		1	MON2504	MONITOR and CONTROL for CCTV; complete with flat screen monitor; keyboard; digital recorder (computer) and power supply		5
1		1	MON906	MONITOR; Clinical slave		2
2		2	MSC2508	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; shelves; 1 door hinged left; wall mounted.		1
2		2	MSC2510	CABINET base; 1000mm facing; (1000x400 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
1		1	OUT002	OUTLET, cable 13amp		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
9		9	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
8		8	OUT121	SOCKET outlet; computer data; double.		1
5		5	OUT126	SOCKET outlet switched 13amp double; with data protection mains RF filter/suppressor.		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1
1		1	OUT215	SOCKET outlet, telephone		1
1		1	OUT2500	OUTLET; connection for IPOD.		1
1		1	PAN2500	PANEL; syringe injector controller.		5
1		1	PRI015	PRINTER; label; portable		3
1		1	REC032	RECORDER/DVD; playback		3
1		1	STF130	STORAGE UNIT; lower; cupboard; 2 door; 1 shelf; on castors; 600H 600W 550D		3
1		1	STF165	STORAGE UNIT; lower; 6 drawer; on castors; 600H 600W 450D		3

ADB			Schedule of Components by Room		E0604-05	
Project:		11072		RHSC & DCN		
Department:		P1		Operating Theatres & RHSC Surgical Day Case Unit		
Room:		E0604-05		Control Room - MRI		
Room Number:		1-P1-065		Revision Date:		09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
4		4	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1
2		2	SWC082	EMERGENCY STOP; switch button; wall mounted		1
1		1	TEL1000	TELEPHONE; handset		3
2		2	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	UPS003	Uninterrupted power supply (UPS).		1
1		1	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1
3		3	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1



<b>ADB</b>	<b>Room Data Sheet</b>	<b>N0305-01</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	N0305-01	Anaesthetic room: DCN		
Room Number:	1-P1-069		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Storage of anaesthetic accessories and equipment</li> <li>2) Secure storage of controlled and scheduled drugs</li> <li>3) Holding/storing sterile equipment</li> <li>4) Holding / storing stock of infusion fluids</li> <li>5) Storage of refrigerated drugs/medicines</li> <li>6) Displaying operating lists</li> <li>7) Recording of patient data/notes</li> <li>8) Collection of used anaesthetic accessories for reprocessing</li> <li>9) Collection of waste materials for disposal</li> <li>10) Clinical handwashing</li> <li>11) Administration of intravenous analgesia</li> <li>12) Maintenance of general anaesthesia</li> <li>13) Use of monitoring/diagnostic or therapeutic equipment</li> </ol>			
Personnel:	1 x patient 4 x staff			
Planning Relationships:	Direct access from corridor and into theatre.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			
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ADB	Room Environmental Data		N0305-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	N0305-01	Anaesthetic room: DCN	
Room Number:	1-P1-069		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>      /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 25:  Ventilation Type: Central Supply and Extract In line with SHTM 03-01  F7 - minimum	
<b>General Notes:</b> Heating Type: Warm Air via AHU Battery with Local / BMS Adjustable Sensor. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500   Y A	Not Applicable 10,000-100,000 @ Bed / Trolley 1450 AFFL Colour rendering characteristics (Ra)80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40     Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		N0305-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	N0305-01	Anaesthetic room: DCN	
Room Number:	1-P1-069	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				N0305-01	
Project:		11072		RHSC & DCN			
Department:		P1		Operating Theatres & RHSC Surgical Day Case Unit			
Room:		N0305-01		Anaesthetic Room 2 (DCN)			
Room Number:		1-P1-069		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	ANA001	ANAESTHETIC MACHINE/WORKSTATION electrically powered piston ventilator, mobile, 1350H 750W 650D		3	
1		1	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1	
1		1	CHA024	CHAIR, anaesthetist, height adjustable		3	
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1	
1		1	COM033	COMPUTER KEYBOARD		3	
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3	
2		2	CUP2510	CUPBOARD; base unit; LH door; ; 600mm.		1	
1		1	CUP2519	CUPBOARD; wall unit; LH door; 600h; lockable; 500mm.		1	
1		1	CUP2551	CUPBOARD; wall unit; 2 glass door; 600h; lockable; 1000mm.		1	
2		2	CUP2566	CUPBOARD; base unit; RH door; 500mm.		1	
2		2	CUP2572	CUPBOARD; base unit; 4 drawer; 500mm.		1	
1		1	DIS013	DISPENSER, paper towel, wall mounted		2	
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2	
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2	
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
1		1	LIG081	LUMINAIRE fitted with single fluorescent lamp with switch; below drug cupboard; 8watt; 400mm.		1	
1		1	LIG963	LUMINAIRE; examination; ceiling; adjustable.		1	
1		1	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
19		19	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1	
1		1	OUT049	CONNECTION UNIT, switched, 13amp, flex outlet		1	
1		1	OUT050	OUTLET, controlled drugs cupboard		1	
1		1	OUT054	CONNECTION UNIT, unswitched, 13 amp, neon indicator		1	
4		4	OUT121	SOCKET outlet; computer data; double.		1	
1		1	OUT215	SOCKET outlet, telephone		1	
1		1	OUT453	OUTLET, 4kPa compressed air, medical		1	
1		1	OUT461	OUTLET, nitrous oxide, medical		1	
2		2	OUT470	OUTLET, oxygen, medical		1	
2		2	OUT475	OUTLET, vacuum, medical		1	
1		1	OUT480	OUTLET, gas scavenging (AGS), medical		1	
1		1	REF091	REFRIGERATOR; drug; capacity 35 litres; external temperature gauge; lockable; wall mounted; 510H 380W 445D		2	
1		1	STA142	STAND; infusion; twin hook; breaks; mobile		3	
2		2	STA2509	STAND; sharps bin, mobile, 30 litre		3	
2		2	STF290	STORAGE UNIT; upper; cupboard; controlled drugs; 1 door; lockable; with inner lockable cupboard and warning light; 550H 600W 300D		1	
1		1	SUP2500	SUPPORT LEG; for 920 high worktop		1	
1		1	SWC025	SWITCH, light		1	



ADB			Schedule of Components by Room			N0305-01	
Project:		11072		RHSC & DCN			
Department:		P1		Operating Theatres & RHSC Surgical Day Case Unit			
Room:		N0305-01		Anaesthetic Room 2 (DCN)			
Room Number:		1-P1-069		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
2		2	SYR004	SYRINGE pump; anaesthetic use; with diprifusor; 115H 400W 180D		3	
1		1	TAP892	TAP, bib, 2x8 mm thermostatic mixer, automatic action, sensor operated, non-touch		1	
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2	
2		2	TRO021	TROLLEY; 4 sets of runners; 850H 600W 600D		3	
1		1	TRO131	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 450W 450D		3	
1		1	TRO204	TROLLEY instrument tray MAYO, 650W 450D		3	
1		1	TRO282	TROLLEY PATIENT; accident; image top; with tilt and brakes; 540-1000H 740W 2110D		3	
1		1	TRO601	TROUGH scrub-up; hospital pattern; stainless steel; single; 75mm upstand; 800W 450D. HTM64SUH1.		1	
2		2	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	UPS003	Uninterrupted power supply (UPS).		1	
1		1	WAS102	WASTE, unslotted flush-grated, metal, 1.1/2 in		1	
1		1	WAS108	TRAP, bottle, 1.1/2 in, plastic resealing		1	
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	



<b>ADB</b>	<b>Room Data Sheet</b>	<b>N0106-03</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	N0106-03	Operating theatre: DCN		
Room Number:	1-P1-070		Revision Date:	18/09/2014

Activities:	<ul style="list-style-type: none"> <li>1) Connection of patient to anaesthetic machine</li> <li>2) Assembly and connecting of mobile equipment</li> <li>3) Use of surgical instruments on instrument trolley</li> <li>4) Surgical procedures performed under local or general anaesthetic</li> <li>5) Viewing film and/or computer generated images</li> <li>6) Checking, weighing and recording used swab</li> <li>7) Displaying operating lists</li> <li>8) Recording of patient data/notes</li> <li>9) Transfer of patient from operating table to bed/trolley</li> <li>10) Computer information accessed</li> <li>11) Assessment / updating of electronic patient records (EPRs)</li> <li>12) Maintenance of general anaesthesia</li> <li>13) Use of mobile image intensifier</li> <li>14) Use of monitoring/diagnostic or therapeutic equipment</li> </ul>			
Personnel:	<ul style="list-style-type: none"> <li>1 x patient</li> <li>7 x staff</li> </ul>			
Planning Relationships:	<ul style="list-style-type: none"> <li>Direct access to preparation room.</li> <li>Direct access to anaesthesia room (when provided).</li> <li>Direct access or adjacent to scrub-up room.</li> <li>Direct access to utility room.</li> <li>Direct access to corridor/exit bay.</li> </ul>			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,000
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<ul style="list-style-type: none"> <li>Refer to ME 571 series of drawings for access control (PCP 4.17)</li> <li>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</li> </ul>			
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ADB	Room Environmental Data		N0106-03
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	N0106-03	Operating theatre: DCN	
Room Number:	1-P1-070	Revision Date:	18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):		Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):		In line with SHTM 03-01	
Pressure Relative to Adjoining Space:			
Filtration (%DSE and % Arrestance):	/	F7 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Warm Air via AHU Battery with Local / BMS Adjustable Sensor. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	500	Not Applicable	
Service Illumination Night (Lux):		10,000 - 100,000 @ Bed / Trolley 1450 AFFL	
Local Illumination (Lux):		Colour rendering characteristics (Ra) 80	
Colour Rendering Required:	Y	Lighting of the level and quality equal or nearly equal to that	
Standby Lighting Grade:	A	provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):	50	Intrusive Noise:	
Mechanical Services (NR):		SHTM 08-01 noise intrusion from external noise sources is not	
Intrusive Noise (NR Eq):		given in NR values but instead in LAeq,1hr and LAmaz,1	
*Acceptable Sound Level [L10dB(A)]:		50:daytime (LAeq,1hr)	
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated:			
(* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		N0106-03
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	N0106-03	Operating theatre: DCN	
Room Number:	1-P1-070	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A or clear, solar control, privacy control (tbc)		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:	windows are currently on the change control matrix (Board decision - tbc)		

ADB		Schedule of Components by Room				N0106-03	
Project:		11072		RHSC & DCN			
Department:		P1		Operating Theatres & RHSC Surgical Day Case Unit			
Room:		N0106-03		Operating Theatre 2 (DCN)			
Room Number:		1-P1-070		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	ANA004	ANAESTHETIC MACHINE/WORKSTATION with ventilator, with accessories, mobile, 1580H 565W 695D		3	
2		2	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1	
1		1	CAN010	CANOPY : ultra clean ventilation (UCV) operating theatre, 2000mm clear from floor level to underside, 3200W x3200D, sliding screens.		1	
1		1	CHA024	CHAIR, anaesthetist, height adjustable		3	
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1	
2		2	COM033	COMPUTER KEYBOARD		3	
2		2	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3	
1		1	DIA002	DIATHERMY APPARATUS; Surgical with 2 suction jars, mobile		3	
1		1	DIA004	DIATHERMY UNIT; surgical; monopolar; bipolar; argon compatible; 111H 356W 439D		3	
1		1	DIA005	SMOKE EVACUATION SYSTEM; (diathermy) complete with trolley; 860H 487W 643D		3	
4		4	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
1		1	DRI2500	DRILL; 7 bar power drill		3	
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
1		1	IMG2509	IMAGING; Camera box.		1	
2		2	INF001	INFUSION volumetric pump; 356H 178W 178D		3	
4		4	LIG071	ILLUMINATED SIGN RADIATION ON, wall mounted		1	
1		1	LIG2504	Head light source		3	
1		1	LIG2505	LIGHT; Operating 3 arm		1	
1		1	LIG2506	LIGHT; green blue light source.		1	
1		1	MON042	MONITOR sedation depth; 169H 175W 100D		3	
1		1	MON2501	MONITOR; flat screen; recessed; wall mounted; double PACS theatre specific		5	
1		1	MON2513	MONITOR; 42inch, wall mounted		5	
1		1	MON2517	MONITOR; HD screen on arm		3	
1		1	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3	
2		2	OUT005	SOCKET outlet, switched, 13amp, single		1	
19		19	OUT010	SOCKET outlet, switched, 13amp, twin		1	
24		24	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1	
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1	
8		8	OUT121	SOCKET outlet; computer data; double.		1	
10		10	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1	
1		1	OUT2500	OUTLET; connection for IPOD.		1	
1		1	OUT2503	SOCKET; outlet switched 13amp double; ceiling mounted.		1	
4		4	OUT453	OUTLET, 4kPa compressed air, medical		1	
4		4	OUT454	OUTLET, 7kPa compressed air, medical		1	
4		4	OUT461	OUTLET, nitrous oxide, medical		1	
8		8	OUT470	OUTLET, oxygen, medical		1	
8		8	OUT475	OUTLET, vacuum, medical		1	
4		4	OUT480	OUTLET, gas scavenging (AGS), medical		1	
15		15	OUT904	OUTLET; socket, AV and control system, typt tbc		1	



ADB		Schedule of Components by Room				N0106-03	
Project:		11072		RHSC & DCN			
Department:		P1		Operating Theatres & RHSC Surgical Day Case Unit			
Room:		N0106-03		Operating Theatre 2 (DCN)		Revision Date: 09/09/2014	
Room Number:		1-P1-070					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	PAN053	PANEL operating theatre; to meet the theatre requirements.		1	
1		1	PEG002	PEGS; equipment; medium; 2; wide spacing; wall mounted.		1	
3		3	PEN002	PENDANT; Anaesthetic; medical & power supply unit; vertical movement; ceiling mounted; outlets comprising.		1	
1		1	PEN006A	PENDANT SURGICAL; touch screen monitor; medical and power supply unit; tandem; lateral and vertical movement; ceiling mounted; outlets comprising.		1	
3		3	PLA002	PLATFORM; step-stand; stackable; portable; 130H 480W 330D		3	
1		1	PRI015	PRINTER; label; portable		3	
1		1	SCA012	SCALE; swab; includes Mains adaptor		3	
1		1	SCA2503	SCALPEL; harmonic		3	
2		2	STA101	STAND; lotion bowl; single; stainless steel; (Bowls not included)		3	
2		2	STA142	STAND; infusion; twin hook; breaks; mobile		3	
2		2	STA2509	STAND; sharps bin, mobile, 30 litre		3	
3		3	STO006	STOOL, surgeon/anaesthetist, height adjustable, includes anti-static seat pads		3	
2		2	SUC002	SUCTION UNIT; pipeline; high pressure; theatre		3	
2		2	SUP2500	SUPPORT LEG; for 920 high worktop		1	
1		1	SUR971	Swab bucket		3	
2		2	SWC025	SWITCH, light		1	
3		3	SYR004	SYRINGE pump; anaesthetic use; with diprifusor; 115H 400W 180D		3	
2		2	TEL2500	TELEPHONE; handset, wall mounted.		2	
1		1	TRF002	AUTOTRANSFUSION cell separator; mobile; built in air and foam detector; 1620H 270W 585D		3	
2		2	TRO021	TROLLEY; 4 sets of runners; 850H 600W 600D		3	
4		4	TRO131	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 450W 450D		3	
2		2	TRO133	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 750W 450D		3	
2		2	TRO201	TROLLEY, instruments, stainless steel, buffered, 870H 920W 620D		3	
1		1	TRO204	TROLLEY instrument tray MAYO, 650W 450D		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	UPS003	Uninterrupted power supply (UPS).		1	
1		1	WAR053	WARMER, blood/fluid, maintains temperature between 36 and 43 deg.C at flow rates up to 500 ml/min, 35H 235W 273D		3	
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	



ADB	Room Data Sheet			E0311
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0311	Angiography Procedures Room		
Room Number:	1-P1-093	Revision Date:	18/09/2014	
Activities:	1) Patient is positioned or repositioned for examination 2) Use of radiation protection equipment 3) Imaging x-ray examination of patient 4) Use of oxygen and vacuum services for resuscitation 5) Storage of small items of equipment 6) Storage of Positioning aids e.g. wedges pillows and other immobilisation devices 7) Clinical handwashing			
Personnel:	1 x patient 4 x staff			
Planning Relationships:	Adjacent to viewing/reporting area.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,000
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p> <p>Radiation protection requirements are subject to RPA advice upon selection of equipment.</p> <p>The "radiation in use" warning lamp should be installed at eye level outside the entrance(s) to the room.</p>			

ADB	Room Environmental Data		E0311
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0311	Angiography Procedures Room	
Room Number:	1-P1-093		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):		Ventilation Type: Central Supply & Extract	
Mechanical Ventilation (Extract ac/hr):		In Line with SHTM 03-01	
Pressure Relative to Adjoining Space:	0		
Filtration (%DSE and % Arrestance):	/	F7 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Warm Air via AHU Battery with local / BMS Adjustable Sensor. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	500	Not Applicable	
Service Illumination Night (Lux):		10,000 - 100,000 @ Floor	
Local Illumination (Lux):		Colour rendering characteristics (Ra) 80	
Colour Rendering Required:	Y	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
Standby Lighting Grade:	A		
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	40	SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated:			
(* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		E0311
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0311	Angiography Procedures Room	
Room Number:	1-P1-093	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings Floor Recess required		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Viewing panel from control room, radiation protection.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				E0311
Project:	11072	RHSC & DCN				
Department:	P1	Operating Theatres & RHSC Surgical Day Case Unit				
Room:	E0311	Angiography Procedures Room				
Room Number:	1-P1-093				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ANA001	ANAESTHETIC MACHINE/WORKSTATION electrically powered piston ventilator, mobile, 1350H 750W 650D		3
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, intefral back outlet, 500W 400D		1
2		2	BIN2509	BIN; sharps disposal; 7 litre; rail mounted		3
4		4	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
2		2	CAM2500	VIDEO MONITORING EQUIPMENT; camera.		2
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM2503	COMPUTER MONITOR, PACS REVIEW STATION; 2 21", high-resolution screens,		3
1		1	CYL2500	CYLINDER; oxygen		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
2		2	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
2		2	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
3		3	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	IMG101	MONITOR viewing; flat panel display for image intensifier; ceiling mounted		5
1		1	IMG105	TABLE PATIENT - image intensifier; X-ray; floating top; (Part of IMG026; or IMG030)		5
2		2	IMG111	CONTROL CONSOLE - tableside gantry control for digital imaging system		5
2		2	IMG121	IMAGE CS RAIL; ceiling suspensions for monitors		5
1		1	IMG131	SHIELD lead acrylic; overhead suspended on bracket; 760W 610D lead equivalent 0.5mm Pb; ceiling mounted		5
1		1	IMG905	Biplane Imaging System		5
5		5	LIG071	ILLUMINATED SIGN RADIATION ON, wall mounted		1
1		1	LIG963	LUMINAIRE; examination; ceiling; adjustable.		1
1		1	MAC2500	ACT Machine on trolley		3
1		1	MON1002	MONITOR; ACCU platelet		3
1		1	MON900	MONITOR; Low end monitor, general Ward /OPD use		3
2		2	MSC091	CABINET base; 400mm facing; (400x600 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
2		2	MSC096	CABINET base; 400mm facing; (400x600 inserts); with 3 telescopic runners; 1 door hinged left; on plinth; o/a height 900.		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
4		4	OUT009	SOCKET outlet switched 13 amp twin; floor mounted.		1
11		11	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
2		2	OUT121	SOCKET outlet; computer data; double.		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT453	OUTLET, 4kPa compressed air, medical		1
1		1	OUT461	OUTLET, nitrous oxide, medical		1
1		1	OUT470	OUTLET, oxygen, medical		1
2		2	OUT475	OUTLET, vacuum, medical		1



ADB		Schedule of Components by Room				E0311
Project:	11072	RHSC & DCN				
Department:	P1	Operating Theatres & RHSC Surgical Day Case Unit				
Room:	E0311	Angiography Procedures Room				
Room Number:	1-P1-093				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	OUT480	OUTLET, gas scavenging (AGS), medical		1
1		1	PEG2500	HOOK; Pat Slide.		1
1		1	PEN002	PENDANT; Anaesthetic; medical & power supply unit;		1
1		1	PLA002	vertical movement; ceiling mounted; outlets comprising,		3
2		2	RAC360	PLATFORM; step-stand; stackable; portable; 130H		3
1		1	SCR066	480W 330D RACK; catheter and guide wire storage; rotary; mobile;		5
1		1	SLI2500	wire basket; top 600x600mm; 800mm dia. 230H 600W		3
1		1	STA2504	600D SCREEN shielding; radiation protection; lead sheets;		3
3		3	STO002	mobile; 1140H 1070L; lead equivalent 0.8 mm Pb @		3
2		2	SWC031	110 keV. PATSLIDE		1
1		1	SYR001	STAND; Roll stand for monitor		5
1		1	TAP894	STOOL, height adjustable, 380H 480 dia.		1
2		2	THE900	SWITCH; light; dimmer to M&E design.		3
1		1	TRO070	SYRINGE INJECTOR, automatic, high pressure		3
2		2	TRO131	injection, contrast media.		3
2		2	TRO133	TAP bib; hospital pattern; integral thermostatic mixer;		3
4		4	TRO901	HTM64		3
1		1	WAS100	THERMOMETER; Tympanic		1
1		1	WAS1000	TROLLEY, for single cylinder, type F or G, 1155H		1
1		1	WKT1006H	510W 405D		1
2		2	XRA018	TROLLEY, dressing/instrument, stainless steel,		5
				buffered, 870H 450W 450D		
				TROLLEY, dressing/instrument, stainless steel,		
				buffered, 870H 750W 450D		
				TROLLEY; Coll cupd		
				WASTE, unslotted flush-grated, metal, 1.1/4 in		
				TRAP; concealed waste; for back outlet basins.		
				WORKTOP; 920 high 800 deep 40mm thick; with		
				50mm upstand; length as drawn.		
				X-RAY CS RAIL; ceiling suspensions; 2455mm (3655		
				w/optional extension rail)		



<b>ADB</b>	<b>Room Data Sheet</b>	<b>X1026</b>
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Project:	11072	RHSC & DCN
Department:	01	Key Rooms (Financial Close)
Room:	X1026	Control room: Angiography Procedures
Room Number:	1-P1-094	Revision Date: 18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Radiographers operate orthovoltage/superficial machine seated at control desk.</li> <li>2) Displays of patient data and position on treatment couch are monitored via CCTV - this must be screened from public view</li> <li>3) Viewing of X-ray films</li> <li>4) Use of computer workstation(s)</li> <li>5) Holding patient notes / images</li> <li>6) Accommodation of computer equipment and operator of the Verification Control and Record (VCR) equipment.</li> <li>7) Audible warning may be given as per approved code of practice of the Ionising Radiations Regulation 1985, page 29, Para 22</li> </ol>		
Personnel:	2 x Staff		
Planning Relationships:	Adjacent to orthovoltage/superficial treatment room.		
Space Data:	Area (m <sup>2</sup> ):		Height (mm): 2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.		

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>		
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ADB	Room Environmental Data		X1026
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X1026	Control room: Angiography Procedures.	
Room Number:	1-P1-094		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>      /	<b>Notes</b> Permissible space temperature range (dry bulb)(degC): 18 - 25  Ventilation Type: Central Supply and Extract In line with SHTM 03-01  F7 - minimum	
<b>General Notes:</b> Heating Type: Warm Air via AHU Battery with BMS Adjustable Sensor. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500    N A	Not Applicable 10,000 - 100,000 @ Bed / Trolley 1450 AFFL Colour Rendering Characteristics (Ra): 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40     Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		X1026
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X1026	Control room: Angiography Procedures	
Room Number:	1-P1-094	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Viewing panel to procedures room, radiation protection.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X1026
Project:	11072	RHSC & DCN				
Department:	P1	Operating Theatres & RHSC Surgical Day Case Unit				
Room:	X1026	Angiography Procedures Control Room				
Room Number:	1-P1-094				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BIN2504	BIN: confidential waste		3
1		1	BOA034	BOARD: marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
2		2	CHA002	CHAIR: height adjustable; medium back; swivel; 5 star base; on castors		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
1		1	COM1000	COMPUTER MONITOR, TFT; Sunray digital flat panel display; desk top		3
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
1		1	COM898	COMPUTER CPU		3
1		1	CRD051	CONTROL CONSOLE and COMPUTER for catheter laboratories; (Part of CRD021 or CRD023)		5
2		2	CUP378	CUPBOARD/DRAWER UNIT; 1 drawer; 1 shelf; on castors; 660H 480W 390D		3
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	LIG060	LUMINAIRE fitted with twin fluorescent lamp.		1
1		1	LIG074	ILLUMINATED SIGN DO NOT ENTER		1
1		1	MON906	MONITOR; Clinical slave		2
1		1	MON924	MONITOR; for use with remote camera, with bracket		2
4		4	MSC263	CABINET/DRAWER features; base; 400mm facing; 4 drawer; on plinth; o/a height 900.		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
10		10	OUT010	SOCKET outlet, switched, 13amp, twin		1
10		10	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT210	SOCKET outlet two-way communication system (Intercom), wall mounted		1
1		1	OUT215	SOCKET outlet, telephone		1
1		1	PRI015	PRINTER; label; portable		3
2		2	RAC195	RACK; x-ray lead apron; 5 hangers; wall mounted		2
2		2	SUP2500	SUPPORT LEG; for 920 high worktop		1
3		3	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1
1		1	TEL1000	TELEPHONE; handset		3
3		3	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	UPS003	Uninterrupted power supply (UPS).		1
1		1	WKT1003L	WORKTOP; 720 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1
1		1	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1



ADB	Room Data Sheet			B2417-01
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	B2417-01	Post Anaesthetic Recovery:DCN		
Room Number:	1-P1-109	Revision Date:	18/09/2014	
Activities:	1) Post anaesthetic recovery of patients 2) Medical and nursing procedures 3) Observation by medical and nursing staff 4) Clinical handwashing 5) Use of mobile equipment and services may be used 6) Manoeuvring beds. 7) Use of monitoring/diagnostic or therapeutic equipment 8) Use of piped medical gases, vacuum and associated equipment			
Personnel:	8 x patients ( 1 per bay) 4 x staff			
Planning Relationships:	Part of multi-bay area. Overall area to include staff communication base and utilities. Close to operating theatre.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			



ADB	Room Environmental Data		B2417-01																																
Project:	11072	RHSC & DCN																																	
Department:	01	Key Rooms (Financial Close)																																	
Room:	B2417-01	Post Anaesthetic Recovery:DCN																																	
Room Number:	1-P1-109	Revision Date:	18/09/2014																																
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ADB	Room Design Character		B2417-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B2417-01	Post Anaesthetic Recovery:DCN	
Room Number:	1-P1-109	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				B2417-01
Project:	11072	RHSC & DCN				
Department:	P1	Operating Theatres & RHSC Surgical Day Case Unit				
Room:	B2417-01	Recovery (8 bays)				
Room Number:	1-P1-109				Revision Date:	18/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
8		8	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
8		8	BED2502	BED HEAD BUFFER: bed and wall protection: vertical: wall mounted.		1
8		8	BIN2509	BIN; sharps disposal; 7 litre; rail mounted		3
8		8	BRA003	BRACKET, holder, suction unit, wall mounted		2
8		8	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
8		8	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
8		8	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
8		8	DIS013	DISPENSER, paper towel, wall mounted		2
8		8	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
8		8	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
9		9	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	HOI006	HOIST PATIENT; electric; 24V; track ceiling mounted (Length of the track to suit the individual needs).		1
16		16	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
8		8	LIG005	LUMINAIRE, bedhead, dimmable, patient reading and general nursing care/examination		1
8		8	LIG963	LUMINAIRE; examination; ceiling; adjustable.		1
8		8	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3
16		16	MSC081	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
8		8	MST005	TROLLEY; half size open frame; up to 5 sets of runners; 400mm facing; approx 850H 450W 350D		3
8		8	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
8		8	OUT005	SOCKET outlet, switched, 13amp, single		1
16		16	OUT010	SOCKET outlet, switched, 13amp, twin		1
32		32	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
16		16	OUT121	SOCKET outlet; computer data; double.		1
8		8	OUT210	SOCKET outlet two-way communication system (Intercom), wall mounted		1
1		1	OUT215	SOCKET outlet, telephone		1
16		16	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
16		16	OUT471	OUTLET; oxygen medical; trunking mounted.		1
16		16	OUT476	OUTLET; vacuum medical; trunking mounted.		1
8		8	RAI136	RAIL; clinical equipment; wall mounted; 2100mm.		1
8		8	STA142	STAND; infusion; twin hook; breaks; mobile		3
8		8	STO024	STOOL, dental, with back support, mobile		3
8		8	SWC025	SWITCH, light		1
8		8	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2
8		8	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
8		8	TRO021	TROLLEY; 4 sets of runners; 850H 600W 600D		3

ADB			Schedule of Components by Room		B2417-01	
Project:		11072	RHSC & DCN			
Department:		P1	Operating Theatres & RHSC Surgical Day Case Unit			
Room:		B2417-01	Recovery (8 bays)			
Room Number:		1-P1-109	Revision Date:		18/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
8		8	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
1		1	UPS003	Uninterrupted power supply (UPS).		1
8		8	WAR053	WARMER, blood/fluid, maintains temperature between 36 and 43 deg.C at flow rates up to 500 ml/min, 35H 235W 273D		3
8		8	WAS100	WASTE, unslotted flush-grated, metal, 1, 1/4 in		1
8		8	WAS1000	TRAP; concealed waste; for back outlet basins.		1
8		8	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet			V0726
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	V0726	Changing Room		
Room Number:	1-P1-127	Revision Date:	18/09/2014	
Activities:	1) Semi-ambulant user may undress/dress in privacy 2) Hanging clothing 3) Use of call systems			
Personnel:	1 x patient Intermittent use			
Planning Relationships:	Adjacent to sub-waiting area Close to WC facilities.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,400
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			



ADB	Room Environmental Data		V0726
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	V0726	Changing Room	
Room Number:	1-P1-127		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  6.0 10.0 Positive /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Supply and Extract  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	100   Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	45    N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  55:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		V0726
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	V0726	Changing Room	
Room Number:	1-P1-127	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB			Schedule of Components by Room			V0726		
Project:		11072	RHSC & DCN					
Department:		P1	Operating Theatres & RHSC Surgical Day Case Unit					
Room:		V0726	Changing Cubicle				Revision Date: 09/09/2014	
Room Number:		1-P1-127						
Quantity			Code	Description	Alt. Code	Grp		
New	Trans	Total						
1		1	CAL005	CEILING, PULL CORD, patient/staff call.		1		
1		1	CHA017	CHAIR; upright; upholstered; stacking		3		
2		2	HOO024	HOOK; hat and coat; 1.		1		
1		1	LOC005	LOCKER, CLOTHES, SINGLE, 1800H 300W 550D		3		
1		1	MIR010	MIRROR; wall mounted; 800H 300W.		1		
1		1	OUT006	SOCKET outlet, switched, 13amp, single		1		
1		1	RAI048	RAIL, grab, vertical, wall mounted, 600mm		1		
1		1	SWC025	SWITCH, light		1		

ADB	Room Data Sheet			D2155
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	D2155	Admissions Lounge		
Room Number:	1-P1-128	Revision Date:	18/09/2014	
Activities:	1) Patients, relatives and escorts wait to be seen 2) Displaying information			
Personnel:	6 x patients 1 x staff 3 x visitors			
Planning Relationships:	Adjacent to reception area. Close to clinical or work area. Close to WC facilities.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		D2155
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	D2155	Admissions Lounge	
Room Number:	1-P1-128		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  6.0 8.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Comfort Cooled Fresh Air  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300   Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra):80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40    N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  50:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB	Room Design Character		D2155
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	D2155	Admissions Lounge	
Room Number:	1-P1-128	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				D2155
Project:	11072	RHSC & DCN				
Department:	P1	Operating Theatres & RHSC Surgical Day Case Unit				
Room:	D2155	Admissions Lounge				
Room Number:	1-P1-128				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
5		5	BED2502	BED HEAD BUFFER: bed and wall protection: vertical: wall mounted.		1
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
7		7	CHA017	CHAIR; upright; upholstered; stacking		3
5		5	CHA091	CHAIR; easy; reclining; 1000H 630W 1880D		3
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
6		6	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOL020	HOLDER, sharps box, up to 7 litre capacity, rail/trolley hang or wall mounted, 170H 125W 100D		3
4		4	LOC008	LOCKER clothes; single; 2 compartments; 1800H 300W 550D		3
2		2	MSC2508	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; shelves; 1 door hinged left; wall mounted.		1
2		2	MSC2510	CABINET base; 1000mm facing; (1000x400 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
2		2	OUT005	SOCKET outlet, switched, 13amp, single		1
6		6	OUT010	SOCKET outlet, switched, 13amp, twin		1
2		2	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
2		2	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
1		1	RAC440	RACK; leaflet; wall mounted; 915H 250W 105D.		1
1		1	SUP2500	SUPPORT LEG; for 920 high worktop		1
2		2	SWC031	SWITCH; light; dimmer to M&E design.		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset.		3
4		4	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	TVM006	TELEVISION monitor; colour; 585mm		3
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet			N0106-01
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	N0106-01	Operating theatre: RHSC		
Room Number:	1-P1-131	Revision Date:	18/09/2014	
Activities:	<ol style="list-style-type: none"> <li>1) Connection of patient to anaesthetic machine</li> <li>2) Assembly and connecting of mobile equipment</li> <li>3) Use of surgical instruments on instrument trolley</li> <li>4) Surgical procedures performed under local or general anaesthetic</li> <li>5) Viewing film and/or computer generated images</li> <li>6) Checking, weighing and recording used swab</li> <li>7) Displaying operating lists</li> <li>8) Recording of patient data/notes</li> <li>9) Transfer of patient from operating table to bed/trolley</li> <li>10) Computer information accessed</li> <li>11) Assessment / updating of electronic patient records (EPRs)</li> <li>12) Maintenance of general anaesthesia</li> <li>13) Use of mobile image intensifier</li> <li>14) Use of monitoring/diagnostic or therapeutic equipment</li> </ol>			
Personnel:	<p>1 x patient 7 x staff</p>			
Planning Relationships:	<p>Direct access to preparation room. Direct access to anaesthesia room (when provided). Direct access or adjacent to scrub-up room. Direct access to utility room. Direct access to corridor/exit bay.</p>			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,000
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			

ADB	Room Environmental Data		N0106-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	N0106-01	Operating theatre: RHSC	
Room Number:	1-P1-131	Revision Date:	18/09/2014
<b>AIR</b>			
Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	Requirements	Notes	
		Permissible space temperature range (dry bulb) (degC): 18 - 25	
		Ventilation Type: Central Supply and Extract In line with SHTM 03-01	
	/	F7 - minimum	
General Notes: Heating Type: Warm Air via AHU Battery with Local / BMS Adjustable Sensor. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500	Notes	
		Not Applicable	
		10,000 - 100,000 @ Bed / Trolley 1450 AFFL	
	Y	Colour rendering characteristics (Ra) 80	
	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
General Notes: Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):	50	Notes	
		Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
		50:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated:			
(* alternative format)			
General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
General Notes: Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB	Room Design Character		N0106-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	N0106-01	Operating theatre: RHSC	
Room Number:	1-P1-131	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A or clear, solar control, privacy control (tbc)		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:	windows are currently on the change control matrix (Board decision - tbc)		



ADB		Schedule of Components by Room				N0106-01	
Project:		11072		RHSC & DCN			
Department:		P1		Operating Theatres & RHSC Surgical Day Case Unit			
Room:		N0106-01		Operating Theatre 3 (RHSC)		Revision Date: 09/09/2014	
Room Number:		1-P1-131					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	ANA004	ANAESTHETIC MACHINE/WORKSTATION with ventilator, with accessories, mobile, 1580H 565W 695D		3	
1		1	BLA902	UNDERBLANKET; Gel 195P		3	
2		2	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1	
1		1	CAN010	CANOPY ; ultra clean ventilation (UCV) operating theatre, 2000mm clear from floor level to underside, 3200W x3200D, sliding screens.		1	
1		1	CHA024	CHAIR, anaesthetist, height adjustable		3	
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1	
2		2	COM033	COMPUTER KEYBOARD		3	
2		2	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3	
1		1	DIA004	DIATHERMY UNIT; surgical; monopolar; bipolar; argon compatible; 111H 356W 439D		3	
1		1	DIA005	SMOKE EVACUATION SYSTEM; (diathermy) complete with trolley; 860H 487W 643D		3	
4		4	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
1		1	IMG2509	IMAGING; Camera box.		1	
2		2	INF001	INFUSION volumetric pump; 356H 178W 178D		3	
3		3	LIG071	ILLUMINATED SIGN RADIATION ON, wall mounted		1	
1		1	LIG2502	LUMINAIRE; double arm; operating theatre; table with satellite; shadowless; lux 140000 and lux 110000.		1	
1		1	LIG2504	Head light source		3	
3		3	LIG902	ILLUMINATED SIGN; LASER ON (entrance to theatre).		1	
1		1	MON042	MONITOR sedation depth; 169H 175W 100D		3	
1		1	MON2501	MONITOR; flat screen; recessed; wall mounted; double PACS theatre specific		5	
1		1	MON2513	MONITOR; 42inch, wall mounted		5	
1		1	MON2517	MONITOR; HD screen on arm		3	
1		1	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3	
1		1	MST901	TROLLEY; lockable; closed; with worktop; approx. 1200H 1300W 500D		3	
2		2	OUT005	SOCKET outlet, switched, 13amp, single		1	
20		20	OUT010	SOCKET outlet, switched, 13amp, twin		1	
24		24	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1	
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1	
8		8	OUT121	SOCKET outlet; computer data; double.		1	
10		10	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1	
1		1	OUT2500	OUTLET; connection for IPOD.		1	
1		1	OUT2503	SOCKET; outlet switched 13amp double; ceiling mounted.		1	
4		4	OUT453	OUTLET, 4kPa compressed air, medical		1	
4		4	OUT454	OUTLET, 7kPa compressed air, medical		1	
4		4	OUT461	OUTLET, nitrous oxide, medical		1	
8		8	OUT470	OUTLET, oxygen, medical		1	
8		8	OUT475	OUTLET, vacuum, medical		1	
8		8	OUT480	OUTLET, gas scavenging (AGS), medical		1	

ADB			Schedule of Components by Room			N0106-01	
Project:		11072	RHSC & DCN				
Department:		P1	Operating Theatres & RHSC Surgical Day Case Unit				
Room:		N0106-01	Operating Theatre 3 (RHSC)				
Room Number:		1-P1-131			Revision Date:	09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
15		15	OUT904	OUTLET; socket, AV and control system; typt tbc		1	
1		1	PAN053	PANEL operating theatre; to meet the theatre requirements.		1	
1		1	PEG002	PEGS; equipment; medium; 2; wide spacing; wall mounted.		1	
4		4	PEN002	PENDANT; Anaesthetic; medical & power supply unit; vertical movement; ceiling mounted; outlets comprising.		1	
3		3	PLA002	PLATFORM; step-stand; stackable; portable: 130H 480W 330D		3	
1		1	PRI015	PRINTER; label; portable		3	
1		1	SCA012	SCALE; swab; includes Mains adaptor		3	
2		2	STA101	STAND; lotion bowl; single; stainless steel; (Bowls not included)		3	
2		2	STA142	STAND; infusion; twin hook; breaks; mobile		3	
2		2	STA2509	STAND; sharps bin, mobile, 30 litre		3	
3		3	STO006	STOOL, surgeon/anaesthetist, height adjustable, includes anti-static seat pads		3	
2		2	SUC002	SUCTION UNIT; pipeline; high pressure; theatre		3	
2		2	SUP2500	SUPPORT LEG; for 920 high worktop		1	
1		1	SUR971	Swab bucket		3	
2		2	SWC025	SWITCH, light		1	
3		3	SYR004	SYRINGE pump; anaesthetic use; with diprifusor; 115H 400W 180D		3	
1		1	TAB071	TABLE operating patient, powered with 250mm transverse top, complete with specialty accessories, 715H 600W 2102D		3	
2		2	TEL2500	TELEPHONE; handset, wall mounted.		2	
1		1	TRF002	AUTOTRANSFUSION cell separator; mobile; built in air and foam detector; 1620H 270W 585D		3	
1		1	TRO021	TROLLEY; 4 sets of runners; 850H 600W 600D		3	
2		2	TRO131	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 450W 450D		3	
1		1	TRO133	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 750W 450D		3	
1		1	TRO204	TROLLEY instrument tray MAYO, 650W 450D		3	
2		2	TRO205	TROLLEY, stainless steel, 1 shelf, 900H 600W 600D		3	
2		2	TRO921	TROLLEY, instrument, stainless steel, buffered, 870H 1200W 620D		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	UPS003	Uninterrupted power supply (UPS).		1	
1		1	WAR053	WARMER, blood/fluid, maintains temperature between 36 and 43 deg.C at flow rates up to 500 ml/min, 35H 235W 273D		3	
1		1	WAR901	Blanket Warmer		3	
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	

<b>ADB</b>	<b>Room Data Sheet</b>	<b>N0305</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	N0305	Anaesthetic room: RHSC		
Room Number:	1-P1-132		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Storage of anaesthetic accessories and equipment</li> <li>2) Secure storage of controlled and scheduled drugs</li> <li>3) Holding/storing sterile equipment</li> <li>4) Holding / storing stock of infusion fluids</li> <li>5) Storage of refrigerated drugs/medicines</li> <li>6) Displaying operating lists</li> <li>7) Recording of patient data/notes</li> <li>8) Collection of used anaesthetic accessories for reprocessing</li> <li>9) Collection of waste materials for disposal</li> <li>10) Clinical handwashing</li> <li>11) Administration of intravenous analgesia</li> <li>12) Maintenance of general anaesthesia</li> <li>13) Use of monitoring/diagnostic or therapeutic equipment</li> </ol>			
Personnel:	<p>1 x patient 4 x staff 2 x relatives</p>			
Planning Relationships:	Direct access from corridor and into theatre.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2.700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision.</p>			



ADB	Room Environmental Data		N0305
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	N0305	Anaesthetic room: RHSC	
Room Number:	1-P1-132		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>      /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 25:  Ventilation Type: Central Supply and Extract In line with SHTM 03-01  F7 - minimum	
<b>General Notes:</b> Heating Type: Warm Air via AHU Battery with Local / BMS Adjustable Sensor. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500    Y A	Not Applicable 10,000-100,000 @ Bed / Trolley 1450 AFFL Colour rendering characteristics (Ra)80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40      Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		N0305
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	N0305	Anaesthetic room: RHSC	
Room Number:	1-P1-132	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				N0305	
Project:		11072		RHSC & DCN			
Department:		P1		Operating Theatres & RHSC Surgical Day Case Unit			
Room:		N0305		Anaesthetic Room 3 (RHSC)			
Room Number:		1-P1-132		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	ANA001	ANAESTHETIC MACHINE/WORKSTATION electrically powered piston ventilator, mobile, 1350H 750W 650D		3	
1		1	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1	
1		1	CHA024	CHAIR, anaesthetist, height adjustable		3	
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1	
1		1	COM033	COMPUTER KEYBOARD		3	
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3	
2		2	CUP2510	CUPBOARD; base unit; LH door; ; 600mm.		1	
1		1	CUP2519	CUPBOARD; wall unit; LH door; 600h; lockable; 500mm.		1	
1		1	CUP2551	CUPBOARD; wall unit; 2 glass door; 600h; lockable; 1000mm.		1	
2		2	CUP2566	CUPBOARD; base unit; RH door; 500mm.		1	
2		2	CUP2572	CUPBOARD; base unit; 4 drawer; 500mm.		1	
1		1	DIS013	DISPENSER, paper towel, wall mounted		2	
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2	
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2	
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
1		1	LIG081	LUMINAIRE fitted with single fluorescent lamp with switch; below drug cupboard; 8watt; 400mm.		1	
1		1	LIG963	LUMINAIRE; examination; ceiling; adjustable.		1	
1		1	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
19		19	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1	
1		1	OUT049	CONNECTION UNIT, switched, 13amp, flex outlet		1	
1		1	OUT050	OUTLET, controlled drugs cupboard		1	
1		1	OUT054	CONNECTION UNIT, unswitched, 13 amp, neon indicator		1	
4		4	OUT121	SOCKET outlet; computer data; double.		1	
1		1	OUT215	SOCKET outlet, telephone		1	
1		1	OUT453	OUTLET, 4kPa compressed air, medical		1	
1		1	OUT461	OUTLET, nitrous oxide, medical		1	
2		2	OUT470	OUTLET, oxygen, medical		1	
2		2	OUT475	OUTLET, vacuum, medical		1	
1		1	OUT480	OUTLET, gas scavenging (AGS), medical		1	
1		1	REF091	REFRIGERATOR; drug; capacity 35 litres; external temperature gauge; lockable; wall mounted; 510H 380W 445D		2	
1		1	STA142	STAND; infusion; twin hook; breaks; mobile		3	
2		2	STA2509	STAND; sharps bin, mobile, 30 litre		3	
2		2	STF290	STORAGE UNIT; upper; cupboard; controlled drugs; 1 door; lockable; with inner lockable cupboard and warning light; 550H 600W 300D		1	
1		1	SUP2500	SUPPORT LEG; for 920 high worktop		1	
1		1	SWC025	SWITCH, light		1	

ADB		Schedule of Components by Room				N0305	
Project:		11072		RHSC & DCN			
Department:		P1		Operating Theatres & RHSC Surgical Day Case Unit			
Room:		N0305		Anaesthetic Room 3 (RHSC)			
Room Number:		1-P1-132		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
2		2	SYR004	SYRINGE pump; anaesthetic use; with diprifusor; 115H 400W 180D		3	
1		1	TAP892	TAP, bib, 2x8 mm thermostatic mixer, automatic action, sensor operated, non-touch		1	
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2	
2		2	TRO021	TROLLEY; 4 sets of runners; 850H 600W 600D		3	
1		1	TRO131	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 450W 450D		3	
1		1	TRO204	TROLLEY instrument tray MAYO, 650W 450D		3	
1		1	TRO282	TROLLEY PATIENT; accident; image top; with tilt and brakes; 540-1000H 740W 2110D		3	
1		1	TRO601	TROUGH scrub-up; hospital pattern; stainless steel; single; 75mm upstand; 800W 450D. HTM64SUH1.		1	
2		2	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	UPS003	Uninterrupted power supply (UPS).		1	
1		1	WAS102	WASTE, unslotted flush-grated, metal, 1.1/2 in		1	
1		1	WAS108	TRAP, bottle, 1.1/2 in, plastic resealing		1	
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	

ADB	Room Data Sheet			T0526
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	T0526	Preparation room		
Room Number:	1-P1-134	Revision Date:	18/09/2014	
Activities:	1) Preparation of trays and trolleys laid up for surgical/clinical procedures 2) Holding sterile pre-set trays 3) Storage of sterile equipment, consumable supplies and packs 4) Storage of non-sterile medical items, equipment and supplies 5) Storage of sterile fluids 6) Holding instrument trolleys 7) Storage of sundries and small items			
Personnel:	2 x staff			
Planning Relationships:	Direct access to operating theatre. Access from corridor for delivery of supplies.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision				

ADB	Room Environmental Data		T0526
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	T0526	Preparation room	
Room Number:	1-P1-134		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>     0  /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 25:  Ventilation Type: Central Supply and Extract In line with SHTM 03-01  F7 - minimum	
<b>General Notes:</b> Heating Type: Warm Air via AHU Battery with Local / BMS Adjustable Sensor. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300    Y A	Not Applicable 10,000 - 100,000 @ bed trolley 1450 AFFL Colour rendering characteristics (Ra)80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40     Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB	Room Design Character		T0526
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	T0526	Preparation room	
Room Number:	1-P1-134	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				T0526
Project:	11072	RHSC & DCN				
Department:	P1	Operating Theatres & RHSC Surgical Day Case Unit				
Room:	T0526	Preparation Room 3 (RHSC)				
Room Number:	1-P1-134				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	CAB2565	CABINET; warming lothian; 12 x 1 litre; wall mounted lockable.		1
1		1	CUP2526	CUPBOARD; wall unit; RH door; 600h; lockable; 600mm.		1
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
3		3	MST011	TROLLEY; large, single with handles, 12 sets of runners, 400 facing, buffered, braked, 1800H 600W 650D nominal		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
5		5	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	RAC979	RACK; chrome / stainless steel, 5 wire shelves, mobile, 1739H 1524W, 610D		3
2		2	SWC025	SWITCH, light		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2
2		2	TRO021	TROLLEY; 4 sets of runners; 850H 600W 600D		3
1		1	TRO923	TROLLEY, medium, stainless steel, buffered, 3 shelves, 870H 920W 620D		3
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1, 1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet			N0106-02
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	N0106-02	Operating theatre: Intraoperative		
Room Number:	1-P1-155	Revision Date:	18/09/2014	
Activities:	<ol style="list-style-type: none"> <li>1) Connection of patient to anaesthetic machine</li> <li>2) Assembly and connecting of mobile equipment</li> <li>3) Use of surgical instruments on instrument trolley</li> <li>4) Surgical procedures performed under local or general anaesthetic</li> <li>5) Viewing film and/or computer generated images</li> <li>6) Checking, weighing and recording used swab</li> <li>7) Displaying operating lists</li> <li>8) Recording of patient data/notes</li> <li>9) Transfer of patient from operating table to bed/trolley</li> <li>10) Computer information accessed</li> <li>11) Assessment / updating of electronic patient records (EPRs)</li> <li>12) Maintenance of general anaesthesia</li> <li>13) Use of mobile image intensifier</li> <li>14) Use of monitoring/diagnostic or therapeutic equipment</li> </ol>			
Personnel:	<p>1 x patient 7 x staff</p>			
Planning Relationships:	<p>Direct access to preparation room. Direct access to anaesthesia room (when provided). Direct access or adjacent to scrub-up room. Direct access to utility room. Direct access to corridor/exit bay.</p>			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,000
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			

ADB	Room Environmental Data		N0106-02
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	N0106-02	Operating theatre: Intraoperative	
Room Number:	1-P1-155	Revision Date:	18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>    0  /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 25  Ventilation Type: Central Supply and Extract In line with SHTM 03-01  F7 - minimum	
<b>General Notes:</b> Heating Type: Warm Air via AHU Battery with Local / BMS Adjustable Sensor. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500   Y A	Not Applicable 10,000 - 100,000 @ Bed / Trolley 1450 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	50     Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  50:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		N0106-02
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	N0106-02	Operating theatre: Intraoperative	
Room Number:	1-P1-155	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				N0106-02
Project:	11072	RHSC & DCN				
Department:	P1	Operating Theatres & RHSC Surgical Day Case Unit				
Room:	N0106-02	Operating Theatre 4 (Interoperative)				
Room Number:	1-P1-155				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ANA004	ANAESTHETIC MACHINE/WORKSTATION with ventilator, with accessories, mobile, 1580H 565W 695D		3
1		1	BLA902	UNDERBLANKET; Gel 195P		3
2		2	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
1		1	CAN010	CANOPY ; ultra clean ventilation (UCV) operating theatre, 2000mm clear from floor level to underside, 3200W x3200D, sliding screens.		1
1		1	CHA024	CHAIR, anaesthetist, height adjustable		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
2		2	COM033	COMPUTER KEYBOARD		3
2		2	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	DIA004	DIATHERMY UNIT; surgical; monopolar; bipolar; argon compatible; 111H 356W 439D		3
1		1	DIA005	SMOKE EVACUATION SYSTEM; (diathermy) complete with trolley; 860H 487W 643D		3
5		5	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DRI2500	DRILL; 7 bar power drill		3
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	IMG2509	IMAGING; Camera box.		1
2		2	INF001	INFUSION volumetric pump; 356H 178W 178D		3
4		4	LIG071	ILLUMINATED SIGN RADIATION ON, wall mounted		1
1		1	LIG2502	LUMINAIRE; double arm; operating theatre; table with satellite; shadowless; lux 140000 and lux 110000.		1
1		1	LIG2504	Head light source		3
4		4	LIG902	ILLUMINATED SIGN; LASER ON (entrance to theatre).		1
1		1	MON042	MONITOR sedation depth; 169H 175W 100D		3
1		1	MON2501	MONITOR; flat screen; recessed; wall mounted; double PACS theatre specific		5
1		1	MON2513	MONITOR; 42inch, wall mounted		5
1		1	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3
2		2	OUT005	SOCKET outlet, switched, 13amp, single		1
20		20	OUT010	SOCKET outlet, switched, 13amp, twin		1
24		24	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1
8		8	OUT121	SOCKET outlet; computer data; double.		1
8		8	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT2503	SOCKET; outlet switched 13amp double; ceiling mounted.		1
4		4	OUT453	OUTLET, 4kPa compressed air, medical		1
4		4	OUT454	OUTLET, 7kPa compressed air, medical		1
4		4	OUT461	OUTLET, nitrous oxide, medical		1
8		8	OUT470	OUTLET, oxygen, medical		1
8		8	OUT475	OUTLET, vacuum, medical		1
7		7	OUT480	OUTLET, gas scavenging (AGS), medical		1
15		15	OUT904	OUTLET; socket, AV and control system, typt tbc		1
1		1	PAN053	PANEL operating theatre; to meet the theatre requirements.		1



ADB		Schedule of Components by Room				N0106-02	
Project:		11072		RHSC & DCN			
Department:		P1		Operating Theatres & RHSC Surgical Day Case Unit			
Room:		N0106-02		Operating Theatre 4 (Interoperative)		Revision Date: 09/09/2014	
Room Number:		1-P1-155					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	PEG002	PEGS; equipment; medium; 2; wide spacing; wall mounted.		1	
3		3	PEN002	PENDANT; Anaesthetic; medical & power supply unit; vertical movement; ceiling mounted; outlets comprising.		1	
1		1	PEN006A	PENDANT SURGICAL; touch screen monitor; medical and power supply unit; tandem; lateral and vertical movement; ceiling mounted; outlets comprising.		1	
3		3	PLA002	PLATFORM; step-stand; stackable; portable. 130H 480W 330D		3	
1		1	PRI015	PRINTER; label; portable		3	
1		1	SCA012	SCALE; swab; includes Mains adaptor		3	
2		2	STA101	STAND; lotion bowl; single; stainless steel; (Bowls not included)		3	
2		2	STA142	STAND; infusion; twin hook; breaks; mobile		3	
2		2	STA2509	STAND; sharps bin, mobile, 30 litre		3	
3		3	STO006	STOOL, surgeon/anaesthetist, height adjustable, includes anti-static seat pads		3	
2		2	SUC002	SUCTION UNIT; pipeline; high pressure; theatre		3	
2		2	SUP2500	SUPPORT LEG; for 920 high worktop		1	
1		1	SUR971	Swab bucket		3	
2		2	SWC025	SWITCH, light		1	
3		3	SYR004	SYRINGE pump; anaesthetic use; with diprifusor; 115H 400W 180D		3	
1		1	TAB071	TABLE operating patient, powered with 250mm transverse top, complete with specialty accessories, 715H 600W 2102D		3	
2		2	TEL2500	TELEPHONE; handset, wall mounted.		2	
1		1	TRF002	AUTOTRANSFUSION cell separator; mobile; built in air and foam detector; 1620H 270W 585D		3	
2		2	TRO021	TROLLEY; 4 sets of runners; 850H 600W 600D		3	
4		4	TRO131	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 450W 450D		3	
2		2	TRO133	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 750W 450D		3	
2		2	TRO201	TROLLEY, instruments, stainless steel, buffered, 870H 920W 620D		3	
1		1	TRO204	TROLLEY instrument tray MAYO, 650W 450D		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	UPS003	Uninterrupted power supply (UPS).		1	
1		1	WAR053	WARMER, blood/fluid, maintains temperature between 36 and 43 deg.C at flow rates up to 500 ml/min, 35H 235W 273D		3	
1		1	WAR901	Blanket Warmer		3	
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	

ADB	Room Data Sheet			G0510-02
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	G0510-02	Lobby; Isolation Room DCN		
Room Number:	2-L2-134	Revision Date:	18/09/2014	
Activities:	1) Clinical handwashing 2) Dispensing disposable aprons. 3) Dispensing disposable gloves. 4) Disposal of non-clinical waste 5) Donning gown and gloves. 6) Removal and disposal of gown and gloves			
Personnel:	1 x persons			
Planning Relationships:	Direct access to single-bed room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision				

ADB	Room Environmental Data		G0510-02
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	G0510-02	Lobby: Isolation Room DCN	
Room Number:	2-L2-134		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  69.0  Positive  /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 25  Ventilation Type: Central Supply  F7 - minimum	
<b>General Notes:</b> Heating type: Warm Air - reheat Battery with Local BMS Adjustable Sensor. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	200   Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	30     Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime / 35:nighttime (LAeq,1hr) and 45:nighttime (LAmax,1)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		G0510-02
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	G0510-02	Lobby: Isolation Room DCN	
Room Number:	2-L2-134	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				G0510-02	
Project:		11072		RHSC & DCN			
Department:		L2		DCN Inpatients - 43 Beds			
Room:		G0510-02		Isolation Bedroom 17 Entrance Lobby			
Room Number:		2-L2-134		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1	
1		1	DIS010	DISPENSER; pack; wall mounted; 600H 600W 300D		2	
1		1	DIS013	DISPENSER, paper towel, wall mounted		2	
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2	
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2	
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
4		4	HOO018	HOOK; coat; single.		1	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1, 1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	



<b>ADB</b>	<b>Room Data Sheet</b>	<b>B0308-01</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	B0308-01	Single-bed room: Isolation DCN		
Room Number:	2-L2-135		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Dressing / undressing in privacy</li> <li>2) Rest and relaxation</li> <li>3) Patient may take meals or refreshments in bed, by the bed or in the sitting space</li> <li>4) Clinical handwashing</li> <li>5) Patient records reviewed and recorded</li> <li>6) Storage of clothing and personal belongings</li> <li>7) Use of mobile hoist (if required)</li> <li>8) Therapeutic and clinical attention from healthcare staff</li> <li>9) Patient examinations and assessment</li> <li>10) Use of piped medical gases, vacuum and associated equipment</li> </ol>			
Personnel:	1 x patient 2 x staff 2 x visitors			
Planning Relationships:	En-suite sanitary facilities.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			

ADB	Room Environmental Data		B0308-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B0308-01	Single-bed room: Isolation DCN	
Room Number:	2-L2-135		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  10.0  Balanced  /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 21 - 25:  Ventilation Type: Supply via lobby  F7 - minimum	
<b>General Notes:</b> Heating type: Adjacent space transfer air with BMS Adjustable Sensor Cooling : Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	100 5.0 300.0 Y A	@ Bed/trolley 1450 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	30    Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime / 35:nighttime (LAeq,1hr) and 45:nighttime (LAmax,1)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		B0308-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B0308-01	Single-bed room: Isolation DCN	
Room Number:	2-L2-135	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				B0308-01
Project:	11072	RHSC & DCN				
Department:	L2	DCN Inpatients - 43 Beds				
Room:	B0308-01	Single Isolation Bedroom 1 (Adult)				
Room Number:	2-L2-135				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BED013	BED Kings Fund; variable height; two-way tilt; adjustable backrest; bedstripper; on castors		3
1		1	BED2502	BED HEAD BUFFER; bed and wall protection; vertical; wall mounted.		1
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	BRA004	BRACKET; holder; suction unit; trunking/rail mounted		2
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CHA007	CHAIR; easy; with open arms; high back; upholstered, wipeable		3
2		2	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM905	IT Tablet		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOO019	HOOK, single, small, wall mounted		1
1		1	LIG005	LUMINAIRE, bedhead, dimmable, patient reading and general nursing care/examination		1
1		1	LOC002	LOCKER, bedside, 3 compartment, towel rail at rear, on castors, 902H 485W 485D		3
1		1	MAT004	MATTRESS; Kings Fund bed; standard backrest; 1955L 865W 125D		3
1		1	MIR2500	MIRROR; wall mounted; 1600H 400W unbreakable.		1
1		1	MON900	MONITOR; Low end monitor, general Ward /OPD use		3
1		1	MST007	TROLLEY; lockable; closed; with worktop; approx 900H 660W 500D; 600mm facing		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
2		2	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
2		2	OUT121	SOCKET outlet; computer data; double.		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
2		2	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	RAC362	RACK; catheter; vertical; 2 compartments; 420H 160W 65D		2
1		1	RAI130	RAIL, clinical equipment, wall mounted, 600mm		1
1		1	SHE2503	SHELF; 300mm deep; folding; length as drawn.		1
1		1	STA142	STAND; infusion; twin hook; breaks; mobile		3



ADB			Schedule of Components by Room		B0308-01	
Project:		11072		RHSC & DCN		
Department:		L2		DCN Inpatients - 43 Beds		
Room:		B0308-01		Single Isolation Bedroom 1 (Adult)		
Room Number:		2-L2-135		Revision Date:		09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	STA2504	STAND; Roll stand for monitor		3
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1
1		1	TAB073	TABLE. overbed, cantilevered		3
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
1		1	TVM2500	TV / monitor flat screen with DVD player		3
1		1	WAR900	WARDROBE; lockable; 2700H 750W 500D.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1



<b>ADB</b>	<b>Room Data Sheet</b>	<b>Q0120</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	Q0120	Activities of daily living: Kitchen		
Room Number:	2-M2-009		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Serving and eating of meals</li> <li>2) Storage of dry goods</li> <li>3) Storage of refrigerated provisions</li> <li>4) Storage of trays, crockery and cutlery</li> <li>5) Hand-rinsing</li> <li>6) Patient arrives on foot or in a wheelchair</li> <li>7) Assessment and training in mobility, self-care and social skills.</li> <li>8) Preparation of beverages, meals and snacks</li> </ol>
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Personnel:	1 x patient 1 x staff 1 x escort
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Planning Relationships:	Adjacent to occupational therapy area/rooms.
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		Q0120
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	Q0120	Activities of daily living: kitchen	
Room Number:	2-M2-009		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	6.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	8.0		
Pressure Relative to Adjoining Space:	Negative		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	300	@ Floor	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):		None	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):	40	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Mechanical Services (NR):		50:daytime (LAeq,1hr)	
Intrusive Noise (NR Eq):			
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	N		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		Q0120
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	Q0120	Activities of daily living: kitchen	
Room Number:	2-M2-009	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing)		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				Q0120
Project:	11072	RHSC & DCN				
Department:	M2	DCN Therapies				
Room:	Q0120	ADL Kitchen				
Room Number:	2-M2-009				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, interfral back outlet, 500W 400D		1
2		2	BOA022	BOARD: display/notice; magnetic; wall mounted; 900H 600W.		1
2		2	CHA017	CHAIR; upright; upholstered; stacking		3
2		2	CHA1017	CHAIR; upright; upholstered; height adjustable		3
1		1	CLE009	CLEANER VACUUM; dry suction; tub; with accessories; domestic		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COO004	COOKER; gas; oven; four burner; domestic		2
1		1	COO006	COOKER CONTROL UNIT; 30amp; wall mounted.		1
1		1	COO2500	COOKER; electric; four burner; domestic, variable height		2
1		1	CUP021	CUPBOARD; 1 shelf; lockable; on plinth; 750H 600W 500D.		1
1		1	CUP048	CUPBOARD; 2 shelves; 1 pull out shelf; lockable; on plinth; 800H 600W 500D.		1
1		1	CUP100	CUPBOARD; broom; metal; shelf; lockable; 1800H 600W 450D.		1
1		1	CUP245	CUPBOARD; 1 shelf; lockable; wall mounted; 600H 600W 300D.		1
1		1	CUP263	CUPBOARD; 2 shelves; lockable; wall mounted; 600H 1200W 300D.		1
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DRA023	DRAWER UNIT; 3 drawer; 1 shelf pull out with 2 bowl cut-outs; on plinth; 800H 600W 500D.		1
1		1	DRA030	DRAWER UNIT; 4 drawer; on plinth; pull out shelf with 2 bowl cut-outs; 750H 600W 500D.		1
1		1	HEA900	HEAT GUN; Steinel		3
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
1		1	OUT006	SOCKET outlet unswitched 13amp single; wall mounted.		1
4		4	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1
1		1	OUT054	CONNECTION UNIT, unswitched, 13 amp, neon indicator		1
2		2	OUT059	CONNECTION UNIT switched 13amp, indicator light		1
1		1	OUT315	OUTLET, drinking water for equipment		1
1		1	OUT435	OUTLET; natural gas connection for equipment.		1
1		1	OVE014	OVEN, microwave, light duty, 1000watt, capacity 26 litres, 295H 295W 410D		3
1		1	PAN900	HEATING PAN; non stick; 28 X 28 X 5		3
1		1	REF920	REFRIGERATOR, with freezer, capacity 117 litres, domestic type, 865H 500W 550D		3
2		2	SHE1000	SHELF; 150mm deep; length as drawn.		1



ADB		Schedule of Components by Room				Q0120
Project:	11072	RHSC & DCN				
Department:	M2	DCN Therapies				
Room:	Q0120	ADL Kitchen				
Room Number:	2-M2-009				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	SIN105	SINK UNIT; 1 bowl and drainer; stainless steel; variable height; motorised system; 650/910H 1200W 580D		1
5		5	SUP2500	SUPPORT LEG: for 920 high worktop		1
1		1	SWC025	SWITCH, light		1
1		1	TAB107	TABLE, canteen/kitchen, 710H 900W 750D		3
2		2	TAP359	TAP, pillar, high neck, long lever, pair hot and cold, 1/2 in		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TRO401	TROLLEY; walking aid		3
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
2		2	WAS102	WASTE, unslotted flush-grated, metal, 1.1/2 in		1
2		2	WAS108	TRAP, bottle, 1.1/2 in, plastic resealing		1
3		3	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1
1		1	WKT160	WORKTOP variable height; motorised system; consists of; control unit; electric motor; transformer; steering unit; 673/1023H 2000W 600D.		1
1		1	WOR174	WORKTOP; stainless steel; 1 integral sink bowl; 2400W 600D.		1
1		1	WRT002	WORKTOP, non-clinical, 600W 400D		1



ADB	Room Data Sheet			X0105-02
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0105-02	Distraction Free Treatment room		
Room Number:	2-M2-011	Revision Date:	18/09/2014	
Activities:	1) Clinical handwashing 2) Assessment / updating of electronic patient records (EPRs) 3) Storage of sterile supplies and consumables on a trolley 4) Use of mobile diagnostic and therapeutic equipment 5) Sterile packs, lotions and drugs prepared for immediate use			
Personnel:	1 x patient 1 x staff			
Planning Relationships:	Close to a clean utility room. Close to a dirty utility room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2.700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision.			

ADB	Room Environmental Data		X0105-02																																
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ADB	Room Design Character		X0105-02
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0105-02	Distraction Free Treatment room	
Room Number:	2-M2-011	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X0105-02
Project:	11072	RHSC & DCN				
Department:	M2	DCN Therapies				
Room:	X0105-02	Distraction Free Treatment Room				
Room Number:	2-M2-011				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BAS102	BASIN; medium; inset; vitreous china; 1 no right hand tap hole; no overflow.		1
1		1	BLI2500	Blind; total blackout boxed; length as indicated. Wipeable.		1
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	CAB2503	CABINET, filing; 4 drawer; lockable; 1320H 465W 620D		3
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
5		5	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
1		1	COM1000	COMPUTER MONITOR: TFT; Sunray digital flat panel display; desk top		3
4		4	COM930	COMPUTER: tablet including cover		3
1		1	CUP011	CUPBOARD, metal, with 4 pull out galvanised shelves, lockable, 1800H 1000W 500D		3
1		1	CUP245	CUPBOARD; 1 shelf; lockable; wall mounted; 600H 600W 300D.		1
2		2	DIS013	DISPENSER, paper towel, wall mounted		2
2		2	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DIS2505	DISPENSER; WATER COOLER, mains supply.		1
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOO020	HOOK, single, large, wall mounted		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
7		7	OUT010	SOCKET outlet, switched, 13amp, twin		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT2502	LOOP; induction.		1
1		1	OUT315	OUTLET, drinking water for equipment.		1
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1
1		1	STO004	STOOL, height adjustable, swivel, mobile		3
2		2	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1
1		1	TAB007	TABLE, 710H 900W 900D		3
1		1	TAP289	TAP, monobloc, pillar mixer, integral thermostatic, short lever		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2
1		1	TRO905	TROLLEY; Mobile Induction Loop		3
1		1	VIE903	Chat box (Salfilo Corporation)		3
1		1	VIE904	Digital Tape recorder		3

ADB			Schedule of Components by Room		X0105-02	
Project:		11072		RHSC & DCN		
Department:		M2		DCN Therapies		
Room:		X0105-02		Distraction Free Treatment Room		
Room Number:		2-M2-011		Revision Date:		09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	VIE905	FEES eqt: Fibreoptic endoscopic evaluation of swallowing (Rhinolaryngoscope, chip camera, light source.		3
1		1	VIE906	Lightwriter SL40 (Toby Churchill)		3
2		2	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP, concealed waste; for back outlet basins.		1
1		1	WAS107	TRAP, bottle, 1.1/4 in, plastic resealing		1
1		1	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1



ADB	Room Data Sheet			X0318
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0318	Multi Purpose Rehabilitation Room		
Room Number:	2-M2-023	Revision Date:	18/09/2014	
Activities:	1) Clinical handwashing 2) Administration and clerical duties 3) Provision of information to patients, carers and visitors 4) Clinical administration 5) Patient records reviewed and recorded 6) Use of Telephone 7) Computer information accessed 8) Assessment / updating of electronic patient records (EPRs) 9) Rehabilitation exercises			
Personnel:	10 x patients 2 x staff			
Planning Relationships:	Near to individual treatment room area. Direct access/close to equipment store. Close to associated changing provision.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm)	3,200
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		X0318
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0318	Multi Purpose Rehabilitation Room	
Room Number:	2-M2-023		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	5.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	6.0		
Pressure Relative to Adjoining Space:	Negative		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	300	@ Floor	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):		None	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b>			
Privacy Factor Required (dB):			
Mechanical Services (NR):	35	Intrusive Noise: SHTM 09-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	N		
*Quality Which Cannot Be Tolerated:			
(* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		X0318
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0318	Multi Purpose Rehabilitation Room	
Room Number:	2-M2-023	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control.		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X0318
Project:	11072	RHSC & DCN				
Department:	M2	DCN Therapies				
Room:	X0318	Multi-Purpose Rehabilitation Room				
Room Number:	2-M2-023				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BLI2500	Blind; total blackout boxed; length as indicated. Wipeable.		1
1		1	BOA037	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 900H 1200W.		1
1		1	BOA2502	BOARD; display/notice; magnetic; wall mounted; 900H 1200W		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CAM031	CAMERA; CCTV; pan/tilt/zoom.		1
6		6	CHA018	CHAIR; upright; with arms; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM031	COMPUTER; standard with keyboard and screen.		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
1		1	COM899	COMPUTER, secret garden installation		3
1		1	COM925	IT Equipment; use with secret garden installation		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DIS2505	DISPENSER; WATER COOLER, mains supply.		1
1		1	EXE003	EXERCISE BARS; parallel; 3600mm long.		2
1		1	EXE007	EXERCISE BARS; wall; 2400H 920W.		2
1		1	EXE013	EXERCISE STEPS; corner configuration; different heights; 1400H 1230W 1530D		3
1		1	EXE014	EXERCISE BICYCLE; ergometer; 1170 x 530		3
1		1	FRA024	FRAME; suspended; mesh infill; ceiling mounted; 700W x 1900D.		1
1		1	HOI006	HOIST PATIENT; electric; 24V; track ceiling mounted (Length of the track to suit the individual needs).		1
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	INT900	Intermittent Positive Pressure Breathing & stand		3
2		2	LOU903	LOUDSPEAKER; wall mounted.		2
1		1	MIR012	MIRROR; unbreakable/safety glass; mobile; 1600H 500W		3
1		1	MIR2504	MIRROR; wall mounted; 1600H 1200W; unbreakable.		1
2		2	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
11		11	OUT010	SOCKET outlet, switched, 13amp, twin		1
2		2	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT215	SOCKET outlet, telephone		1
1		1	OUT2502	LOOP; induction.		1
1		1	OUT315	OUTLET, drinking water for equipment		1
2		2	PLI040	PLINTH; Bobath centre; height adjustable (380-910mm) and head section; 910H 1900W 1200D		3
2		2	PLI041	PLINTH; 3 section; variable height 380/1010H 1880W 710D		3
1		1	PRO026	PROJECTOR; multi-media; ceiling mounted		2
1		1	RSU012	DEFIBRILLATOR; Automated External		3
1		1	STO004	STOOL, height adjustable, swivel, mobile		3



ADB			Schedule of Components by Room			X0318	
Project:		11072	RHSC & DCN				
Department:		M2	DCN Therapies				
Room:		X0318	Multi-Purpose Rehabilitation Room				
Room Number:		2-M2-023			Revision Date:	09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
3		3	STO015	STOOL, wooden, 400H 400W 400D		3	
1		1	SUC004	SUCTION UNIT; electric; portable; 350H 320W 340D		3	
2		2	SUP2500	SUPPORT LEG; for 920 high worktop		1	
1		1	SWC034	SWITCH, dimmer, modulating		1	
1		1	TAB003	TABLE, 710H 600W 450D		3	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2	
4		4	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1	
1		1	TRO310	TROLLEY, emergency/resuscitation, complete with defibrillator. 955H 825W 575D		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1, 1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	



ADB	Room Data Sheet			X0111
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0111	Treatment Area		
Room Number:	2-M3-003	Revision Date:	18/09/2014	
Activities:	1) Clinical examination and assessment in privacy 2) Clinical hand washing 3) Use of computer by patient for therapeutic purposes 4) Patient records reviewed and recorded 5) Clinical discussions and non invasive procedures at the bedside 6) Use of piped medical gases, vacuum and associated equipment			
Personnel:	4 x patients 2 x staff 4 x escorts			
Planning Relationships:	Near main waiting room. Access to resuscitation facilities.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		X0111
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0111	Treatment Area	
Room Number:	2-M3-003		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  10.0  Positive  /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 28  Ventilation Type: Central Supply Air  F7 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500  1,000.0  Y  A	Not Applicable @ Bed/Trolley 1450 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35      Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		X0111
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0111	Treatment Area	
Room Number:	2-M3-003	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Obscured, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X0111
Project:	11072	RHSC & DCN				
Department:	M3	Programmed Investigations Unit				
Room:	X0111	Treatment Area				
Room Number:	2-M3-003	Revision Date:				09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
4		4	BED2502	BED HEAD BUFFER: bed and wall protection: vertical: wall mounted.		1
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
4		4	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1
4		4	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
2		2	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
4		4	CHA017	CHAIR; upright; upholstered; stacking		3
3		3	CHA072	CHAIR; treatment; reclining; height adjustable		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
2		2	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
2		2	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COU2506	COUCH; examination/treatment; (3 section); electric; variable height; retractable wheels; with paper roll holder.		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
4		4	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
6		6	INF001	INFUSION volumetric pump; 356H 178W 178D		3
4		4	LOC002	LOCKER, bedside, 3 compartment, towel rail at rear, on castors, 902H 485W 485D		3
2		2	MON900	MONITOR; Low end monitor, general Ward /OPD use		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
5		5	OUT010	SOCKET outlet, switched, 13amp, twin		1
8		8	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
8		8	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
1		1	OUT215	SOCKET outlet, telephone		1
8		8	OUT471	OUTLET; oxygen medical; trunking mounted.		1
8		8	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	PRI015	PRINTER; label; portable		3
5		5	STA142	STAND; infusion; twin hook; breaks; mobile		3
2		2	STA2504	STAND; Roll stand for monitor		3
2		2	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1
4		4	SWC033	SWITCH dimmer; 3 position; wall mounted		1
4		4	TAB073	TABLE, overbed, cantilevered		3
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset.		3
4		4	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1

ADB			Schedule of Components by Room			X0111	
Project:		11072	RHSC & DCN				
Department:		M3	Programmed Investigations Unit				
Room:		X0111	Treatment Area				
Room Number:		2-M3-003			Revision Date:	09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	TRO135	TROLLEY; Gratnell; dressing/instrument; 6 clear trays, stainless steel; buffered; 890H 510W 480D		3	
4		4	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	TVM2500	TV / monitor flat screen with DVD player		3	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WKT1003L	WORKTOP; 720 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1	



<b>ADB</b>	<b>Room Data Sheet</b>	<b>X0136</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0136	EMG/Nerve Conduction Room		
Room Number:	2-M4-008		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Patient examinations and assessment</li> <li>2) Patient is positioned or repositioned on a treatment couch</li> <li>3) Holding/storing working supply of clean and sterile materials for immediate use</li> <li>4) Use of computer workstation(s)</li> <li>5) Assessment / updating of electronic patient records (EPRs)</li> <li>6) Use of call systems</li> <li>7) Clinical hand washing</li> <li>8) Electroencephalography measurement of brain activity</li> </ol>
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Personnel:	<ul style="list-style-type: none"> <li>1 patient</li> <li>1 staff</li> <li>1 escort</li> </ul>
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Planning Relationships:	
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		X0136
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0136	EMG/Nerve Conduction Room	
Room Number:	2-M4-008		Revision Date: 18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	8.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	8.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	F7 - minimum	
Humidity (%RH):			
General Notes: Heating type: Warm Air - Reheat Battery with BMS Adjustable Sensor Cooling: Comfort Cooled			
LIGHTING	Requirements	Notes	
Service Illumination (Lux):	300	Not Applicable	
Service Illumination Night (Lux):			
Local Illumination (Lux):	1,000.0	@ General working plane 1000 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
General Notes: Control: Switch/ Dimmer			
NOISE	Requirements	Notes	
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	35	SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated:			
(* alternative format)			
General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
SAFETY	Requirements	Notes	
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
General Notes: Maximum cold water discharge temperature (degC): 20			
FIRE	Requirements	Notes	
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		X0136
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0136	EMG/Nerve Conduction Room	
Room Number:	2-M4-008	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A or Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X0136
Project:	11072	RHSC & DCN				
Department:	M4	DCN Neurophysiology				
Room:	X0136	EMG/Nerve Conduction Room				
Room Number:	2-M4-008				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BLI2500	Blind; total blackout boxed; length as indicated. Wipeable.		1
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
3		3	CHA018	CHAIR; upright; with arms; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DRA057	DRAWER UNIT, 3 drawer, lockable, on castors, desk height 715H 430W 600D		3
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO022	HOOK; double; wall mounted.		1
2		2	MSC081	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
1		1	MSC082	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 900.		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
8		8	OUT010	SOCKET outlet, switched, 13amp, twin		1
3		3	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	PLI2500	Plinth; patient		3
1		1	REC900	Recorder EMG (EP)		3
1		1	REC909	Visual Stimulator		3
1		1	RES004	REST ARM; height adjustable; mobile; washable cover		3
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset.		3
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
2		2	TRU1002	TRUNKING; vertical; length as drawn.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1

ADB			Schedule of Components by Room		X0136	
Project:		11072	RHSC & DCN			
Department:		M4	DCN Neurophysiology			
Room:		X0136	EMG/Nerve Conduction Room			
Room Number:		2-M4-008	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	WAS1000	TRAP: concealed waste: for back outlet basins.		1
1		1	WKT1006H	WORKTOP: 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1



<b>ADB</b>	<b>Room Data Sheet</b>	<b>X0125</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0125	EEG Recording room		
Room Number:	2-M4-019		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Patient examinations and assessment</li> <li>2) Patient is positioned or repositioned on a treatment couch</li> <li>3) Holding/storing working supply of clean and sterile materials for immediate use</li> <li>4) Use of computer workstation(s)</li> <li>5) Assessment / updating of electronic patient records (EPRs)</li> <li>6) Use of call systems</li> <li>7) Clinical hand washing</li> <li>8) Electroencephalography measurement of brain activity</li> </ol>
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Personnel:	1 patient 2 staff 1 escort
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Planning Relationships:	
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		X0125
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0125	EEG Recording room	
Room Number:	2-M4-019		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  6.0 6.0 Balanced /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 25:  Ventilation Type: Central Supply and Extract.  F7 - minimum	
<b>General Notes:</b> Heating type: Warm Air - Reheat Battery with BMS Adjustable Sensor Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300  1,000.0 Y A	Not Applicable @ General working plane 1000 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35     Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		X0125
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0125	EEG Recording room	
Room Number:	2-M4-019	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X0125
Project:	11072	RHSC & DCN				
Department:	M4	DCN Neurophysiology				
Room:	X0125	EEG Recording Room				
Room Number:	2-M4-019				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BED2506	BED; variable height; electric; with cot sides		3
1		1	BLI2500	Blind; total blackout boxed; length as indicated. Wipeable.		1
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	BRA900	BRACKET; computer; height adjustable; tilt & swivel; wall mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CAM2507	CAMERA; CCTV; pan/tilt/zoom		1
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
1		1	CHA007	CHAIR; easy; with open arms; high back; upholstered, wipeable		3
3		3	CHA018	CHAIR; upright; with arms; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COM900	EEG Recorder portable laptop		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DRA057	DRAWER UNIT, 3 drawer, lockable, on castors, desk height 715H 430W 600D		3
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOO022	HOOK; double; wall mounted.		1
1		1	MSC081	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
2		2	MSC082	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 900.		1
1		1	MSC2507	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; shelves; 1 door hinged right; wall mounted.		1
1		1	MSC2508	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; shelves; 1 door hinged left; wall mounted.		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
8		8	OUT010	SOCKET outlet, switched, 13amp, twin		1
2		2	OUT052	CONNECTION UNIT, switched, 13 amp		1
1		1	OUT121	SOCKET outlet; computer data; double.		1



ADB		Schedule of Components by Room				X0125	
Project:		11072		RHSC & DCN			
Department:		M4		DCN Neurophysiology			
Room:		X0125		EEG Recording Room			
Room Number:		2-M4-019		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1	
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1	
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1	
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1	
1		1	REC901	Recording System		3	
1		1	REC902	Recorder Ambulatory		3	
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1	
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL1000	TELEPHONE; handset.		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	TRU1002	TRUNKING; vertical; length as drawn.		1	
1		1	TVM2500	TV / monitor flat screen with DVD player		3	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	



ADB	Room Data Sheet			M0132-01
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	M0132-01	Open Plan Office		
Room Number:	2-R1-055	Revision Date:	18/09/2014	
Activities:	1) Use of computer workstation(s) 2) Use of Telephone 3) Storage of Files and records 4) Secure holding/storing of personal belongings 5) Use of Printer 6) Assessment / updating of electronic patient records (EPRs)			
Personnel:	staff			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		M0132-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	M0132-01	Open Plan Office	
Room Number:	2-R1-055		Revision Date: 18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	4.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
LIGHTING	Requirements	Notes	
Service Illumination (Lux):	300	@ Desk 750 - 850 AFFL	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):		None	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
NOISE	Requirements	Notes	
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	40	SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		50:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	N		
*Quality Which Cannot Be Tolerated:			
(* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
SAFETY	Requirements	Notes	
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):			
<b>General Notes:</b>			
FIRE	Requirements	Notes	
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		M0132-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	M0132-01	Open Plan Office	
Room Number:	2-R1-055	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				M0132-01
Project:	11072	RHSC & DCN				
Department:	R1	Clinical / Management Suite				
Room:	M0132-01	2nd Floor Open Plan Desks				
Room Number:	2-R1-055				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
4		4	BOA027	BOARD; marker/display; whiteboard; magnetic; dry-wipe; with pen holder; wall mounted; 1200H 1800W.		1
18		18	CAB2517	CABINET; filing with 3 drawers 1073 mm high x 1200 mm wide		3
2		2	CAB2520	CABINET; double doors 1912 mm high x 1000 mm wide		3
2		2	CAB2521	CABINET; tambour front 997 mm high x 1000 mm wide		3
9		9	CAB2522	CABINET; unit 3 drawers 1073 mm high x 1000 mm wide		3
9		9	CAB2524	CABINET; filing/storage 2300 mm high x 600 mm deep x 1000 mm wide		3
51		51	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
3		3	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
51		51	COM033	COMPUTER KEYBOARD		3
51		51	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
51		51	DES019	DESK, cantilever, cable management, 1500W 800D		3
51		51	DRA056	DRAWER UNIT, 2 drawer, lockable, on castors, 600H 410W 600D		3
28		28	HOO022	HOOK; double; wall mounted.		1
2		2	LOC008	LOCKER clothes; single; 2 compartments; 1800H 300W 550D		3
12		12	LOC019	LOCKER; 6 compartments; 1800H 300W 450D		3
2		2	OUT005	SOCKET outlet, switched, 13amp, single		1
102		102	OUT009	SOCKET outlet switched 13 amp twin; floor mounted.		1
102		102	OUT122	SOCKET outlet computer data; floor mounted.		1
34		34	SCR019	SCREEN, dividing, 1500H 1500W		3
1		1	SWC025	SWITCH, light		1
51		51	TEL1000	TELEPHONE; handset.		3

ADB	Room Data Sheet			T0101
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	T0101	Clean Utility: Inpatients RHSC		
Room Number:	3-C1.1-042	Revision Date:	18/09/2014	
Activities:	1) Preparation of trays and trolleys laid up for surgical/clinical procedures 2) Storage of sterile equipment, consumable supplies and packs 3) Storage of non-sterile medical items, equipment and supplies 4) Storage of sterile fluids 5) Assessment / updating of electronic patient records (EPRs)			
Personnel:	2 x staff			
Planning Relationships:	Access from corridor for delivery of supplies.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision				



ADB	Room Environmental Data		T0101
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	T0101	Clean Utility: Inpatients RHSC	
Room Number:	3-C 1.1-042		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  6.0  Positive  /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Supply Air  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	150   Y A	@ General working plane: 1000 AFFL Not Applicable None Colour rendering characteristics (Ra):80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40     N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  Not Applicable	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		T0101
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	T0101	Clean Utility: Inpatients RHSC	
Room Number:	3-C1.1-042	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A or obscure, solar control, security control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				T0101
Project:	11072	RHSC & DCN				
Department:	C1.1	Medical Inpatients - 23 Beds				
Room:	T0101	Clean Utility				
Room Number:	3-C1.1-042				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, Intefral back outlet, 500W 400D		1
2		2	BOA2500	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 900H 600W.		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	LIG081	LUMINAIRE fitted with single fluorescent lamp with switch; below drug cupboard; 8watt; 400mm.		1
2		2	MSC081	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
1		1	MSC082	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 900.		1
4		4	MSC091	CABINET base; 400mm facing; (400x600 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
4		4	MSC092	CABINET base; 400mm facing; (400x600 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 900.		1
4		4	MSC122	CABINET top; 400mm facing; (400x300 inserts); with formed plastic liners; 1 door hinged right; wall mounted.		1
4		4	MSC123	CABINET top; 400mm facing; (400x300 inserts); with formed plastic liners; 1 door hinged left; wall mounted.		1
1		1	MSC127	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; wall mounted.		1
1		1	MSC128	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; wall mounted.		1
1		1	MSC503	PHARMACY CABINET; 600mm facing; with 4 shelves; 1 pull out prep. shelf; controlled drugs cupboard; warning light; 1 door hinged right w/security safe lock; o/a height 1200.		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
1		1	OUT006	SOCKET outlet unswitched 13amp single; wall mounted.		1
3		3	OUT010	SOCKET outlet, switched, 13amp, twin		1
2		2	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
1		1	OUT050	OUTLET, controlled drugs cupboard		1
2		2	OUT059	CONNECTION UNIT switched 13amp, Indicator light		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	PAN063	PANEL; indicator.		1
1		1	PRI015	PRINTER; label; portable		3
1		1	REF066	REFRIGERATOR, capacity 390 litres, 1855H 645W 595D		3
1		1	SWC025	SWITCH, light		1

ADB			Schedule of Components by Room		T0101	
Project:		11072	RHSC & DCN			
Department:		C1.1	Medical Inpatients - 23 Beds			
Room:		T0101	Clean Utility			
Room Number:		3-C1.1-042	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	TAP894	TAP bib; hospital pattern; Integral thermostatic mixer; HTM64		1
1		1	TRO251	TROLLEY; medicine; stainless steel; frame epoxy coated; buffered; 1250H 750W 450D		3
1		1	TRO421	DEVICE; securing; medicine trolley; wall mounted.		1
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1, 1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1

<b>ADB</b>	<b>Room Data Sheet</b>	<b>E0604-06</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0604-06	Control / Observation room		
Room Number:	3-C4-007		Revision Date:	18/09/2014

Activities:	1) Use of computer workstation(s) 2) Viewing film and/or computer generated images 3) Use of recording equipment 4) Processes and tests are recorded 5) Assessment / updating of electronic patient records (EPRs)			
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Personnel:	4 x staff			
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Planning Relationships:				
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,400
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			
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<b>ADB</b>	<b>Room Environmental Data</b>	<b>E0604-06</b>
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Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0604-06	Control / Observation room	
Room Number:	3-C4-007		Revision Date: 18/09/2014

AIR	Requirements	Notes
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 18 - 25
Summer Temperature (DegC):		
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Central Supply and Extract
Mechanical Ventilation (Extract ac/hr):	4.0	
Pressure Relative to Adjoining Space:	Balanced	
Filtration (%DSE and % Arrestance):	/	G4 - minimum
Humidity (%RH):		

**General Notes:** Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air

LIGHTING	Requirements	Notes
Service Illumination (Lux):	300	@ desk 750 - 850mm AFFL
Service Illumination Night (Lux):		Not Applicable
Local Illumination (Lux):		None
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting

**General Notes:** Control: Switch

NOISE	Requirements	Notes
Privacy Factor Required (dB):		
Mechanical Services (NR):	40	Intrusive Noise: SHTM 09-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1
Intrusive Noise (NR Eq):		50:daytime (LAeq,1hr)
*Acceptable Sound Level [L10dB(A)]:		
*Speech Privacy Required:	N	
*Quality Which Cannot Be Tolerated: (* alternative format)		

**General Notes:** Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)

SAFETY	Requirements	Notes
Hot Surface Max. Temp (DegC):	43	
Hot Water Max. Temp (DegC):		

**General Notes:**

FIRE
Enclosure:
Automatic Detection:
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)

ADB	Room Design Character		E0604-06
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0604-06	Control / Observation room	
Room Number:	3-C4-007	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Observation panel, one-way viewing from control room into bedroom.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				E0604-06	
Project:		11072		RHSC & DCN			
Department:		C4		Sleep Lab			
Room:		E0604-06		Control Room			
Room Number:		3-C4-007		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	BIN900	BIN; Recycle waste		3	
2		2	BLI2500	Blind; total blackout boxed; length as indicated. Wipeable.		1	
2		2	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1	
2		2	CAB024	CABINET; filing; 2 drawer; 710H 470W 620D		3	
2		2	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3	
3		3	CHA017	CHAIR; upright; upholstered; stacking		3	
3		3	COM033	COMPUTER KEYBOARD		3	
1		1	COM038	COMPUTER PRINTER; laser, A4, 250H 380W 385D		3	
3		3	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3	
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1	
3		3	CON2502	CONTROL SYSTEM; for sleep; with computer screen		3	
3		3	HOO024	HOOK; hat and coat; 1.		1	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
12		12	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1	
11		11	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1	
1		1	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1	
1		1	REC030	RECORDER/VIDEO; playback		3	
5		5	SUP2501	SUPPORT LEG; for 720 high worktop		1	
1		1	SWC025	SWITCH, light		1	
2		2	TEL1000	TELEPHONE; handset.		3	
1		1	TRO131	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 450W 450D		3	
2		2	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
2		2	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	

ADB	Room Data Sheet			B0705
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	B0705	Sleep Room		
Room Number:	3-C4-008	Revision Date:	18/09/2014	
Activities:	1) Assessment and planning of treatment and/or operation may take place 2) Use of monitoring/diagnostic or therapeutic equipment 3) Rest and relaxation 4) Disposal of non-clinical waste 5) Therapeutic and clinical attention from healthcare staff 6) Clinical hand washing			
Personnel:	1 x patient 1 x staff			
Planning Relationships:	Control Room En-suite Parents Room			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		B0705
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B0705	Sleep Room	
Room Number:	3-C4-008		Revision Date: 18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Natural & Central Supply Air	
Mechanical Ventilation (Extract ac/hr):		via ensuite	
Pressure Relative to Adjoining Space:	Positive		
Filtration (%DSE and % Arrestance):		G4 - minimum	
Humidity (%RH):			
General Notes: Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
LIGHTING			
Service Illumination (Lux):	100		
Service Illumination Night (Lux):	5.0		
Local Illumination (Lux):	300.0	@ Bed/trolley 1450 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra):80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
General Notes: Control with Dimmer			
NOISE			
Privacy Factor Required (dB):	30	Intrusive Noise:	
Mechanical Services (NR):		SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Leq):		40 daytime / 35 nighttime (LAeq,1hr) and 45 nighttime (LAmax,1)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
SAFETY			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
General Notes: Maximum cold water discharge temperature (degC): 20			
FIRE			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	



ADB	Room Design Character		B0705
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B0705	Sleep Room	
Room Number:	3-C4-008	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				B0705
Project:	11072	RHSC & DCN				
Department:	C4	Sleep Lab				
Room:	B0705	Sleep Room				
Room Number:	3-C4-008				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BED013	BED Kings Fund; variable height; two-way tilt; adjustable backrest; bedstripper; on castors		3
1		1	BED2502	BED HEAD BUFFER; bed and wall protection; vertical; wall mounted.		1
1		1	BLI2500	Blind; total blackout boxed; length as indicated. Wipeable.		1
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	BRA004	BRACKET; holder; suction unit; trunking/rail mounted		2
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CAM2504	CAMERA; CCTV; pan/tilt/zoom; ceiling mounted.		5
1		1	CHA007	CHAIR; easy; with open arms; high back; upholstered, wipeable		3
1		1	CON2501	CONTROL UNIT; for sleep system.		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO024	HOOK; hat and coat; 1.		1
1		1	LIG005	LUMINAIRE, bedhead, dimmable, patient reading and general nursing care/examination		1
1		1	LOC002	LOCKER, bedside, 3 compartment, towel rail at rear, on castors, 902H 485W 485D		3
1		1	MAT004	MATTRESS; Kings Fund bed; standard backrest: 1955L 865W 125D		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
3		3	OUT010	SOCKET outlet, switched, 13amp, twin		1
5		5	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
3		3	OUT052	CONNECTION UNIT, switched, 13 amp		1
3		3	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
1		1	OUT2503	SOCKET; outlet switched 13amp double; ceiling mounted.		1
1		1	OUT2504	SOCKET; outlet data; ceiling mounted.		1
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
2		2	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	RAC362	RACK; catheter; vertical; 2 compartments; 420H 160W 65D		2
1		1	RAI130	RAIL, clinical equipment, wall mounted, 600mm		1
1		1	SOM2500	SOMNOSCREEN; sleep study system		5
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1
1		1	TAB073	TABLE, overbed, cantilevered		3

ADB			Schedule of Components by Room			B0705	
Project:		11072		RHSC & DCN			
Department:		C4		Sleep Lab			
Room:		B0705		Sleep Room			
Room Number:		3-C4-008		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	TAP894	TAP bib; hospital pattern; Integral thermostatic mixer; HTM64		1	
1		1	TRO910	TROLLEY; dressing/instrument; stainless steel; buffered: 870H 450W 450D; 1 drawer		3	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	TVM2500	TV / monitor flat screen with DVD player		3	
1		1	WAR900	WARDROBE; lockable; 2700H 750W 500D;		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1, 1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	

ADB	Room Data Sheet			X1504
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X1504	Patient Treatment Lounge		
Room Number:	3-D9-016	Revision Date:	18/09/2014	
Activities:	1) Clinical examination and assessment in privacy 2) Patient may receive scalp cooling (cold cap) treatment, before and during administration of cytotoxic drugs 3) Administration of cytotoxic drugs by injection or intravenous drip 4) Clinical hand washing 5) Recording of patient data/notes 6) Use of computer by patient for therapeutic purposes 7) Patient may take meals or refreshments in bed, by the bed or in the sitting space 8) Patient records reviewed and recorded 9) Clinical discussions and non invasive procedures at the bedside 10) Use of piped medical gases, vacuum and associated equipment			
Personnel:	5 x patients 1 x staff 5 x escorts			
Planning Relationships:	Near main waiting room. Access to resuscitation facilities.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			



ADB	Room Environmental Data		X1504
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X1504	Patient Treatment Lounge	
Room Number:	3-D9-016		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	10.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):			
Pressure Relative to Adjoining Space:	Positive		
Filtration (%DSE and % Arrestance):	/	F7 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	500	Not Applicable	
Service Illumination Night (Lux):		@ Bed / Trolley 1450 AFFL	
Local Illumination (Lux):	1,000.0	Colour rendering characteristics (Ra) 80	
Colour Rendering Required:	Y	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
Standby Lighting Grade:	A		
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):	35	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Mechanical Services (NR):		40:daytime (LAeq,1hr)	
Intrusive Noise (NR Leq):			
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	



ADB	Room Design Character		X1504
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X1504	Patient Treatment Lounge	
Room Number:	3-D9-016	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Obscured, privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X1504	
Project:		11072		RHSC & DCN			
Department:		D9		Medical Day Care Unit - 5 Beds			
Room:		X1504		Patient Treatment Lounge			
Room Number:		3-D9-016		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1	
4		4	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1	
4		4	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1	
8		8	CHA083	CHAIR, stacking, polypropylene, with back and seat pads		3	
4		4	CHA091	CHAIR; easy; reclining; 1000H 630W 1880D		3	
1		1	COM033	COMPUTER KEYBOARD		3	
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3	
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3	
1		1	DIS013	DISPENSER, paper towel, wall mounted		2	
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2	
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2	
4		4	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
4		4	LIG005	LUMINAIRE, bedhead, dimmable, patient reading and general nursing care/examination		1	
4		4	LOC002	LOCKER, bedside, 3 compartment, towel rail at rear, on castors, 902H 485W 485D		3	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
2		2	OUT010	SOCKET outlet, switched, 13amp, twin		1	
16		16	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1	
7		7	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1	
4		4	OUT471	OUTLET; oxygen medical; trunking mounted.		1	
4		4	OUT476	OUTLET; vacuum medical; trunking mounted.		1	
1		1	PRI015	PRINTER; label; portable		3	
4		4	STA142	STAND; infusion; twin hook; breaks; mobile		3	
2		2	SUP2501	SUPPORT LEG; for 720 high worktop		1	
1		1	SWC025	SWITCH, light		1	
4		4	TAB073	TABLE, overbed, cantilevered		3	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL1000	TELEPHONE; handset.		3	
4		4	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1	
2		2	TRO131	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 450W 450D		3	
4		4	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1, 1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	

ADB	Room Data Sheet			H0202-01
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	H0202-01	Workshop / Tutorial Room		
Room Number:	3-H3-001	Revision Date:	18/09/2014	
Activities:	1) Use of Multimedia equipment 2) Use of laptop computer(s) 3) Colleagues /visitors received for training/observation purposes			
Personnel:	12-15 x persons Intermittent use			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		H0202-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	H0202-01	Workshop / Tutorial Room	
Room Number:	3-H3-001		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 18 - 25	
Summer Temperature (DegC):		Ventilation Type: Central Supply and Extract 10 litres a second per person	
Mechanical Ventilation (Supply ac/hr):			
Mechanical Ventilation (Extract ac/hr):	Balanced	G4 - Minimum	
Pressure Relative to Adjoining Space:	/		
Filtration (%DSE and % Arrestance):			
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Ceiling Cassette - Chilled Water			
<b>LIGHTING</b>			
Service Illumination (Lux):	300	@ Desk 750 - 850 AFFL	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):		None	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):	30	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Mechanical Services (NR):		40:daytime (LAeq,1hr)	
Intrusive Noise (NR Eq):			
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	N		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		H0202-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	H0202-01	Workshop / Tutorial Room	
Room Number:	3-H3-001	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control Blinds will be required to darken room, full blackout is rarely required.		
Internal Glazing:	Observation panel, one-way viewing from control room into tutorial room		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				H0202-01
Project:	11072	RHSC & DCN				
Department:	H3	SPHERE (Clinical Education Suite)				
Room:	H0202-01	Workshop / Tutorial Room 3				
Room Number:	3-H3-001				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BED008	BED; Kings Fund; child; variable height; two-way tilt; adjustable backrest; on castors		3
1		1	BED2502	BED HEAD BUFFER; bed and wall protection; vertical; wall mounted.		1
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	BOA2507	BOARD; Interactive smartboard		2
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
3		3	CAM031	CAMERA; CCTV; pan/tilt/zoom.		1
9		9	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM2506	Laptop		3
1		1	COM908	Telemedicine package tandberg 770MP wall mounted		5
2		2	CUP016	CUPBOARD, metal, 1 shelf, wall mounted, 600H 600W 300D.		1
2		2	CUP2509	CUPBOARD; base unit; LH door; lockable; 600mm.		1
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO024	HOOK; hat and coat; 1.		1
1		1	MON900	MONITOR; Low end monitor, general Ward /OPD use		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
2		2	OUT009	SOCKET outlet switched 13 amp twin; floor mounted.		1
4		4	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
4		4	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
3		3	OUT2503	SOCKET; outlet switched 13amp double; ceiling mounted.		1
3		3	OUT2504	SOCKET; outlet data; ceiling mounted.		1
1		1	OUT2509	SOCKET; Telemedicine.		1
2		2	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1
1		1	SWC025	SWITCH, light		1
1		1	TAB073	TABLE, overbed, cantilevered		3
2		2	TAB122	Table; committee; unit type; 720H 1400W 700D		3
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset.		3
2		2	TRO135	TROLLEY; Gratnell; dressing/instrument; 6 clear trays, stainless steel; buffered; 890H 510W 480D		3
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1

ADB			Schedule of Components by Room		H0202-01	
Project:		11072		RHSC & DCN		
Department:		H3		SPHERE (Clinical Education Suite)		
Room:		H0202-01		Revision Date: 09/09/2014		
Room Number:		3-H3-001				
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	TRU2500	TRUNKING; floor; length as drawn.		1
1		1	TRU2500	TRUNKING; floor; length as drawn.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP, concealed waste; for back outlet basins.		1
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1
1		1	WKT124	WORKTOP, cantilevered from wall, 1200W 550D.		1

ADB	Room Design Character		L0102-03
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	L0102-03	Tissue Culture Store	
Room Number:	4-H1-016	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control.		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB	Room Environmental Data		L0102-03
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	L0102-03	Tissue Culture Store	
Room Number:	4-H1-016		Revision Date: 18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	6.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	6.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	F7 - Minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Ceiling Cassette - Chilled Water			
LIGHTING			
Service Illumination (Lux):	500	@ Desk 750 - 850 AFFL	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):		None	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
NOISE			
Privacy Factor Required (dB):	40	Intrusive Noise:	
Mechanical Services (NR):		SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		45:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	N		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
SAFETY			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	60		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
FIRE			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB		Schedule of Components by Room				L0102-03	
Project:		11072		RHSC & DCN			
Department:		H1		Child Life & Health			
Room:		L0102-03		Tissue Culture Store		Revision Date: 09/09/2014	
Room Number:		4-H1-016					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	BOA203	BOARD; combined magnetic display/whiteboard; dry-wipe; with pen holder; wall mounted; 1200H 1500W.		1	
2		2	CAB200	CABINET: Class II tissue culture cabinet		1	
1		1	CAS020	FIRST AID BOX		2	
1		1	CEN004	CENTRIFUGE; Swingout rotor, refrigerated, bench top		3	
1		1	COM031	COMPUTER; standard with keyboard and screen.		3	
1		1	DIS013	DISPENSER, paper towel, wall mounted		2	
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2	
2		2	INC021	INCUBATOR for cell culture (not babies)		3	
2		2	LAB928	BENCH, laboratory, 1400W 800D		3	
1		1	LSU003	SINK laboratory; 300H 450W 420D; HTM67/S3.		1	
1		1	MIC040	MICROSCOPE: Conventional		3	
1		1	MIC043	MICROSCOPE: Inverted		3	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
1		1	OUT006	SOCKET outlet unswitched 13amp single; wall mounted.		1	
8		8	OUT010	SOCKET outlet, switched, 13amp, twin		1	
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1	
1		1	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1	
3		3	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1	
2		2	OUT471	OUTLET; oxygen medical; trunking mounted.		1	
3		3	OUT476	OUTLET; vacuum medical; trunking mounted.		1	
3		3	OUT491	OUTLET; carbon dioxide; trunking mounted.		1	
1		1	REF904	FREEZER 600 X 600 X 850.		3	
1		1	SNS753	SINKTOP; single bowl; no tap holes; no overflow; right hand integral ribbed drainer; stainless steel; 1200W 600D. HTM64STA		1	
1		1	STF400	CABINET: Under bench cabinet with 1 drawer at top and cabinet with shelf beneath; on castors		3	
1		1	SWC025	SWITCH, light		1	
1		1	TAP419	TAP; Laboratory Nitrogen		1	
2		2	TAP809	TAP, bib, lever, hospital pattern, pair hot and cold, 1/2 in.		1	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
2		2	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	WAS051	WASH; eye; first aid; with mirror; wall mounted; 360H 250W 100D.		1	
2		2	WAS102	WASTE, unslotted flush-grated, metal, 1.1/2 in		1	
2		2	WAS108	TRAP, bottle, 1.1/2 in, plastic resealing		1	
1		1	WKT1004H	WORKTOP; 920 high 800 deep, laboratory; length as drawn		1	



<b>ADB</b>	<b>Room Data Sheet</b>	<b>L0102-01</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	L0102-01	Molecular Biology Laboratory		
Room Number:	4-H1-018		Revision Date:	18/09/2014

Activities:	<ul style="list-style-type: none"> <li>1) Use of laptop computer(s)</li> <li>2) Sorting, batching and labelling/numbering specimens and processing request forms</li> <li>3) Centrifugation of samples/specimens (urine, blood, fluids)</li> <li>4) Short term storage of specimens</li> <li>5) Preparation of slides for microscopy</li> <li>6) Plating specimens for culture.</li> <li>7) Processes and tests are recorded</li> </ul>			
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Personnel:	<ul style="list-style-type: none"> <li>8 x staff</li> <li>2 visitors</li> </ul>			
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Planning Relationships:				
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Space Data:	Area (m <sup>2</sup> ):		Height (mm)	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			
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ADB	Room Environmental Data		L0102-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	L0102-01	Molecular Biology Laboratory	
Room Number:	4-H1-018	Revision Date:	18/09/2014
<b>AIR</b>			
Requirements		Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	6.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	6.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	F7 - Minimum	
Humidity (%RH):			
General Notes: Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Ceiling Cassette - Chilled Water			
<b>LIGHTING</b>			
Service Illumination (Lux):	500	@ Desk 750 - 850 AFFL	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):		None	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
General Notes: Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	40	SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		45:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	N		
*Quality Which Cannot Be Tolerated: (* alternative format)			
General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	60		
General Notes: Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		L0102-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	L0102-01	Molecular Biology Laboratory	
Room Number:	4-H1-018	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear. Blackout blinds will be required to darken room.		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

<b>ADB</b>	<b>Room Data Sheet</b>	<b>L0102-03</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	L0102-03	Tissue Culture Store		
Room Number:	4-H1-016		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Use of computer workstation(s)</li> <li>2) Recording of test results</li> <li>3) Processes and tests are recorded</li> <li>4) Plating specimens for culture.</li> <li>5) Preparation of slides for microscopy</li> <li>6) Short term storage of specimens</li> <li>7) Centrifugation of samples/specimens (urine, blood, fluids)</li> <li>8) Sorting, batching and labelling/numbering specimens and processing request forms</li> </ol>			
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Personnel:	2 x staff			
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Planning Relationships:				
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,400
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			
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ADB		Schedule of Components by Room				L0102-01	
Project:		11072		RHSC & DCN			
Department:		H1		Child Life & Health			
Room:		L0102-01		Molecular Biology Laboratory		Revision Date: 09/09/2014	
Room Number:		4-H1-018					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	AUT900	Autoclave		1	
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1	
1		1	BIN023	BIN; flammable waste; hinged lid. Complies with HTM83/1983 and BS476PT 7 (1971) for class '0' fire retardancy		3	
1		1	BLI2500	Blind; total blackout boxed; length as indicated. Wipeable.		1	
1		1	BOA027	BOARD; marker/display; whiteboard; magnetic; dry-wipe; with pen holder; wall mounted, 1200H 1800W.		1	
1		1	CAB300	POISONS CABINET: Large, under bench		3	
1		1	CAS020	FIRST AID BOX		2	
2		2	CEN003	CENTRIFUGE bench mounted; 300H 420W 490D		3	
1		1	CEN004	CENTRIFUGE: Swingout rotor, refrigerated, bench top		3	
1		1	CEN012	CENTRIFUGE: refrigerated, large, bench top		3	
1		1	CEN023	MIKRO CENTRIFUGE		3	
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1	
3		3	COM031	COMPUTER: standard with keyboard and screen.		3	
2		2	CUP031	CUPBOARD: 1 shelf; on plinth; 800H 1200W 500D.		1	
6		6	CUP1001	CUPBOARD, mobile, 1 shelf, specialist laboratory		3	
1		1	CUP142	CUPBOARD; fume; with extract; bench mounted; 1050H 1000W 750D.		1	
2		2	CUP2997	CUPBOARD, flammable store, ducted to CUP142		1	
1		1	DIS011	DISPENSER, barrier cream, disposable single cartridge, wall mounted		2	
1		1	DIS013	DISPENSER, paper towel, wall mounted		2	
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2	
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
10		10	HOO024	HOOK; hat and coat; 1.		1	
1		1	INC020	INCUBATOR: heated, benchtop, with shaker platform		3	
1		1	LAB110	STILL; distilled water; with storage tank, wall mounted; 1095H 375W 440D		2	
1		1	LAB208	PLATE READER		3	
2		2	LAB400	FREEZER; Laboratory, under bench		3	
1		1	LAB500	DRYING OVEN; bench top		3	
1		1	LAB600	WATER BATH: heated		3	
2		2	MIC040	MICROSCOPE: Conventional		3	
1		1	MIC041	MICROSCOPE: Multi-header for instruction with camera and computer		3	
1		1	MIC042	MICROSCOPE: Time Lapse		3	
1		1	NAN010	NANODROP		3	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
12		12	OUT006	SOCKET outlet unswitched 13amp single; wall mounted.		1	
17		17	OUT010	SOCKET outlet, switched, 13amp, twin		1	
10		10	OUT052	CONNECTION UNIT, switched, 13 amp		1	
9		9	OUT121	SOCKET outlet; computer data; double.		1	
1		1	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1	



ADB		Schedule of Components by Room				L0102-01	
Project:		11072		RHSC & DCN			
Department:		H1		Child Life & Health			
Room:		L0102-01		Molecular Biology Laboratory		Revision Date: 09/09/2014	
Room Number:		4-H1-018					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
2		2	OUT315	OUTLET, drinking water for equipment.		1	
1		1	OUT341	OUTLET, drainage, anti-syphon		1	
3		3	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1	
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1	
3		3	OUT476	OUTLET; vacuum medical; trunking mounted.		1	
1		1	PCR010	PCR MACHINE		3	
1		1	RAC500	RACK UNIT; metal; shelves with dividers, shelves to be height adjustable		3	
1		1	REF032	FREEZER upright -20 deg.C; Panasonic MDF-U700VX-PE; 2010H 1010W 870D		3	
1		1	REF105	ICE MACHINE; under bench, plumbed in		2	
1		1	REF200	REFRIGERATOR; upright		3	
1		1	RTM010	REAL TIME MACHINE		3	
1		1	SHE902	SHELF, with supports from island units, 2no each side		1	
2		2	SHE903	SHELF, 2no, with supports		1	
2		2	SIG900	SIGN; door; vacant/engaged & names slot		1	
2		2	SNS753	SINKTOP; single bowl; no tap holes; no overflow; right hand integral ribbed drainer; stainless steel; 1200W 600D. HTM64STA		1	
1		1	SPI300	SPILL KIT		3	
1		1	SPI301	RADIATION SPILL KIT		3	
7		7	STO023	STOOL; laboratory; complete with footring		3	
17		17	SUP2500	SUPPORT LEG; for 920 high worktop		1	
1		1	SWC025	SWITCH, light		1	
1		1	TAP022	TAP, laboratory, cold water		1	
1		1	TAP023	TAP, laboratory, hot water		1	
1		1	TAP419	TAP; Laboratory Nitrogen		1	
2		2	TAP809	TAP, bib, lever, hospital pattern, pair hot and cold, 1/2 in.		1	
1		1	TAP894	TAP bib; hospital pattern; Integral thermostatic mixer; HTM64		1	
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2	
3		3	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	WAS021	GLASSWASHER - either under bench or bench top		2	
1		1	WAS051	WASH; eye; first aid; with mirror; wall mounted; 360H 250W 100D.		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
3		3	WAS102	WASTE, unslotted flush-grated, metal, 1.1/2 in		1	
3		3	WAS108	TRAP, bottle, 1.1/2 in, plastic resealing		1	
6		6	WKT1004H	WORKTOP; 920 high 800 deep, laboratory; length as drawn		1	
1		1	WKT304	WORKTOP; dish; stainless steel; with right hand sink bowl; cantilevered from wall; 1500W 650D.		1	

<b>ADB</b>	<b>Room Data Sheet</b>	<b>L0102-02</b>
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Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	L0102-02	Physiology Laboratory	
Room Number:	4-H1-027		Revision Date: 18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Use of laptop computer(s)</li> <li>2) Use of computer workstation(s)</li> <li>3) Clinical hand washing</li> <li>4) Processes and tests are recorded</li> <li>5) Sorting, batching and labelling/numbering specimens and processing request forms</li> <li>6) Centrifugation of samples/specimens (urine, blood, fluids)</li> <li>7) Short term storage of specimens</li> <li>8) Preparation of slides for microscopy</li> <li>9) Plating specimens for culture.</li> <li>10) Recording of test results</li> </ol>
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Personnel:	8 x staff 2 visitors
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Planning Relationships:	
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		L0102-02
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	L0102-02	Physiology Laboratory	
Room Number:	4-H1-027		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  6.0 6.0 Balanced /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 25:  Ventilation Type: Central Supply and Extract.  F7 - Minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Coeling Cassette - Chilled Water			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500   Y A	@ Desk 750 - 850 AFFL Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40     N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  45:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 60		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		L0102-02
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	L0102-02	Physiology Laboratory	
Room Number:	4-H1-027	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear. Blackout blinds will be required to darken room.		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				L0102-02	
Project:		11072		RHSC & DCN			
Department:		H1		Child Life & Health			
Room:		L0102-02		Physiological Laboratory		Revision Date: 09/09/2014	
Room Number:		4-H1-027					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, Integral back outlet, 500W 400D		1	
1		1	BIN023	BIN: flammable waste; hinged lid. Complies with HTM63/1983 and BS476PT 7 (1971) for class '0' fire retardancy		3	
2		2	BLI2500	Blind; total blackout boxed; length as indicated. Wipeable.		1	
1		1	BOA027	BOARD; marker/display; whiteboard; magnetic; dry-wipe; with pen holder; wall mounted; 1200H 1800W.		1	
1		1	CAB301	POISONS CABINET: Small, wall mounted		2	
1		1	CAS020	FIRST AID BOX		2	
2		2	CEN003	CENTRIFUGE bench mounted; 300H 420W 490D		3	
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1	
2		2	COM031	COMPUTER: standard with keyboard and screen.		3	
16		16	CUP1001	CUPBOARD, mobile, 1 shelf, specialist laboratory		3	
2		2	CUP1003	CUPBOARD, mobile, with 4 drawer, specialist laboratory		3	
1		1	CUP142	CUPBOARD; fume; with extract; bench mounted; 1050H 1000W 750D.		1	
1		1	DIS011	DISPENSER, barrier cream, disposable single cartridge, wall mounted		2	
1		1	DIS013	DISPENSER, paper towel, wall mounted		2	
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2	
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
7		7	HOO024	HOOK; hat and coat; 1.		1	
2		2	LAB400	FREEZER; Laboratory, under bench		3	
1		1	MIC040	MICROSCOPE: Conventional		3	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
7		7	OUT006	SOCKET outlet unswitched 13amp single; wall mounted.		1	
22		22	OUT010	SOCKET outlet, switched, 13amp, twin.		1	
7		7	OUT052	CONNECTION UNIT; switched, 13 amp		1	
3		3	OUT121	SOCKET outlet; computer data; double.		1	
1		1	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1	
1		1	OUT315	OUTLET, drinking water for equipment		1	
1		1	OUT341	OUTLET, drainage, anti-syphon		1	
3		3	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1	
3		3	OUT476	OUTLET; vacuum medical; trunking mounted.		1	
1		1	PCR010	PCR MACHINE		3	
1		1	REF032	FREEZER upright -20 deg.C; Panasonic MDF-U700VX-PE; 2010H 1010W 870D		3	
1		1	REF105	ICE MACHINE: under bench, plumbed in		2	
1		1	SHE902	SHELF, with supports from island units, 2no each side		1	
2		2	SHE903	SHELF, 2no, with supports		1	
1		1	SIG900	SIGN; door; vacant/engaged & names slot		1	
2		2	SNS753	SINKTOP; single bowl; no tap holes; no overflow; right hand integral ribbed drainer; stainless steel; 1200W 600D. HTM64STA		1	
1		1	SPI301	RADIATION SPILL KIT		3	



ADB		Schedule of Components by Room			L0102-02	
Project:		11072	RHSC & DCN			
Department:		H1	Child Life & Health			
Room:		L0102-02	Physiological Laboratory			
Room Number:		4-H1-027	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
7		7	STO023	STOOL; laboratory; complete with footing		3
17		17	SUP2500	SUPPORT LEG; for 920 high worktop		1
1		1	SWC025	SWITCH, light		1
1		1	TAP022	TAP, laboratory, cold water		1
1		1	TAP023	TAP, laboratory, hot water		1
1		1	TAP809	TAP, bib, lever, hospital pattern, pair hot and cold, 1/2 in.		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2
5		5	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
1		1	WAS051	WASH; eye; first aid; with mirror; wall mounted; 360H 250W 100D.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
2		2	WAS102	WASTE, unslotted flush-grated, metal, 1.1/2 in		1
2		2	WAS106	TRAP, bottle, 1.1/2 in, plastic resealing		1
6		6	WKT1004H	WORKTOP; 920 high 800 deep, laboratory; length as drawn.		1

ADB	Room Data Sheet			X0242-04
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0242-04	Treatment: double-sided couch access (Mental Health)		
Room Number:	G-A1-015	Revision Date:	18/09/2014	
Activities:	1) Invasive clinical procedures from side of couch 2) Dressing / undressing in privacy 3) Clinical handwashing 4) Assessment / updating of electronic patient records (EPRs) 5) Use of mobile diagnostic and therapeutic equipment			
Personnel:	1 x patient 2 x staff 2 x escorts			
Planning Relationships:	Close to a clean utility room. Close to a dirty utility room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,000
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		X0242-04																																
Project:	11072	RHSC & DCN																																	
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ADB	Room Design Character		X0242-04
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0242-04	Treatment: double-sided couch access (Mental Health)	
Room Number:	G-A1-015	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A or Clear, solar control, privacy control.		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X0242-04	
Project:		11072		RHSC & DCN			
Department:		A1		Emergency Department			
Room:		X0242-04		Treatment Room 11: Dual Access (Mental Health)			
Room Number:		G-A1-015		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
2		2	ALA001	PUSH BUTTON, security alarm		1	
1		1	BED2502	BED HEAD BUFFER; bed and wall protection; vertical; wall mounted.		1	
1		1	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1	
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1	
3		3	CHA017	CHAIR; upright; upholstered; stacking		3	
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1	
1		1	MON902	MONITOR; Mid range use in Recovery & HDU.		3	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
1		1	OUT010	SOCKET outlet, switched, 13amp, twin		1	
2		2	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1	
2		2	OUT121	SOCKET outlet: computer data; double.		1	
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1	
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1	
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1	
3		3	SEA024	SEAT, tip-up, wall mounted, 400 W 400D		1	
1		1	STA2504	STAND; Roll stand for monitor		3	
1		1	SWC025	SWITCH, light		1	
1		1	TRO282	TROLLEY PATIENT; accident; image top; with tilt and brakes; 540-1000H 740W 2110D		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	



<b>ADB</b>	<b>Room Data Sheet</b>	<b>X0242-05</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0242-05	Resuscitation Room: 2 places		
Room Number:	G-A1-028		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Therapeutic and clinical attention from healthcare staff</li> <li>2) Patient may require assistance during the activities</li> <li>3) Clinical hand washing</li> <li>4) Assessment / updating of electronic patient records (EPRs)</li> <li>5) Use of computer workstation(s)</li> <li>6) Use of Telephone</li> <li>7) Use of call systems</li> <li>8) Medical and nursing procedures requiring all sides access to patient whilst 1-4 staff using mobile equipment</li> <li>9) Use of Imaging x-ray equipment</li> </ol>
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Personnel:	<p>2 x patients</p> <p>6 x staff (up to 12)</p> <p>4 x escort</p>
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Planning Relationships:	
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,000
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		X0242-05
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0242-05	Resuscitation Room: 2 places	
Room Number:	G-A1-028	Revision Date:	18/09/2014
<b>AIR</b>			
Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	Requirements   10.0 6.0 Positive /	Notes  Permissible space temperature range (dry bulb) (degC) : 21 - 25:  Ventilation Type: Central Supply and Extract.  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500   1,000.0 Y A	Not Applicable @ Bed/Trolley 1450 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	30      Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  45:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		X0242-05
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0242-05	Resuscitation Room: 2 places	
Room Number:	G-A1-028	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control, high level		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X0242-05
Project:	11072	RHSC & DCN				
Department:	A1	Emergency Department				
Room:	X0242-05	Resuscitation Room: 2 places				
Room Number:	G-A1-028					Revision Date: 09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
2		2	ANA001	ANAESTHETIC MACHINE/WORKSTATION electrically powered piston ventilator, mobile, 1350H 750W 650D		3
2		2	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
2		2	BIN2503	BIN; sharps disposal		3
4		4	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
1		1	CAB950	CONSOLE, X-ray, specialist.		5
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
6		6	CHA017	CHAIR; upright; upholstered; stacking		3
2		2	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
2		2	COM033	COMPUTER KEYBOARD		3
2		2	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
2		2	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
1		1	CUP2569	Generator Cabinet.		5
2		2	DIS013	DISPENSER, paper towel, wall mounted		2
2		2	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
2		2	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
4		4	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	INF001	INFUSION volumetric pump; 356H 178W 178D		3
1		1	LIG074	ILLUMINATED SIGN DO NOT ENTER		1
1		1	LIG074	ILLUMINATED SIGN DO NOT ENTER		1
2		2	LIG081	LUMINAIRE fitted with single fluorescent lamp with switch; below drug cupboard; 8watt; 400mm.		1
2		2	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3
2		2	MON906	MONITOR; Clinical slave		2
2		2	MSC127	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; wall mounted.		1
2		2	MSC128	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; wall mounted.		1
4		4	MSC981	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; vertical tambour front; on plinth; o/a height 880		1
4		4	MST001	TROLLEY; single open frame; with handle; up to 5 sets of runners; 600mm facing; approx 850H 730W 450D		3
4		4	MST005	TROLLEY; half size open frame; up to 5 sets of runners; 400mm facing; approx 850H 450W 350D		3
2		2	OUT005	SOCKET outlet, switched, 13amp, single		1
2		2	OUT006	SOCKET outlet unswitched 13amp single; wall mounted.		1
13		13	OUT010	SOCKET outlet, switched, 13amp, twin		1
16		16	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
2		2	OUT050	OUTLET, controlled drugs cupboard		1
2		2	OUT059	CONNECTION UNIT switched 13amp, indicator light		1



ADB		Schedule of Components by Room				X0242-05
Project:	11072	RHSC & DCN				
Department:	A1	Emergency Department				
Room:	X0242-05	Resuscitation Room: 2 places				
Room Number:	G-A1-028					Revision Date: 09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
8		8	OUT121	SOCKET outlet; computer data; double.		1
8		8	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
2		2	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1
4		4	OUT453	OUTLET, 4kPa compressed air, medical		1
4		4	OUT461	OUTLET, nitrous oxide, medical		1
8		8	OUT470	OUTLET, oxygen, medical		1
4		4	OUT475	OUTLET, vacuum, medical		1
4		4	OUT480	OUTLET, gas scavenging (AGS), medical		1
4		4	PEN900	PENDANT RESUSCITATION, medical gases and power supply unit, fixed location, ceiling mounted, medical gases and power outlets comprising:		1
2		2	PRI015	PRINTER; label; portable		3
1		1	RAC196	RACK, x-ray lead apron, 5 hangers hinged, wall mounted		2
2		2	REF062	REFRIGERATOR, capacity 82 litres, external temperature gauge, lockable, 660H 500W 510D		3
2		2	RSU010	DEFIBRILLATOR; Manual		3
3		3	SCR066	SCREEN shielding; radiation protection; lead sheets; mobile; 1140H 1070L; lead equivalent 0.8 mm Pb @ 110 keV.		5
2		2	STA142	STAND; infusion; twin hook; breaks; mobile		3
2		2	STA2504	STAND; Roll stand for monitor		3
2		2	STF290	STORAGE UNIT; upper; cupboard; controlled drugs; 1 door; lockable; with inner lockable cupboard and warning light; 550H 600W 300D		1
2		2	STO006	STOOL, surgeon/anaesthetist, height adjustable, includes anti-static seat pads		3
1		1	SWC025	SWITCH, light		1
1		1	SWC062	EMERGENCY STOP switch button, wall mounted		1
4		4	SYR004	SYRINGE pump; anaesthetic use; with diprifusor; 115H 400W 180D		3
2		2	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
2		2	TEL2500	TELEPHONE; handset, wall mounted.		2
2		2	TRO2507	TROLLEY; control; including PC		3
2		2	TRO282	TROLLEY PATIENT; accident; image top; with tilt and brakes; 540-1000H 740W 2110D		3
1		1	UPS003	Uninterrupted power supply (UPS).		1
1		1	WAR053	WARMER, blood/fluid, maintains temperature between 36 and 43 deg.C at flow rates up to 500 ml/min, 35H 235W 273D		3
2		2	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
2		2	WAS1000	TRAP; concealed waste; for back outlet basins.		1
2		2	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1
1		1	XRA010	X-RAY CS; ceiling suspensions; with telescopic tube of column and rotating/tilting arm		5
4		4	XRA015	X-RAY CS RAIL; ceiling suspensions; 6280mm; (Part of XRA010)		5
1		1	XRA040	X-RAY Resus equipment		5



<b>ADB</b>	<b>Room Data Sheet</b>	<b>X0242-06</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0242-06	Resuscitation Room: 2 places		
Room Number:	G-A1-029		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Therapeutic and clinical attention from healthcare staff</li> <li>2) Patient may require assistance during the activities</li> <li>3) Clinical hand washing</li> <li>4) Assessment / updating of electronic patient records (EPRs)</li> <li>5) Use of computer workstation(s)</li> <li>6) Use of Telephone</li> <li>7) Use of call systems</li> <li>8) Medical and nursing procedures requiring all sides access to patient whilst 1-4 staff using mobile equipment</li> <li>9) Use of Imaging x-ray equipment</li> </ol>
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Personnel:	<p>2 x patients 6 x staff (up to 12) 4 x escort</p>
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Planning Relationships:	
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,000
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		X0242-06																																
Project:	11072	RHSC & DCN																																	
Department:	01	Key Rooms (Financial Close)																																	
Room:	X0242-06	Resuscitation Room: 2 places																																	
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General Notes: Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air																																			
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General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)																																			
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General Notes: Maximum cold water discharge temperature (degC): 20																																			
<table border="1"> <thead> <tr> <th>FIRE</th> </tr> </thead> <tbody> <tr> <td>Enclosure:</td> </tr> <tr> <td>Automatic Detection:</td> </tr> <tr> <td>Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)</td> </tr> </tbody> </table>				FIRE	Enclosure:	Automatic Detection:	Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)																												
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ADB	Room Design Character		X0242-06
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0242-06	Resuscitation Room: 2 places	
Room Number:	G-A1-029	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control, high level		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room			X0242-06	
Project:		11072	RHSC & DCN			
Department:		A1	Emergency Department			
Room:		X0242-06	Resuscitation Room: 2 places			
Room Number:		G-A1-029	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
2		2	ANA001	ANAESTHETIC MACHINE/WORKSTATION electrically powered piston ventilator, mobile, 1350H 750W 650D		3
2		2	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
2		2	BIN2503	BIN; sharps disposal		3
4		4	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
1		1	CAB950	CONSOLE, X-ray , specialist.		5
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
6		6	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
2		2	COM033	COMPUTER KEYBOARD		3
2		2	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
2		2	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
1		1	CUP2569	Generator Cabinet.		5
2		2	DIS013	DISPENSER, paper towel, wall mounted		2
2		2	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
2		2	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
4		4	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	INF001	INFUSION volumetric pump; 356H 178W 178D		3
2		2	LIG074	ILLUMINATED SIGN DO NOT ENTER		1
2		2	LIG081	LUMINAIRE fitted with single fluorescent lamp with switch; below drug cupboard; Øwatt; 400mm.		1
2		2	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3
2		2	MON906	MONITOR; Clinical slave		2
2		2	MSC127	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; wall mounted.		1
2		2	MSC128	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; wall mounted.		1
4		4	MSC981	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; vertical tambour front; on plinth; o/a height 880		1
4		4	MST001	TROLLEY; single open frame; with handle; up to 5 sets of runners; 600mm facing; approx 850H 730W 450D		3
4		4	MST005	TROLLEY; half size open frame; up to 5 sets of runners; 400mm facing; approx 850H 450W 350D		3
2		2	OUT005	SOCKET outlet, switched, 13amp, single		1
2		2	OUT006	SOCKET outlet unswitched 13amp single; wall mounted.		1
13		13	OUT010	SOCKET outlet, switched, 13amp, twin		1
16		16	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
2		2	OUT050	OUTLET, controlled drugs cupboard		1
2		2	OUT059	CONNECTION UNIT switched 13amp, indicator light		1
8		8	OUT121	SOCKET outlet; computer data; double.		1



ADB		Schedule of Components by Room				X0242-06
Project:	11072	RHSC & DCN				
Department:	A1	Emergency Department				
Room:	X0242-06	Resuscitation Room: 2 places				
Room Number:	G-A1-029					Revision Date: 09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
8		8	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
2		2	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1
4		4	OUT453	OUTLET, 4kPa compressed air, medical		1
4		4	OUT461	OUTLET, nitrous oxide, medical		1
8		8	OUT470	OUTLET, oxygen, medical		1
4		4	OUT475	OUTLET, vacuum, medical		1
4		4	OUT480	OUTLET, gas scavenging (AGS), medical		1
4		4	PEN900	PENDANT RESUSCITATION, medical gases and power supply unit, fixed location, ceiling mounted, medical gases and power outlets comprising:		1
2		2	PRI015	PRINTER; label; portable		3
1		1	RAC196	RACK, x-ray lead apron, 5 hangers hinged, wall mounted		2
2		2	REF062	REFRIGERATOR, capacity 82 litres, external temperature gauge, lockable, 660H 500W 510D		3
1		1	RSU011	DEFIBRILLATOR; Manual with pacing capability		3
3		3	SCR066	SCREEN shielding; radiation protection; lead sheets; mobile: 1140H 1070L; lead equivalent 0.8 mm Pb @ 110 keV.		5
2		2	STA142	STAND; infusion; twin hook; breaks; mobile		3
2		2	STA2504	STAND; Roll stand for monitor		3
2		2	STF290	STORAGE UNIT; upper; cupboard; controlled drugs; 1 door; lockable; with inner lockable cupboard and warning light; 550H 600W 300D		1
2		2	STO006	STOOL, surgeon/anaesthetist, height adjustable. Includes anti-static seat pads		3
1		1	SWC025	SWITCH, light		1
1		1	SWC062	EMERGENCY STOP switch button, wall mounted		1
4		4	SYR004	SYRINGE pump; anaesthetic use; with dilrifusor; 115H 400W 180D		3
2		2	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
2		2	TEL2500	TELEPHONE; handset, wall mounted.		2
2		2	TRO2507	TROLLEY; control; including PC		3
2		2	TRO282	TROLLEY PATIENT; accident; image top; with tilt and brakes; 540-1000H 740W 2110D		3
1		1	UPS003	Uninterrupted power supply (UPS).		1
1		1	WAR053	WARMER, blood/fluid, maintains temperature between 36 and 43 deg.C at flow rates up to 500 ml/min, 35H 235W 273D		3
2		2	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
2		2	WAS1000	TRAP; concealed waste; for back outlet basins.		1
2		2	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1
1		1	XRA010	X-RAY CS; ceiling suspensions; with telescopic tube of column and rotating/filling arm		5
4		4	XRA015	X-RAY CS RAIL; ceiling suspensions; 6280mm; (Part of XRA010)		5
1		1	XRA040	X-RAY Resus equipment		5



ADB	Room Data Sheet			X0242-03
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0242-03	Triage room		
Room Number:	G-A1-035	Revision Date:	18/09/2014	
Activities:	1) Consultations. 2) Dressing / undressing in privacy 3) Clinical handwashing 4) Patient records reviewed and recorded 5) Computer information accessed 6) Patient examinations and assessment			
Personnel:	1 x patient 2 x staff 2 x escorts			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

<b>ADB</b>	<b>Room Environmental Data</b>	<b>X0242-03</b>
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Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0242-03	Triage room	
Room Number:	G-A1-035		Revision Date: 18/09/2014

AIR	Requirements	Notes
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28
Summer Temperature (DegC):		
Mechanical Ventilation (Supply ac/hr):	3.0	Ventilation Type: Central Supply and Extract
Mechanical Ventilation (Extract ac/hr):	3.0	
Pressure Relative to Adjoining Space:	Balanced	
Filtration (%DSE and % Arrestance):	/	G4 - minimum
Humidity (%RH):		

**General Notes:** Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air

LIGHTING	Requirements	Notes
Service Illumination (Lux):	300	
Service Illumination Night (Lux):		Not Applicable
Local Illumination (Lux):	1,000.0	@ Bed/Trolley 1450 AFFL
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting

**General Notes:** Control: Switch

NOISE	Requirements	Notes
Privacy Factor Required (dB):		
Mechanical Services (NR):	35	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)
*Acceptable Sound Level [L10dB(A)]:		
*Speech Privacy Required:	Y	
*Quality Which Cannot Be Tolerated: (* alternative format)		

**General Notes:** Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)

SAFETY	Requirements	Notes
Hot Surface Max. Temp (DegC):	43	
Hot Water Max. Temp (DegC):	41	

**General Notes:** Maximum cold water discharge temperature (degC): 20

FIRE
Enclosure:
Automatic Detection:
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)

ADB	Room Design Character		X0242-03
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0242-03	Triage room	
Room Number:	G-A1-035	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X0242-03
Project:	11072	RHSC & DCN				
Department:	A1	Emergency Department				
Room:	X0242-03	Triage Room				
Room Number:	G-A1-035				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BED2502	BED HEAD BUFFER; bed and wall protection; vertical; wall mounted.		1
1		1	BIN2503	BIN; sharps disposal		3
1		1	CAB056	CABINET; stationery; metal; 10 drawer with lock; 600H 280W 410D		3
1		1	CAB2502	CABINET; medicine; wall mounted.		1
1		1	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
4		4	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
1		1	DIA2500	DIAGNOSTIC SET; auroscope/ophthalmoscope; wall mounted.		2
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
2		2	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DRA056	DRAWER UNIT, 2 drawer, lockable, on castors, 600H 410W 600D		3
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	MON900	MONITOR; Low end monitor, general Ward /OPD use		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
4		4	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
3		3	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1
1		1	OUT215	SOCKET outlet, telephone		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	RAI130	RAIL, clinical equipment, wall mounted, 600mm		1
1		1	SCA011	SCALE; baby		3
1		1	SCA2501	SCALE; free standing height column		3
2		2	SUP2500	SUPPORT LEG; for 920 high worktop		1
2		2	SWC025	SWITCH, light		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset.		3

ADB		Schedule of Components by Room			X0242-03	
Project:		11072	RHSC & DCN			
Department:		A1	Emergency Department			
Room:		X0242-03	Triage Room			
Room Number:		G-A1-035	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
1		1	TRO282	TROLLEY PATIENT; accident; image top; with tilt and brakes; 540-1000H 740W 2110D		3
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1



<b>ADB</b>	<b>Room Data Sheet</b>	<b>X0242-02</b>
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Project:	11072	RHSC & DCN
Department:	01	Key Rooms (Financial Close)
Room:	X0242-02	Treatment: Single sided couch access (ED only)
Room Number:	G-A1-060	Revision Date: 18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Invasive clinical procedures from side of couch</li> <li>2) Preparation of trays / packs for clinical procedures</li> <li>3) Clinical handwashing</li> <li>4) Assessment / updating of electronic patient records (EPRs)</li> <li>5) Storage of sterile supplies and consumables on a trolley</li> <li>6) Use of mobile diagnostic and therapeutic equipment</li> <li>7) Preparation for clinical procedures</li> <li>8) Sterile supplies and consumables are held</li> <li>9) Sterile packs, lotions and drugs prepared for immediate use</li> <li>10) Patient may undress/dress in privacy</li> </ol>
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Personnel:	1 x patient 2 x staff 2 x escorts
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Planning Relationships:	
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,000
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		X0242-02
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0242-02	Treatment: Single sided couch access (EO only)	
Room Number:	G-A1-060	Revision Date:	18/09/2014
<b>AIR</b>			
Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	Requirements  10.0  Positive  /	Notes  Permissible space temperature range (dry bulb) (degC) : 18 - 28  Ventilation Type: Central Supply Air  F7 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500  1,000.0  Y  A	Not Applicable  @ Bed/Trolley 1450 AFFL  Colour rendering characteristics (Ra) 80  Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35     Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		X0242-02
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0242-02	Treatment: Single sided couch access (ED only)	
Room Number:	G-A1-060	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X0242-02
Project:	11072	RHSC & DCN				
Department:	A1	Emergency Department				
Room:	X0242-02	Treatment Room 3: Single Access				
Room Number:	G-A1-060				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BED2502	BED HEAD BUFFER; bed and wall protection; vertical; wall mounted.		1
2		2	BIN2503	BIN; sharps disposal		3
1		1	BRA003	BRACKET, holder, suction unit, wall mounted		2
1		1	CAB056	CABINET; stationery; metal; 10 drawer with lock; 600H 280W 410D		3
1		1	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
3		3	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
1		1	DIA2500	DIAGNOSTIC SET; auroscope/opthalmoscope; wall mounted.		2
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DRA2500	DRAWER UNIT; Plastic; 5 drawer; on castors		3
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO024	HOOK; hat and coat; 1.		1
1		1	LIG015	LUMINAIRE observation/examination; mobile; 1000 lux		3
1		1	MIR024	MIRROR; unbreakable; wall mounted; 800H 300W.		1
1		1	MON900	MONITOR; Low end monitor, general Ward /OPD use		3
2		2	MST001	TROLLEY; single open frame; with handle; up to 5 sets of runners; 600mm facing; approx 850H 730W 450D		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
5		5	OUT010	SOCKET outlet, switched, 13amp, twin		1
3		3	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
3		3	OUT121	SOCKET outlet; computer data; double.		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	PRI015	PRINTER; label; portable		3
1		1	STO020	STOOL; anatomic; backrest; armrests; height adjustable		3



ADB			Schedule of Components by Room		X0242-02	
Project:		11072		RHSC & DCN		
Department:		A1		Emergency Department		
Room:		X0242-02		Treatment Room 3: Single Access		
Room Number:		G-A1-060		Revision Date:		09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
2		2	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TRA1001	TRACK; curtain; door; length and shape as drawn.		1
1		1	TRO282	TROLLEY PATIENT; accident; image top; with tilt and brakes; 540-1000H 740W 2110D		3
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1003L	WORKTOP; 720 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1



ADB	Room Data Sheet			X0242-01
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0242-01	Treatment: double sided couch access (ED only)		
Room Number:	G-A2-020	Revision Date:	18/09/2014	
Activities:	<ol style="list-style-type: none"> <li>1) Invasive clinical procedures from side of couch</li> <li>2) Preparation of trays / packs for clinical procedures</li> <li>3) Clinical handwashing</li> <li>4) Assessment / updating of electronic patient records (EPRs)</li> <li>5) Storage of sterile supplies and consumables on a trolley</li> <li>6) Use of mobile diagnostic and therapeutic equipment</li> <li>7) Preparation for clinical procedures</li> <li>8) Sterile supplies and consumables are held</li> <li>9) Sterile packs, lotions and drugs prepared for immediate use</li> <li>10) Patient may undress/dress in privacy</li> </ol>			
Personnel:	1 x patient 2 x staff 2 x escorts			
Planning Relationships:	Close to a clean utility room. Close to a dirty utility room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,000
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>			

ADB	Room Environmental Data		X0242-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0242-01	Treatment: double sided couch access (ED only)	
Room Number:	G-A2-020	Revision Date:	18/09/2014
<b>AIR</b>			
Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>   10.0  Positive  /	<b>Notes</b>  Permissible space temperature range (dry bulb) (degC) : 18 - 28  Ventilation Type: Central Supply Air  F7 - minimum	
<b>General Notes:</b> Heating type: Radiant panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500  1,000.0  Y  A	Not Applicable  @ Bed/Trolley 1450 AFFL  Colour rendering characteristics (Ra) 80  Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35     Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		X0242-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0242-01	Treatment: double sided couch access (ED only)	
Room Number:	G-A2-020	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X0242-01
Project:	11072	RHSC & DCN				
Department:	A1	Emergency Department				
Room:	X0242-01	Treatment Room 8: Dual Access				
Room Number:	G-A1-020				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
2		2	BIN2503	BIN; sharps disposal		3
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
4		4	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	DIA2500	DIAGNOSTIC SET; auroscope/ophthalmoscope; wall mounted.		2
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DRA2500	DRAWER UNIT; Plastic; 5 drawer; on castors		3
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	MON902	MONITOR; Mid range use in Recovery & HDU.		3
2		2	MST001	TROLLEY; single open frame; with handle; up to 5 sets of runners; 600mm facing; approx 850H 730W 450D		3
1		1	MST005	TROLLEY; half size open frame; up to 5 sets of runners; 400mm facing; approx 850H 450W 350D		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
6		6	OUT010	SOCKET outlet, switched, 13amp, twin.		1
6		6	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1
3		3	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	RAI2500	RAIL; clinical equipment; wall mounted; length as drawn.		1
1		1	STO020	STOOL; anatomic; backrest; armrests; height adjustable		3
1		1	SWC025	SWITCH, light		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TRA1001	TRACK; curtain; door; length and shape as drawn.		1
1		1	TRO2512	TROLLEY; 2 shelves, lectern type top		3
1		1	TRO282	TROLLEY PATIENT; accident; image top; with tilt and brakes; 540-1000H 740W 2110D		3
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1,1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1

ADB			Schedule of Components by Room		X0242-01	
Project:		11072	RHSC & DCN			
Department:		A1	Emergency Department			
Room:		X0242-01	Treatment Room 8: Dual Access			
Room Number:		G-A1-020	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	WKT1003H	WORKTOP: 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1



ADB	Room Data Sheet			X0206
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0206	Plaster Suite		
Room Number:	G-D1-008	Revision Date:	18/09/2014	
Activities:	1) Application or removal of plaster casts or moulds 2) Disposal of plaster waste and discarded splints. 3) Clinical handwashing 4) Assessment / updating of electronic patient records (EPRs) 5) Patient may be ambulant with/without walking aids, in a wheelchair or requiring assistance 6) Use of computer workstation(s) 7) Use of call systems 8) Patient may undress/dress in privacy			
Personnel:	3 x patients 3 x staff 6 x escorts			
Planning Relationships:	Close to a store.  (Which store)			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		X0206
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0206	Plaster Suite	
Room Number:	G-D1-008		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	3.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	3.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	300	Not Applicable	
Service Illumination Night (Lux):		@ Bed/Trolley 1450 AFFL	
Local Illumination (Lux):	1,000.0	Colour rendering characteristics (Ra) 80	
Colour Rendering Required:	Y	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
Standby Lighting Grade:	A		
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):	35	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Mechanical Services (NR):		40:daytime (LAeq,1hr)	
Intrusive Noise (NR Leq):			
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		X0206
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0206	Plaster Suite	
Room Number:	G-D1-008	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X0206
Project:	11072	RHSC & DCN				
Department:	D1	RHSC Main Outpatients				
Room:	X0206	Plaster Suite (3 bays)				
Room Number:	G-D1-008				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, interfla back outlet, 500W 400D		1
3		3	BUC003	BUCKET; plaster; with stand; mobile; 900H 300 dia.		3
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
6		6	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
1		1	COM1000	COMPUTER MONITOR, TFT; Sunray digital flat panel display; desk top		3
3		3	COU2506	COUCH; examination/treatment; (3 section); electric; variable height; retractable wheels; with paper roll holder.		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
3		3	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
6		6	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	DRA056	DRAWER UNIT, 2 drawer, lockable, on castors, 600H 410W 600D		3
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
6		6	HOO022	HOOK; double; wall mounted.		1
3		3	HOO061	HOOK; limb sling; ceiling mounted		2
3		3	LIG963	LUMINAIRE, examination; ceiling; adjustable.		1
1		1	MIR003	MIRROR; wall mounted; 1000H 300W.		1
1		1	MIR2500	MIRROR; wall mounted; 1600H 400W unbreakable.		1
1		1	MSC198	CABINET top; 600mm facing; with 1 shelf; 1 door hinged left; wall mounted.		1
4		4	OUT005	SOCKET outlet, switched, 13amp, single		1
8		8	OUT010	SOCKET outlet, switched, 13amp, twin		1
3		3	OUT052	CONNECTION UNIT, switched, 13 amp		1
4		4	OUT121	SOCKET outlet; computer data; double.		1
4		4	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
3		3	OUT471	OUTLET; oxygen medical; trunking mounted.		1
3		3	OUT476	OUTLET; vacuum medical; trunking mounted.		1
2		2	RAI081	RAIL, grab, horizontal, wall mounted, 900mm		1
3		3	RES003	REST FOOT; height adjustable; washable cover		3
2		2	SAW2500	SAW; plaster		3
1		1	SNS510	SINK plaster; plain top; no tap holes; no upstand; no overflow; left hand drainer; stainless steel; 900H 1200W 600D; HTM64PSH		1
1		1	STF136	STORAGE UNIT; lower; cupboard; 2 door; 1 shelf; lockable; 550H 1000W 450D		1
1		1	STF2506	STORAGE UNIT; lower; cupboard; 2 door; 1 shelf; lockable; on plinth		1
2		2	STF275	STORAGE UNIT; upper; cupboard; 2 door; 1 shelf; lockable; 550H 600W 300D		1
4		4	STF281	STORAGE UNIT; upper; cupboard; 2 door; 1 shelf; lockable; 550H 1000W 300D		1
1		1	STO020	STOOL; anatomic; backrest; armrests; height adjustable		3



ADB		Schedule of Components by Room				X0206	
Project:		11072		RHSC & DCN			
Department:		D1		RHSC Main Outpatients			
Room:		X0206		Plaster Suite (3 bays)		Revision Date: 09/09/2014	
Room Number:		G-D1-008					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	SUP2501	SUPPORT LEG; for 720 high worktop		1	
3		3	SUP2502	SUPPORT; over bed monkey bar.		3	
4		4	SWC025	SWITCH, light		1	
1		1	TAB2199	TABLE: spinal, 1920H 22800W 730D		3	
1		1	TAP809	TAP, bib, lever, hospital pattern, pair hot and cold, 1/2 in.		1	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL1000	TELEPHONE; handset.		3	
3		3	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1	
3		3	TRO133	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 750W 450D		3	
2		2	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
3		3	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WAS102	WASTE, unslotted flush-grated, metal, 1.1/2 in		1	
1		1	WAS108	TRAP, bottle, 1.1/2 in, plastic resealing		1	
3		3	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	



<b>ADB</b>	<b>Room Data Sheet</b>	<b>X0105-01</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0105-01	Treatment room: with Prep Area		
Room Number:	G-D1-033		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Invasive clinical procedures from side of couch</li> <li>2) Dressing / undressing in privacy</li> <li>3) Clinical handwashing</li> <li>4) Assessment / updating of electronic patient records (EPRs)</li> <li>5) Storage of sterile supplies and consumables on a trolley</li> <li>6) Use of mobile diagnostic and therapeutic equipment</li> <li>7) Sterile packs, lotions and drugs prepared for immediate use</li> </ol>
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Personnel:	<p>1 x patient 2 x staff 2 x escorts</p>
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Planning Relationships:	<p>Close to a clean utility room. Close to a dirty utility room.</p>
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		X0105-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0105-01	Treatment room: with Prep Area	
Room Number:	G-D1-033	Revision Date:	18/09/2014
<b>AIR</b>			
Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	Requirements  10.0  Positive  /	Notes  Permissible space temperature range (dry bulb) (degC) : 18 - 28  Ventilation Type: Central Supply Air  F7 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500  1,000.0  Y  A	Not Applicable  @ Bed/Trolley 1450 AFFL  Colour rendering characteristics (Ra) 80  Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35     Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		X0105-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0105-01	Treatment room: with Prep Area	
Room Number:	G-D1-033	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X0105-01
Project:	11072	RHSC & DCN				
Department:	D1	RHSC Main Outpatients				
Room:	X0105-01	Treatment Room (with prep area)				
Room Number:	G-D1-033					Revision Date: 09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, intefral back outlet, 500W 400D		1
1		1	BED2502	BED HEAD BUFFER; bed and wall protection; vertical; wall mounted.		1
1		1	BRA004	BRACKET; holder; suction unit; trunking/rail mounted		2
2		2	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
1		1	COM1000	COMPUTER MONITOR, TFT; Sunray digital flat panel display; desk top		3
1		1	COU2506	COUCH; examination/treatment; (3 section); electric; variable height; retractable wheels; with paper roll holder.		3
1		1	DIS011	DISPENSER, barrier cream, disposable single cartridge, wall mounted		2
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	HOI006	HOIST PATIENT; electric; 24V; track ceiling mounted (Length of the track to suit the individual needs).		1
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOO022	HOOK; double; wall mounted.		1
2		2	HOO024	HOOK; hat and coat; 1.		1
1		1	LIG963	LUMINAIRE; examination; ceiling; adjustable.		1
2		2	MSC081	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
1		1	MSC082	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 900.		1
2		2	MSC127	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; wall mounted.		1
1		1	MSC128	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; wall mounted.		1
1		1	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
2		2	OUT005	SOCKET outlet, switched, 13amp, single		1
4		4	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	PRI015	PRINTER; label; portable		3
1		1	RAI132	RAIL, clinical equipment, wall mounted, 1200mm		1
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1
1		1	STO020	STOOL; anatomic; backrest; armrests; height adjustable		3
2		2	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1



ADB			Schedule of Components by Room		X0105-01	
Project:		11072		RHSC & DCN		
Department:		D1		RHSC Main Outpatients		
Room:		X0105-01		Treatment Room (with prep area)		
Room Number:		G-D1-033		Revision Date:		09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset.		3
1		1	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
1		1	TRO133	TROLLEY; dressing/instrument, stainless steel, buffered, 870H 750W 450D		3
2		2	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1003L	WORKTOP; 720 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1



ADB	Room Data Sheet			C0224-01
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	C0224-01	Consulting/examination: RHSC		
Room Number:	G-D1-039	Revision Date:	18/09/2014	
Activities:	1) Consultations. 2) Minimally invasive clinical procedures undertaken from one or both sides of the couch. 3) Storage of sterile supplies and consumables on a trolley 4) Assessment / updating of electronic patient records (EPRs) 5) Clinical handwashing 6) Examinations carried out from one or both sides of the couch 7) Patient may undress/dress in privacy			
Personnel:	1 x patient 3 x staff 2 x escorts			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		C0224-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0224-01	Consulting/examination: RHSC	
Room Number:	G-D1-039		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>   3.0 3.0 Balanced /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Supply and Extract  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	 300  1,000.0 Y A	  Not Applicable @ Bed/Trolley 1450 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	 35    Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	 43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		C0224-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0224-01	Consulting/examination: RHSC	
Room Number:	G-D1-039	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				C0224-01
Project:	11072	RHSC & DCN				
Department:	D1	RHSC Main Outpatients				
Room:	C0224-01	Consult/Examination				
Room Number:	G-D1-039					Revision Date: 09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BED2502	BED HEAD BUFFER; bed and wall protection; vertical; wall mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
5		5	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COU2506	COUCH; examination/treatment; (3 section); electric; variable height; retractable wheels; with paper roll holder.		3
1		1	DIA2500	DIAGNOSTIC SET; auroscope/ophthalmoscope; wall mounted.		2
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOO022	HOOK; double; wall mounted.		1
1		1	LIG963	LUMINAIRE; examination; ceiling; adjustable.		1
1		1	MSC197	CABINET top; 600mm facing; with 1 shelf; 1 door hinged right; wall mounted.		1
1		1	MSC2515	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; lockable; shelved; on plinth; o/a height 900.		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
4		4	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1
1		1	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	PRI015	PRINTER; label; portable		3
1		1	RAI130	RAIL, clinical equipment, wall mounted, 600mm		1
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1
1		1	SIG2501	Sign; door slot Drs name		1
1		1	SPH003	SPHYGMOMANOMETER; rail mounted		3
1		1	STO020	STOOL; anatomic; backrest; armrests; height adjustable		3
2		2	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1



ADB			Schedule of Components by Room		C0224-01	
Project:		11072	RHSC & DCN			
Department:		D1	RHSC Main Outpatients			
Room:		C0224-01	Consult/Examination			
Room Number:		G-D1-039	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	TAP894	TAP bib; hospital pattern; Integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset.		3
1		1	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
1		1	TRO131	TROLLEY; dressing/instrument, stainless steel, buffered, 870H 450W 450D		3
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
1		1	VIE900	PEEPHOLE		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1, 1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1
1		1	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1



ADB	Room Data Sheet			C0217-01
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	C0217-01	Consult/exam: multidisciplinary - RHSC		
Room Number:	G-D1-040	Revision Date:	18/09/2014	
Activities:	1) Consultations. 2) Minimally invasive clinical procedures undertaken from one or both sides of the couch. 3) Storage of sterile supplies and consumables on a trolley 4) Assessment / updating of electronic patient records (EPRs) 5) Clinical handwashing 6) Patient may undress/dress in privacy			
Personnel:	1 x patient 8 x staff 2 x escorts			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		C0217-01																																
Project:	11072	RHSC & DCN																																	
Department:	01	Key Rooms (Financial Close)																																	
Room:	C0217-01	Consult/exam: multidisciplinary - RHSC																																	
Room Number:	G-D1-040	Revision Date:	18/09/2014																																
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ADB	Room Design Character		C0217-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0217-01	Consult/exam: multidisciplinary - RHSC	
Room Number:	G-D1-040	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				C0217-01
Project:	11072	RHSC & DCN				
Department:	D1	RHSC Main Outpatients				
Room:	C0217-01	Consult/Multi-Disciplinary				
Room Number:	G-D1-040				Revision Date:	18/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BED2502	BED HEAD BUFFER; bed and wall protection; vertical; wall mounted.		1
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
10		10	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
1		1	COM1000	COMPUTER MONITOR, TFT; Sunray digital flat panel display; desk top		3
1		1	COU2506	COUCH; examination/treatment; (3 section); electric; variable height; retractable wheels; with paper roll holder.		3
1		1	DIA2500	DIAGNOSTIC SET; auroscope/ophthalmoscope; wall mounted.		2
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
2		2	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DRA056	DRAWER UNIT, 2 drawer, lockable, on castors, 600H 410W 600D		3
1		1	HOI006	HOIST PATIENT; electric; 24V; track ceiling mounted (Length of the track to suit the individual needs).		1
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO022	HOOK; double; wall mounted.		1
1		1	LIG055	LUMINAIRE variable spotlight beam produce around 40000 lux @ 1m and 60000 lux @ 0.8m, flexible arm; wall/ceiling mounted.		1
1		1	MSC198	CABINET top; 600mm facing; with 1 shelf; 1 door hinged left; wall mounted.		1
1		1	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
4		4	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1
1		1	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	PRI015	PRINTER; label; portable		3
1		1	RAI130	RAIL, clinical equipment, wall mounted, 600mm		1
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1
1		1	SIG2501	Sign; door slot Drs name		1
1		1	SPH003	SPHYGMOMANOMETER; rail mounted		3
2		2	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1
1		1	TAB002	TABLE; 650H 1200W 600D		3
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset.		3

ADB			Schedule of Components by Room		C0217-01		
Project:		11072	RHSC & DCN				
Department:		D1	RHSC Main Outpatients				
Room:		C0217-01	Consult/Multi-Disciplinary			Revision Date:	18/09/2014
Room Number:		G-D1-040					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
2		2	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1	
1		1	TRO131	TROLLEY, dressing/instrument. stainless steel, buffered. 870H 450W 450D		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	VIE900	PEEPHOLE		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	



<b>ADB</b>	<b>Room Data Sheet</b>	<b>C0715</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	C0715	Cardio Pulmonary Exercise Lab		
Room Number:	G-D2-005		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Electrocardiogram (ECG) exercise stress test</li> <li>2) Recording of test results</li> <li>3) Clinical hand washing</li> <li>4) Patient may undress/dress in privacy</li> <li>5) Hanging clothing</li> <li>6) Use of call systems</li> <li>7) Use of monitoring/diagnostic or therapeutic equipment</li> </ol>
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Personnel:	1 x patient 2 x staff 2 x escorts
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Planning Relationships:	
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		C0715
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0715	Cardio Pulmonary Exercise Lab	
Room Number:	G-D2-005		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  10.0  Positive  /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Supply Air  F7 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500  1,000.0  Y  A	Not Applicable @ Bed / Trolley 1450 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35      Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		C0715
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0715	Cardio Pulmonary Exercise Lab	
Room Number:	G-D2-005	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				C0715
Project:	11072	RHSC & DCN				
Department:	D2	Cardiology & Respiratory				
Room:	C0715	Cardio Pulmonary Exe Lab				
Room Number:	G-D2-005				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BRA013	BRACKET, TV; height adjustable; wall mounted.		1
4		4	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CHA063	CHAIR; height adjustable; with arms; high back; swivel; 5 star base; on castors		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	CUP011	CUPBOARD, metal, with 4 pull out galvanised shelves, lockable, 1800H 1000W 500D		3
1		1	CUP031	CUPBOARD; 1 shelf; on plinth; 800H 1200W 500D.		1
2		2	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	EXE900	EXERCISE SYSTEM; Bicycle		3
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
3		3	HOO022	HOOK; double; wall mounted.		1
2		2	MST001	TROLLEY; single open frame; with handle; up to 5 sets of runners; 600mm facing; approx 850H 730W 450D		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
2		2	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
5		5	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	SPH003	SPHYGMOMANOMETER; rail mounted		3
1		1	STF2505	STORAGE UNIT; upper cupboard; drugs; 1 door; lockable; 550h 600w 300d		1
1		1	STO004	STOOL, height adjustable, swivel, mobile		3
2		2	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1
1		1	TAP809	TAP, bib, lever, hospital pattern, pair hot and cold, 1/2 in.		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset.		3
1		1	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
1		1	TRO2506	TROLLEY; control; including printer		3
1		1	TRO2507	TROLLEY; control; including PC		3
1		1	TRO2514	TROLLEY; Spirometer		3
1		1	TRO911	TROLLEY; dressing/instrument; stainless steel; buffered; 870H 750W 450D; 1 drawer		3

ADB			Schedule of Components by Room			C0715	
Project:		11072	RHSC & DCN				
Department:		D2	Cardiology & Respiratory				
Room:		C0715	Cardio Pulmonary Exe Lab				
Room Number:		G-D2-005			Revision Date:	09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
2		2	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	TVM2500	TV / monitor flat screen with DVD player		3	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WAS102	WASTE, unslotted flush-grated, metal, 1.1/2 in		1	
1		1	WAS108	TRAP, bottle, 1.1/2 in, plastic resealing		1	
1		1	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	
1		1	WKT300R	WORKTOP; dished; stainless steel; with right hand sink bowl; cantilevered from wall; 1200W 650D; HTM63		1	



ADB	Room Data Sheet			C0712
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	C0712	Treatment room: Echocardiography		
Room Number:	G-D2-006	Revision Date:	18/09/2014	
Activities:	1) Dressing / undressing in privacy 2) Clinical handwashing 3) Assessment / updating of electronic patient records (EPRs) 4) Storage of sterile supplies and consumables on a trolley 5) Use of mobile diagnostic and therapeutic equipment 6) Echocardiography test			
Personnel:	1 x patient 1 x staff 2 x escorts			
Planning Relationships:	Close to a clean utility room. Close to a dirty utility room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		C0712
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0712	Treatment room: Echocardiography	
Room Number:	G-D2-006		Revision Date: 18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	8.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	8.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	F7 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Warm Air - Reheat Battery with BMS Adjustable Sensor. Cooling: Comfort Cooled			
LIGHTING	Requirements	Notes	
Service Illumination (Lux):	300	Not Applicable	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):	1,000.0	@ General working plane 1000 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
NOISE	Requirements	Notes	
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	35	SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated:			
(* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
SAFETY	Requirements	Notes	
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
FIRE	Requirements	Notes	
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		C0712
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0712	Treatment room: Echocardiography	
Room Number:	G-D2-006	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				C0712
Project:	11072	RHSC & DCN				
Department:	D2	Cardiology & Respiratory				
Room:	C0712	Echocardiography Room				
Room Number:	G-D2-006				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BLI2500	Blind: total blackout boxed; length as indicated. Wipeable.		1
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	CHA063	CHAIR; height adjustable; with arms; high back; swivel; 5 star base; on castors		3
5		5	CHA083	CHAIR, stacking, polypropylene, with back and seat pads		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
2		2	COM033	COMPUTER KEYBOARD		3
2		2	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COU2506	COUCH; examination/treatment; (3 section); electric; variable height; retractable wheels; with paper roll holder.		3
1		1	CRD016	ECHOCARDIOGRAPHY MACHINE		3
2		2	CUP675	CUPBOARD; 1 shelf; on plinth; 850H 600W 500D.		1
1		1	DIS007	DISPENSER, paper towel roll, wall mounted		2
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre: combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
2		2	OUT010	SOCKET outlet, switched, 13amp, twin		1
8		8	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
6		6	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	STF135	STORAGE UNIT; lower; cupboard; 2 door; 1 shelf; lockable; 750H 1000W 450D		1
1		1	STO004	STOOL, height adjustable, swivel, mobile		3
2		2	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset.		3
1		1	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
1		1	TVM2500	TV / monitor flat screen with DVD player		3
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1

ADB			Schedule of Components by Room			C0712	
Project:		11072	RHSC & DCN				
Department:		D2	Cardiology & Respiratory				
Room:		C0712	Echocardiography Room				
Room Number:		G-D2-006			Revision Date:	09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	WKT1003H	WORKTOP: 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1	
1		1	WKT1006L	WORKTOP: 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	



ADB	Room Data Sheet			C0718-02
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	C0718-02	Lung Function Laboratory		
Room Number:	G-D2-013	Revision Date:	18/09/2014	
Activities:	1) Electrocardiogram (ECG) exercise stress test 2) Recording of test results 3) Clinical hand washing 4) Hanging clothing 5) Use of monitoring/diagnostic or therapeutic equipment			
Personnel:	1 x patient 2 x staff 2 x escorts			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		C0718-02
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0718-02	Lung Function Laboratory	
Room Number:	G-D2-013		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28	
Summer Temperature (DegC):	10.0	Ventilation Type: Central Supply Air	
Mechanical Ventilation (Supply ac/hr):	Positive	F7 - minimum	
Mechanical Ventilation (Extract ac/hr):	/		
Pressure Relative to Adjoining Space:			
Filtration (%DSE and % Arrestance):			
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	500	Not Applicable	
Service Illumination Night (Lux):	1,000.0	@ Bed / Trolley 1450 AFFL	
Local Illumination (Lux):	Y	Colour rendering characteristics (Ra) 80	
Colour Rendering Required:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
Standby Lighting Grade:			
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):	35	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Mechanical Services (NR):		40:daytime (LAeq,1hr)	
Intrusive Noise (NR Eq):			
*Acceptable Sound Level [L10dB(A)]:	Y		
*Speech Privacy Required:			
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		C0718-02
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0718-02	Lung Function Laboratory	
Room Number:	G-D2-013	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				C0718-02
Project:	11072	RHSC & DCN				
Department:	D2	Cardiology & Respiratory				
Room:	C0718-02	Lung Function Laboratory				
Room Number:	G-D2-013				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, interflap back outlet, 500W 400D		1
1		1	BRA013	BRACKET, TV; height adjustable; wall mounted.		1
1		1	CAR010	CARREL; gas cylinder; metal frame and uprights; set to floor; cross bars; securing chain; 1300H 900W 500D.		1
3		3	CHA017	CHAIR; upright; upholstered; stacking		3
2		2	CHA063	CHAIR; height adjustable; with arms; high back; swivel; 5 star base; on castors		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
2		2	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
2		2	COM1000	COMPUTER MONITOR, TFT; Sunray digital flat panel display; desk top		3
1		1	COU2506	COUCH; examination/treatment; (3 section); electric; variable height; retractable wheels; with paper roll holder.		3
1		1	CUP011	CUPBOARD, metal, with 4 pull out galvanised shelves, lockable, 1800H 1000W 500D		3
1		1	CUP2515	CUPBOARD; base unit; 4 drawer; lockable; 600mm.		1
2		2	CUP675	CUPBOARD; 1 shelf; on plinth; 850H 600W 500D.		1
2		2	DIS013	DISPENSER, paper towel, wall mounted		2
2		2	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DRY900	Dryer unit for equipment		3
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
3		3	HOO022	HOOK; double; wall mounted.		1
1		1	MSC081	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
2		2	MST001	TROLLEY; single open frame; with handle; up to 5 sets of runners; 600mm facing; approx 850H 730W 450D		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
6		6	OUT010	SOCKET outlet, switched, 13amp, twin		1
5		5	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
1		1	OUT049	CONNECTION UNIT, switched, 13amp, flex outlet		1
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1
7		7	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	OXI2500	OXIMETER		3
1		1	PFT2500	Master PFT pro & body box		3
1		1	REF091	REFRIGERATOR; drug; capacity 35 litres; external temperature gauge; lockable; wall mounted; 510H 380W 445D		2
1		1	STF2505	STORAGE UNIT; upper cupboard; drugs; 1 door; lockable; 550h 600w 300d		1



ADB		Schedule of Components by Room				C0718-02	
Project:		11072		RHSC & DCN			
Department:		D2		Cardiology & Respiratory			
Room:		C0718-02		Lung Function Laboratory		Revision Date: 09/09/2014	
Room Number:		G-D2-013					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	STO004	STOOL, height adjustable, swivel, mobile		3	
1		1	SUP2500	SUPPORT LEG; for 920 high worktop		1	
3		3	SUP2501	SUPPORT LEG; for 720 high worktop		1	
1		1	SWC025	SWITCH, light		1	
1		1	TAP809	TAP, bib, lever, hospital pattern, pair hot and cold, 1/2 in.		1	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL1000	TELEPHONE; handset		3	
1		1	TRO2507	TROLLEY; control; including PC		3	
1		1	TRO911	TROLLEY; dressing/instrument; stainless steel; buffered; 870H 750W 450D; 1 drawer		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	TVM2500	TV / monitor flat screen with DVD player		3	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins		1	
1		1	WAS102	WASTE, unslotted flush-grated, metal, 1.1/2 in		1	
1		1	WAS108	TRAP, bottle, 1.1/2 in, plastic resealing		1	
2		2	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1	
1		1	WKT1003L	WORKTOP; 720 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1	
1		1	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	
1		1	WKT2604	WORKTOP; dished; stainless steel; with right hand sink bowl; cantilevered from wall; 1200W 650D; HTM63.		1	



ADB	Room Data Sheet			C0718-01
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	C0718-01	Excercise Tolerance Test Room		
Room Number:	G-D2-014	Revision Date:	18/09/2014	
Activities:	1) Electrocardiogram (ECG) exercise stress test 2) Recording of test results 3) Clinical hand washing 4) Hanging clothing 5) Use of monitoring/diagnostic or therapeutic equipment			
Personnel:	1 x patient 1 x staff 2 x escorts			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		C0718-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0718-01	Exercise Tolerance Test Room	
Room Number:	G-D2-014	Revision Date:	18/09/2014
<b>AIR</b>			
Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	Requirements  10.0  Positive  /	Notes  Permissible space temperature range (dry bulb) (degC) : 18 - 28  Ventilation Type: Central Supply Air  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300  1,000.0  Y  A	Not Applicable  @ Bed/Trolley 1450 AFFL  Colour rendering characteristics (Ra) 80  Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35     Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		C0718-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0718-01	Exercise Tolerance Test Room	
Room Number:	G-D2-014	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				C0718-01
Project:	11072	RHSC & DCN				
Department:	D2	Cardiology & Respiratory				
Room:	C0718-01	Exercise Tolerance Test Room				
Room Number:	G-D2-014				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, interflap back outlet, 500W 400D		1
1		1	BLI2500	Blind: total blackout boxed: length as indicated. Wipeable.		1
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	BRA901	Bracket; Monitor oxygen/saturation outside rooms		2
4		4	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CHA063	CHAIR; height adjustable; with arms; high back; swivel; 5 star base; on castors		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	CON2500	CONTROL UNIT; for treadmill.		3
1		1	COU2506	COUCH; examination/treatment; (3 section); electric; variable height; retractable wheels; with paper roll holder.		3
1		1	CUP011	CUPBOARD, metal, with 4 pull out galvanised shelves, lockable, 1800H 1000W 500D		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	EXE016	EXERCISE TREADMILL		3
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO022	HOOK; double; wall mounted.		1
1		1	MON912	MONITOR; Oxygen/Saturation		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
5		5	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	RSU010	DEFIBRILLATOR; Manual		3
1		1	STF120	STORAGE UNIT; lower; cupboard; 1 door; 1 shelf; on castors; 600H 500W 450D		3
2		2	STO004	STOOL, height adjustable, swivel, mobile		3
1		1	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset		3
1		1	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
1		1	TRO310	TROLLEY; emergency/resuscitation, complete with defibrillator, 955H 825W 575D		3
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1

ADB			Schedule of Components by Room		C0718-01	
Project:		11072	RHSC & DCN			
Department:		D2	Cardiology & Respiratory			
Room:		C0718-01	Exercise Tolerance Test Room			
Room Number:		G-D2-014	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1



<b>ADB</b>	<b>Room Data Sheet</b>	<b>C0903-01</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	C0903-01	Dental Surgery Standard		
Room Number:	G-D5-008		Revision Date:	18/09/2014

Activities:	1) Use of Imaging x-ray equipment 2) Viewing of diagnostic images on monitor 3) Assessment / updating of electronic patient records (EPRs) 4) Preparation of moulds / casts 5) Clinical handwashing			
Personnel:	1 x patient 2 x staff 2 x escorts			
Planning Relationships:	Adjacent to recovery room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			
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ADB	Room Environmental Data		C0903-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0903-01	Dental Surgery Standard	
Room Number:	G-D5-008		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):		Ventilation Type: Central Supply and Extract In line with SHTM 03-01	
Mechanical Ventilation (Supply ac/hr):			
Mechanical Ventilation (Extract ac/hr):	0	F7 - minimum	
Pressure Relative to Adjoining Space:			
Filtration (%DSE and % Arrestance):	/		
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Warm Air via Reheat Battery with local BMS Adjustable Sensor. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	500	Range from 10000 to 100000 @ Bed/trolley 1450 AFFL	
Service Illumination Night (Lux):		Colour rendering characteristics (Ra) 80	
Local Illumination (Lux):	Y	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
Colour Rendering Required:	A		
Standby Lighting Grade:			
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):	40	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Mechanical Services (NR):		40:daytime (LAeq,1hr)	
Intrusive Noise (NR Eq):			
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43	Not applicable	
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		C0903-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0903-01	Dental Surgery Standard	
Room Number:	G-D5-008	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				C0903-01
Project:		11072	RHSC & DCN			
Department:						
Room:		C0903-01	Surgery (standard)			
Room Number:		G-D5-008	Revision Date:			09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	AMA900	AMALGAMATOR; dental.		3
1		1	CAB952	CABINETS/WORKTOPS. Dental: Specialist cabinetry as per design layout. Includes WHB, sink, tray system, etc.		5
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
1		1	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CHA031	CHAIR; child; upright; stacking; seat height 380mm		3
1		1	CHA040	CHAIR; dental; with multi-services; fully adjustable; electrically operated; floor mounted		5
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
2		2	COM031	COMPUTER: standard with keyboard and screen.		3
1		1	COM2503	COMPUTER MONITOR, PACS REVIEW STATION; 21", high-resolution screens.		3
1		1	DEN010	DENTAL UNIT; with multi-services terminal		5
2		2	DIS013	DISPENSER, paper towel, wall mounted		2
2		2	DIS031	DISPENSER; soap; pump action with 500ml container; sink or worktop mounted		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DIS910	DISPENSER; gloves x 5 sets.		2
2		2	DRA056	DRAWER UNIT, 2 drawer, lockable, on castors, 600H 410W 600D		3
1		1	EXT001	EXTRACTION SYSTEM, to remove spilled anaesthetic gasses.		1
1		1	HAN902	DENTAL HANDPIECES/INSTRUMENTS, reprocessed		4
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOO024	HOOK; hat and coat: 1.		1
1		1	LIG071	ILLUMINATED SIGN RADIATION ON, wall mounted		1
1		1	LIG905	LIGHT, curing LED rechargeable		4
1		1	MIR901	MIRROR, hand		4
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
10		10	OUT010	SOCKET outlet, switched, 13amp, twin		1
2		2	OUT059	CONNECTION UNIT switched 13amp, indicator light		1
6		6	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT2502	LOOP; induction.		1
4		4	OUT315	OUTLET, drinking water for equipment		1
4		4	OUT341	OUTLET, drainage, anti-syphon		1
1		1	OUT406	OUTLET dental compressed air 5.5kPa; wall mounted.		1
1		1	OUT453	OUTLET, 4kPa compressed air, medical		1
1		1	OUT461	OUTLET, nitrous oxide, medical		1
2		2	OUT470	OUTLET, oxygen, medical		1
1		1	OUT475	OUTLET, vacuum, medical		1
1		1	OUT480	OUTLET, gas scavenging (AGS), medical		1
1		1	PLA900	PHOSPHOR PLATES, for CR reader		4
1		1	RAC440	RACK; leaflet; wall mounted; 915H 250W 105D.		1
1		1	RAN901	RA MACHINE; c/w patient circuit.		3
1		1	SCA081	SCALE column; weighing person; electronic; and telescopic column for height measure		3

ADB			Schedule of Components by Room			C0903-01	
Project:		11072		RHSC & DCN			
Department:							
Room:		C0903-01		Surgery (standard)			
Room Number:		G-D5-008		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
2		2	STO024	STOOL, dental, with back support, mobile		3	
1		1	SWC025	SWITCH, light		1	
1		1	TAB2500	TABLE: trapezoidal; Chlids;600H 1200W 600D		3	
1		1	TEL2500	TELEPHONE: handset, wall mounted.		2	
1		1	TRO133	TROLLEY, dressing/instrument, stainless steel, buffered; 870H 750W 450D		3	
1		1	TRO136	TROLLEY; dressing; MAYO; 900H 1050W 600D		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	XRA902	X-RAY; unit; intra oral wall mounted.		5	



ADB	Room Data Sheet			J0132-03
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	J0132-03	Multi Functional Activity Zone		
Room Number:	G-E1-001	Revision Date:	18/09/2014	
Activities:	1) Patients, relatives and escorts wait to be seen 2) Displaying information 3) Displaying notices 4) Holding / storing toys, books and games			
Personnel:	40 x patients 80 x escorts			
Planning Relationships:	Close to, with clear view of, entrance and waiting area.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Ceiling height: To suit surrounding area/design				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision				

ADB	Room Environmental Data		J0132-03
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	J0132-03	Multi Functional Activity Zone	
Room Number:	G-E1-001		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  4.0 4.0 Balanced /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 28  Ventilation Type: Central Supply Air  G4 - Minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	100   Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40    N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  55:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		J0132-03
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	J0132-03	Multi Functional Activity Zone	
Room Number:	G-E1-001	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	N/A, open to circulation.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			

ADB			Schedule of Components by Room		J0132-03	
Project:		11072	RHSC & DCN			
Department:		E1	Pod			
Room:		J0132-03	Multi-Functional Activity Zone			
Room Number:		G-E1-001	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	OUT009	SOCKET outlet switched 13 amp twin; floor mounted.		1
1		1	TOY002	Range of soft play equipment		3
1		1	TOY003	Range of technology based activity equipment		2

ADB	Room Data Sheet		J0132-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	J0132-01	Reception: 2 person	
Room Number:	G-E1-002	Revision Date:	18/09/2014
Activities:	1) Reception and registration of patients 2) Maintenance of appointments and attendance register 3) Use of computer workstation(s) 4) Dealing with enquiries 5) Use of Telephone 6) Control of access 7) Displaying of notices, information and/or messages		
Personnel:	4 x patient 2 x staff 8 x escorts		
Planning Relationships:	Close to, with clear view of, entrance and waiting area. Close to self-registration point when provided. Close to clinical or work area(s). Easy access to records store when paper records are still used. Access to a "safe haven" area.		
Space Data:	Area (m <sup>2</sup> ):		Height (mm):
Refer to HLM-SZ-SL-SH-200-001 for room areas.  Ceiling height: To suit surrounding area/design.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision		



ADB	Room Environmental Data		J0132-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	J0132-01	Reception: 2 person	
Room Number:	G-E1-002	Revision Date:	18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 18 - 28	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Central Supply Air	
Mechanical Ventilation (Extract ac/hr):	4.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	G4 - Minimum	
Humidity (%RH):			
General Notes: Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
LIGHTING	Requirements	Notes	
Service Illumination (Lux):	300	@ Desk 750 - 850 AFFL	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):		None	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
General Notes: Control: Switch			
NOISE	Requirements	Notes	
Privacy Factor Required (dB):		Not Applicable	
Mechanical Services (NR):	35		
Intrusive Noise (NR Eq):			
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	N		
*Quality Which Cannot Be Tolerated:			
(* alternative format)			
General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
SAFETY	Requirements	Notes	
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):			
General Notes:			
FIRE	Requirements	Notes	
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		J0132-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	J0132-01	Reception: 2 person	
Room Number:	G-E1-002	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	N/A, open to circulation.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				J0132-01
Project:	11072	RHSC & DCN				
Department:	E1	Pod				
Room:	J0132-01	Reception (2 person)				
Room Number:	G-E1-002				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BIN2504	BIN; confidential waste		3
2		2	CAB056	CABINET; stationery; metal; 10 drawer with lock; 600H 280W 410D		3
1		1	CAS020	FIRST AID BOX		2
2		2	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
2		2	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
2		2	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COP008	COPIER; photocopier; collator; floor standing; 800H 1500W 650D		3
1		1	COU1001	COUNTER; reception; DDA compliant; with below counter storage; as per detailed design.		1
2		2	DRA056	DRAWER UNIT, 2 drawer, lockable, on castors, 600H 410W 600D		3
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
5		5	OUT010	SOCKET outlet, switched, 13amp, twin		1
5		5	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT2502	LOOP; induction.		1
1		1	PRI900	Printer; high spec		3
2		2	STF233	STORAGE UNIT; tall; cupboard; 2 door; adjustable shelves; lockable; 1600H 600W 600D		1
1		1	SWC025	SWITCH, light		1
2		2	TEL1000	TELEPHONE; handset.		3

ADB	Room Data Sheet		J0132-02
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	J0132-02	Sub Wait With Nurse Base	
Room Number:	G-E1-003	Revision Date:	18/09/2014
Activities:	1) Reception and registration of patients 2) Maintenance of appointments and attendance register 3) Use of computer workstation(s) 4) Dealing with enquiries 5) Use of Telephone 6) Control of access 7) Displaying of notices, information and/or messages 8) Patients, relatives and escorts wait to be seen		
Personnel:	8 x patients 16 x escorts		
Planning Relationships:	Close to, with clear view of, entrance and waiting area. Close to clinical or work area(s).		
Space Data:	Area (m <sup>2</sup> ):		Height (mm):
	Refer to HLM-SZ-SL-SH-200-001 for room areas.  Ceiling height: To suit surrounding area/design.		
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)		
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision		

ADB	Room Environmental Data		J0132-02
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	J0132-02	Sub Wait With Nurse Base	
Room Number:	G-E1-003		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  5.0 5.0 Balanced /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 28  Ventilation Type: Central Supply and Extract  G4 - Minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300   Y A	@ floor Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40    N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  50:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB	Room Design Character		J0132-02
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	J0132-02	Sub Wait With Nurse Base	
Room Number:	G-E1-003	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 erie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	N/A, open to circulation.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			

ADB			Schedule of Components by Room			J0132-02	
Project:		11072	RHSC & DCN				
Department:		E1	Pod				
Room:		J0132-02	Sub Waiting Area(Incl sup play)				
Room Number:		G-E1-003			Revision Date:	09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
2		2	BIN900	BIN: Recycle waste		3	
2		2	BOA022	BOARD: display/notice; magnetic; wall mounted; 900H 600W.		1	
1		1	BOA037	BOARD: marker; whiteboard; dry-wipe; with pen holder; wall mounted; 900H 1200W.		1	
1		1	BOA2501	BOARD: combined magnetic display/whiteboard; dry-wipe; with pen holder; wall mounted; 900H 600W		1	
1		1	CAM031	CAMERA: CCTV; pan/tilt/zoom.		1	
2		2	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3	
10		10	CHA007	CHAIR; easy; with open arms; high back; upholstered; wipeable		3	
10		10	CHA031	CHAIR; child; upright; stacking; seat height 380mm.		3	
5		5	CHA069	UNIT CHAIR with links; 3 seater; with arms; upholstered		3	
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1	
1		1	COM033	COMPUTER KEYBOARD		3	
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3	
1		1	COU1000	COUNTER; staff/nurse base; as per detailed design.		1	
1		1	DIS2505	DISPENSER; WATER COOLER, mains supply.		1	
1		1	DRA056	DRAWER UNIT, 2 drawer, lockable, on castors, 600H 410W 600D		3	
1		1	MON910	MONITOR; Solus screen		2	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
2		2	OUT009	SOCKET outlet switched 13 amp twin; floor mounted.		1	
8		8	OUT010	SOCKET outlet, switched, 13amp, twin		1	
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1	
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1	
1		1	OUT315	OUTLET, drinking water for equipment		1	
1		1	OUT901	SOCKET; outlet solus screen.		1	
1		1	RAC440	RACK; leaflet; wall mounted; 915H 250W 105D.		1	
4		4	TAB056	TABLE; occasional; round; 415H 610mm dia.		3	
1		1	TAB057	TABLE; trapezoidal; 710H 1200W 600D		3	
1		1	TEL1000	TELEPHONE; handset		3	

ADB	Room Data Sheet			J1255
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	J1255	Main Waiting: RHSC		
Room Number:	G-E1-011	Revision Date:	18/09/2014	
Activities:	1) Patients, relatives and escorts wait to be seen 2) Displaying information			
Personnel:	3 x patients 5 x escorts			
Planning Relationships:	Adjacent to reception area. Close to clinical or work area. Close to WC facilities.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
	Ceiling height: To suit surrounding area/design.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		J1255
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	J1255	Main Waiting: RHSC	
Room Number:	G-E1-011		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  5.0 5.0 Balanced /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Supply and Extract  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300   Y A	@ Floor Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40     N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  50:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43		
<b>General Notes:</b>			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		J1255
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	J1255	Main Waiting: RHSC	
Room Number:	G-E1-011	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	N/A, open to circulation.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room			J1255	
Project:		11072	RHSC & DCN			
Department:		E1	Pod			
Room:		J1255	Main Waiting Area			
Room Number:		G-E1-011	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BOA2501	BOARD; combined magnetic display/whiteboard; dry-wipe; with pen holder; wall mounted; 900H 600W		1
1		1	CAM031	CAMERA: CCTV; pan/tilt/zoom.		1
6		6	CHA067	UNIT CHAIR; 1 seater; with arms; upholstered		3
2		2	CHA068	UNIT CHAIR with links; 2 seater; with arms; upholstered		3
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	DIS2505	DISPENSER; WATER COOLER, mains supply.		1
1		1	MON910	MONITOR; Solus screen		2
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
1		1	OUT009	SOCKET outlet switched 13 amp twin; floor mounted.		1
4		4	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT315	OUTLET, drinking water for equipment		1
1		1	OUT901	SOCKET; outlet solus screen.		1
1		1	TAB056	TABLE; occasional; round; 415H 610mm dia.		3

<b>ADB</b>	<b>Room Data Sheet</b>	<b>H1107</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	H1107	Group room		
Room Number:	G-F1-020		Revision Date:	18/09/2014

Activities:	1) Relaxation activities 2) Assessment and planning of treatment and/or operation may take place 3) Use of Multimedia equipment 4) Use of laptop computer(s)			
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Personnel:	12 patients 2 x staff			
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Planning Relationships:				
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			
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ADB	Room Design Character		H1107
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	H1107	Group room	
Room Number:	G-F1-020	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control, privacy control. Blinds may be required to darken room.		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				H1107
Project:	11072	RHSC & DCN				
Department:	F1	Child & Adolescent Mental Health Services - 12 Beds				
Room:	H1107	Group Room				
Room Number:	G-F1-020				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
4		4	BOA017	BOARD; display/notice; magnetic; wall mounted; 1200H 1200W.		1
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CAM031	CAMERA; CCTV; pan/tilt/zoom.		1
6		6	CHA017	CHAIR; upright; upholstered; stacking		3
7		7	CHA031	CHAIR; child; upright; stacking; seat height 380mm		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
4		4	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT052	CONNECTION UNIT, switched, 13 amp		1
1		1	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
1		1	PRO026	PROJECTOR; multi-media; ceiling mounted		2
1		1	SCR043	SCREEN; projection; ceiling mounted; 1800H 1800W.		1
1		1	STF231	STORAGE UNIT; tall; cupboard; 2 door; adjustable shelves; lockable; 1600H 600W 300D		1
1		1	SWC025	SWITCH, light		1
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2
1		1	TRA108	TRACK; curtain; one sided; 3300mm length.		1
1		1	TVM2500	TV / monitor flat screen with DVD player		3



ADB	Room Data Sheet			X0613
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0613	Therapy room		
Room Number:	G-F1-034	Revision Date:	18/09/2014	
Activities:	1) Clinical handwashing 2) Administration and clerical duties 3) Provision of information to patients, carers and visitors 4) Patient records reviewed and recorded 5) Computer information accessed 6) Rehabilitation exercises			
Personnel:	4 x patients 2 x staff			
Planning Relationships:	Near to individual treatment room area. (Are these included in HBN 11 SoA) Direct access/close to equipment store. Close to any associated changing/shower provision.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		X0613
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0613	Therapy room	
Room Number:	G-F1-034		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  3.0 3.0 Balanced /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Supply and Extract  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300  1,000.0 Y A	Not Applicable @ Bed/Trolley 1450 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35    Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		X0613
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0613	Therapy room	
Room Number:	G-F1-034	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, high level.		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				X0613	
Project:		11072		RHSC & DCN			
Department:		F1		Child & Adolescent Mental Health Services - 12 Beds			
Room:		X0613		Therapy / Play Therapy Room			
Room Number:		G-F1-034		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1	
1		1	BOA017	BOARD; display/notice; magnetic; wall mounted; 1200H 1200W.		1	
2		2	CHA005	CHAIR; easy; low back; upholstered		3	
4		4	CHA017	CHAIR; upright; upholstered; stacking		3	
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1	
1		1	COM2506	Laptop		3	
1		1	CUP1000	CUPBOARD; opens up for display		3	
1		1	DIS007	DISPENSER, paper towel roll, wall mounted		2	
1		1	DIS013	DISPENSER, paper towel, wall mounted		2	
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2	
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2	
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
4		4	OUT010	SOCKET outlet, switched, 13amp, twin		1	
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1	
1		1	OUT215	SOCKET outlet, telephone		1	
1		1	SIN093	SINK; Belfast style; stainless steel; 38mm waste; combined outlet and overflow; 205H 455W 380D		1	
1		1	SWC025	SWITCH, light		1	
1		1	TAB2502	TABLE; 1200W 600D adjustable height		3	
1		1	TAP289	TAP, monobloc, pillar mixer, integral thermostatic, short lever		1	
1		1	TAP809	TAP, bib, lever, hospital pattern, pair hot and cold, 1/2 in.		1	
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2	
1		1	TRA061	TRAY sand for children's games; 180H 810W 570D on stand 600mm height		3	
1		1	TRO906	TROLLEY; 6 coloured plastic drawers, mobile.		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS102	WASTE, unslotted flush-grated, metal, 1.1/2 in		1	
1		1	WAS107	TRAP, bottle, 1.1/4 in, plastic resealing		1	
1		1	WAS108	TRAP, bottle, 1.1/2 in, plastic resealing		1	

ADB	Room Data Sheet			D0608-02
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	D0608-02	Dining / Recreation (Day Prog)		
Room Number:	G-F1-036	Revision Date:	18/09/2014	
Activities:	1) Reading 2) Serving and eating of meals			
Personnel:	24 x patients 4 x staff 2 x visitors			
Planning Relationships:	External view/outlook.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			



ADB	Room Environmental Data		D0608-02
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	D0608-02	Dining / Recreation (Day Prog)	
Room Number:	G-F1-036		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	6.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	8.0		
Pressure Relative to Adjoining Space:	Negative		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	300	@ Floor	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):		None	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):	40	Intrusive Noise:	
Mechanical Services (NR):		SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		50:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	N		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		D0608-02
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	D0608-02	Dining / Recreation (Day Prog)	
Room Number:	G-F1-036	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				D0608-02
Project:	11072	RHSC & DCN				
Department:	F1	Child & Adolescent Mental Health Services - 12 Beds				
Room:	D0608-02	Dining Room (Inpatients & Day Prog)				
Room Number:	G-F1-036				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BIN900	BIN; Recycle waste		3
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
26		26	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	CUP031	CUPBOARD; 1 shelf; on plinth; 800H 1200W 500D.		1
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
2		2	OUT005	SOCKET outlet, switched, 13amp, single		1
4		4	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	STF136	STORAGE UNIT; lower; cupboard; 2 door; 1 shelf; lockable; 550H 1000W 450D		1
1		1	SWC025	SWITCH, light		1
1		1	TAB011	TABLE; 725H 1220W 750D		3
5		5	TAB107	TABLE, canteen/kitchen, 710H 900W 750D		3
1		1	TAP1002	TAP; bib; anti-ligature; HTM64 compliant.		1
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2
2		2	TRO064	TROLLEY; clearing; 1050H 1200W 600D		3
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1003L	WORKTOP; 720 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1

<b>ADB</b>	<b>Room Data Sheet</b>	<b>Q0121</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	Q0121	Therapeutic kitchen		
Room Number:	G-F1-037		Revision Date:	18/09/2014

Activities:	<ol style="list-style-type: none"> <li>1) Serving and eating of meals</li> <li>2) Secure Storage of food</li> <li>3) Storage of dry goods</li> <li>4) Storage of refrigerated provisions</li> <li>5) Storage of trays, crockery and cutlery</li> <li>6) Hand-rinsing</li> <li>7) Assessment and training in mobility, self-care and social skills.</li> <li>8) Preparation of beverages, meals and snacks</li> </ol>
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Personnel:	6 x patients 2 x staff
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Planning Relationships:	Adjacent to occupational therapy area/rooms.
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Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p>
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ADB	Room Environmental Data		Q0121
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	Q0121	Therapeutic kitchen	
Room Number:	G-F1-037		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>   6.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central General Extract  G4 - minimum	
<b>General Notes:</b> Heating Type: Adjacent Space Transfer Air Cooling: Ceiling Cassette - Chilled Water			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500   Y A	@ general working plane 1000 AFPL Not Applicable None Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	40     N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  50:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB	Room Design Character		Q0121
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	Q0121	Therapeutic kitchen	
Room Number:	G-F1-037	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				Q0121
Project:	11072	RHSC & DCN				
Department:	F1	Child & Adolescent Mental Health Services - 12 Beds				
Room:	Q0121	Therapeutic Kitchen				
Room Number:	G-F1-037				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
4		4	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CHA2503	CHAIR; high; infant feeding		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COO004	COOKER; gas; oven; four burner; domestic		2
1		1	COO006	COOKER CONTROL UNIT; 30amp; wall mounted.		1
1		1	COO2500	COOKER; electric; four burner; domestic, variable height		2
3		3	CUP021	CUPBOARD; 1 shelf; lockable; on plinth; 750H 600W 500D.		1
1		1	CUP048	CUPBOARD; 2 shelves; 1 pull out shelf; lockable; on plinth; 800H 600W 500D.		1
2		2	CUP2515	CUPBOARD; base unit; 4 drawer; lockable; 600mm.		1
2		2	CUP263	CUPBOARD; 2 shelves; lockable; wall mounted; 600H 1200W 300D.		1
1		1	DIS007	DISPENSER, paper towel roll, wall mounted		2
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	KET001	Kettle, electric		3
2		2	OUT005	SOCKET outlet, switched, 13amp, single		1
5		5	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT052	CONNECTION UNIT, switched, 13 amp		1
1		1	OUT059	CONNECTION UNIT switched 13amp, indicator light		1
1		1	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT435	OUTLET; natural gas connection for equipment.		1
1		1	OVE013	OVEN, microwave, heavy duty, 1600watt, capacity 26 litre, 370H 465W 560D		3
1		1	REF920	REFRIGERATOR, with freezer, capacity 117 litres, domestic type, 865H 500W 550D		3
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1
1		1	SNS1003R	SINKTOP; inset; single bowl and drainer; stainless steel; right hand drainer.		1
1		1	SWC025	SWITCH, light		1
1		1	TAP1002	TAP; bib; anti-ligature; HTM64 compliant.		1
2		2	TAP809	TAP, bib, lever, hospital pattern, pair hot and cold, 1/2 in.		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL2500	TELEPHONE; handset, wall mounted.		2
1		1	TOA2501	TOASTER; automatic; electric; 4 slices		3
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
3		3	WAS102	WASTE, unslotted flush-grated, metal, 1.1/2 in		1
2		2	WAS108	TRAP, bottle, 1.1/2 in, plastic resealing		1

ADB			Schedule of Components by Room		Q0121	
Project:		11072	RHSC & DCN			
Department:		F1	Child & Adolescent Mental Health Services - 12 Beds			
Room:		Q0121	Therapeutic Kitchen			
Room Number:		G-F1-037	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	WAS2500	DISHWASHER; under bench; high temperature; 2 drawer		2
6		6	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1
1		1	WKT1011	WORKTOP; dished; stainless steel; with central double bowl and double drainer; cantilevered from wall; 1800W 650D; HTM63.		1
2		2	WKT160	WORKTOP variable height; motorised system; consists of: control unit; electric motor; transformer; steering unit. 673/1023H 2000W 600D.		1

ADB	Room Data Sheet			B0510-01
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	B0510-01	Single-bed room (CAMHS)		
Room Number:	G-F1-073	Revision Date:	18/09/2014	
Activities:	1) Dressing / undressing in privacy 2) Rest and relaxation 3) Use of entertainment services system 4) Patient may receive visitors 5) Storage of clothing and personal belongings			
Personnel:	1 x patient 2 x staff			
Planning Relationships:	En-suite sanitary facilities:			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2.700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision.			

ADB	Room Environmental Data		B0510-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B0510-01	Single-bed room (CAMHS)	
Room Number:	G-F1-073	Revision Date:	18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 18-25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Natural & Central Supply Air	
Mechanical Ventilation (Extract ac/hr):		via ensuite	
Pressure Relative to Adjoining Space:	Positive		
Filtration (%DSE and % Arrestance):		G4 - minimum	
Humidity (%RH):			
General Notes: Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
LIGHTING			
Service Illumination (Lux):	100		
Service Illumination Night (Lux):	5.0		
Local Illumination (Lux):	300.0	@ Bed/trolley 1450 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra):80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
General Notes: Control with Dimmer			
NOISE			
Privacy Factor Required (dB):			
Mechanical Services (NR):	30	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Leq):		40 daytime / 35 nighttime (LAeq,1hr) and 45 nighttime (LAmax,1)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
SAFETY			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):			
General Notes:			
FIRE			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	



ADB	Room Design Character		B0510-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	B0510-01	Single-bed room (CAMHS)	
Room Number:	G-F1-073	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room			B0510-01	
Project:		11072	RHSC & DCN			
Department:		F1	Child & Adolescent Mental Health Services - 12 Beds			
Room:		B0510-01	Single Bedroom 4 (CAMHS)			
Room Number:		G-F1-073	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BED004	BED, divan style, fixed height, with legs, on lockable castors, 1950L 900W		3
1		1	BED1000	BEDSIDE UNIT: 1 drawer, 1 cupboard with 1 shelf, 540H 450W 450D		3
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	CAL047	PUSH BUTTON staff emergency call; reset and integral/adjacent indicator lamp; trunking mounted.		1
1		1	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	HOL1000	HOLDER; bin; plastic lined; freestanding.		3
1		1	LIG903	LUMINAIRE; reading; adjustable arm; 100 watt		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
4		4	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
2		2	SWC025	SWITCH, light		1
1		1	TAB003	TABLE, 710H 600W 450D		3
1		1	TVM001	TELEVISION monitor, colour, flat panel, small, wall mounted		2
1		1	WAR2500	WARDROBE; fitted; anti-ligature; with sliding doors; size as drawn.		1

ADB	Room Data Sheet			V1610
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	V1610	Shower room: en-suite: anti ligature		
Room Number:	G-F1-074	Revision Date:	18/09/2014	
Activities:	1) Use of shower (with assistance if required) 2) Use of toilet (with assistance if required) 3) Dressing / undressing in privacy 4) Hanging clothes and towels 5) Use of shower chair 6) Use of call systems			
Personnel:	1 x patient 2 x staff Intermittent use			
Planning Relationships:	En-suite to single-bed room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,400
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		V1610
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	V1610	Shower room: en-suite: anti ligature	
Room Number:	G-F1-074		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>      10.0 Negative /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 20 - 28  Ventilation Type: Central Dirty Extract  None	
<b>General Notes:</b> Heating: Adjacent Space Transfer Air. Cooling: None			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	200    Y A	@ Floor Not applicable. None Colour rendering characteristics (Ra):80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Presence Detection			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	45      N	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  45:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		V1610
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	V1610	Shower room: en-suite: anti ligature	
Room Number:	G-F1-074	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	N/A		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				V1610
Project:	11072	RHSC & DCN				
Department:	F1	Child & Adolescent Mental Health Services - 12 Beds				
Room:	V1610	En-suite wheelchair-accessible WC, Shower & wash Bedroom 4				
Room Number:	G-F1-074	Revision Date:			09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BIN2501	BIN; sanitary disposal		3
1		1	CAL043	PUSH BUTTON patient/staff call with socket for extension pear push; trunking mounted.		1
1		1	CIS005	CISTERN, concealed, low level, reversible, 7.5 litres, 300H 500W 150D		1
1		1	CLE924	Toilet Brush and Holder		3
1		1	DIS015	DISPENSER, toilet paper, dispense individual sheets, wall mounted		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	HOL1000	HOLDER; bin; plastic lined; freestanding.		3
1		1	LIG063	LUMINAIRE, single fluorescent lamp, wall, 8 watt, 300 mm		1
1		1	MIR023	MIRROR; unbreakable; wall mounted; 650H 300W		1
1		1	OUT025	SOCKET outlet, shaver		1
1		1	RAI2504	RAIL; towel; anti-ligature; single stainless steel; 15mm dia, 450mm.		1
1		1	RAI266	RAIL for shower curtain; 1800mm.		1
1		1	SHO002	SHOWER; slip resistant floor with drainage outlet; 900W 900D		1
1		1	SHO1000	SHOWER; anti-ligature; sensor operated with time regulated water flow.		1
1		1	TAP1002	TAP; bib; anti-ligature; HTM64 compliant.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS107	TRAP, bottle, 1.1/4 in, plastic resealing		1
1		1	WCH1000	WC/toilet pan with seat, 700 mm projection, hospital pattern, rimless pan, vitreous china.		1

ADB	Room Data Sheet			C0217
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	C0217	Consult/exam: multidisciplinary - DCN		
Room Number:	G-M1-012	Revision Date:	18/09/2014	
Activities:	1) Consultations. 2) Minimally invasive clinical procedures undertaken from one or both sides of the couch. 3) Storage of sterile supplies and consumables on a trolley 4) Assessment / updating of electronic patient records (EPRs) 5) Clinical handwashing 6) Patient may undress/dress in privacy			
Personnel:	1 x patient 6 x staff 1 x escort			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		C0217
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0217	Consult/exam: multidisciplinary - DCN	
Room Number:	G-M1-012		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>   3.0 3.0 Balanced /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Supply and Extract  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	 300  1,000.0 Y A	  Not Applicable @ Bed/Trolley 1450 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	 35    Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	 43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		C0217
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0217	Consult/exam: multidisciplinary - DCN	
Room Number:	G-M1-012	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				C0217
Project:	11072	RHSC & DCN				
Department:	M1	DCN Outpatients				
Room:	C0217	Consult/Multi-Disciplinary				
Room Number:	G-M1-012				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BIN2503	BIN; sharps disposal		3
1		1	BOA037	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 900H 1200W.		1
1		1	BRA004	BRACKET; holder; suction unit; trunking/rail mounted		2
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
10		10	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM035	COMPUTER PRINTER; line; small		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COU2506	COUCH; examination/treatment; (3 section); electric; variable height; retractable wheels; with paper roll holder.		3
1		1	DIA2500	DIAGNOSTIC SET; auroscope/ophthalmoscope; wall mounted.		2
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
2		2	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO022	HOOK; double; wall mounted.		1
1		1	LIG015	LUMINAIRE observation/examination; mobile; 1000 lux		3
1		1	LIG046	SLIT LAMP; with accessories and height adjustable stand		3
1		1	MSC197	CABINET top; 600mm facing; with 1 shelf; 1 door hinged right; wall mounted.		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
4		4	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
2		2	OUT052	CONNECTION UNIT, switched, 13 amp		1
3		3	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	PRI015	PRINTER; label; portable		3
1		1	RAI130	RAIL, clinical equipment, wall mounted, 600mm		1
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1
1		1	SIG2501	Sign; door slot Drs name		1
1		1	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset.		3
1		1	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1



ADB			Schedule of Components by Room			C0217	
Project:		11072	RHSC & DCN				
Department:		M1	DCN Outpatients				
Room:		C0217	Consult/Multi-Disciplinary				
Room Number:		G-M1-012			Revision Date:	09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	TRO135	TROLLEY; Gratnell; dressing/instrument; 6 clear trays, stainless steel; buffered; 890H 510W 480D		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	VIE900	PEEPHOLE		1	
1		1	VIE901	Visual Acuity Measuring Eq; optotype chart; wall mounted		2	
1		1	VIE902	Visual Field Analyser; 680Hx760Wx500D		3	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	

ADB	Room Data Sheet			X0105
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	X0105	Treatment room		
Room Number:	G-M1-014	Revision Date:	18/09/2014	
Activities:	1) Invasive clinical procedures from side of couch 2) Dressing / undressing in privacy 3) Clinical handwashing 4) Assessment / updating of electronic patient records (EPRs) 5) Storage of sterile supplies and consumables on a trolley 6) Use of mobile diagnostic and therapeutic equipment 7) Sterile packs, lotions and drugs prepared for immediate use			
Personnel:	1 x patient 1 x staff			
Planning Relationships:	Close to a clean utility room. Close to a dirty utility room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision				

ADB	Room Environmental Data		X0105
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0105	Treatment room	
Room Number:	G-M1-014		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  10.0  Positive  /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 28  Ventilation Type: Central Supply Air  F7 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500  1,000.0  Y  A	Not Applicable @ Bed/Trolley 1450 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35      Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		X0105
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	X0105	Treatment room	
Room Number:	G-M1-014	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A or Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				X0105
Project:	11072	RHSC & DCN				
Department:	M1	DCN Outpatients				
Room:	X0105	Treatment Room				
Room Number:	G-M1-014				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, intefral back outlet, 500W 400D		1
1		1	BED2502	BED HEAD BUFFER; bed and wall protection; vertical; wall mounted.		1
1		1	BIN2503	BIN; sharps disposal		3
1		1	BRA004	BRACKET; holder; suction unit; trunking/rail mounted		2
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COU2506	COUCH; examination/treatment; (3 section); electric; variable height; retractable wheels; with paper roll holder.		3
1		1	DIA2500	DIAGNOSTIC SET; auroscope/ophthalmoscope; wall mounted.		2
1		1	DIS011	DISPENSER, barrier cream, disposable single cartridge, wall mounted		2
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	HOI006	HOIST PATIENT; electric; 24V; track ceiling mounted (Length of the track to suit the individual needs).		1
3		3	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOO022	HOOK; double; wall mounted.		1
1		1	HOO024	HOOK; hat and coat; 1.		1
1		1	HOO024	HOOK; hat and coat; 1.		1
1		1	LIG963	LUMINAIRE; examination; ceiling; adjustable.		1
1		1	MIR010	MIRROR; wall mounted; 800H 300W.		1
1		1	MON900	MONITOR; Low end monitor, general Ward /OPD use		3
2		2	MSC081	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
2		2	MSC082	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 900.		1
2		2	MSC083	CABINET base; 600mm facing; (600x400 inserts); with 6 telescopic runners; 1 door hinged right; on plinth; o/a height 900.		1
2		2	MSC127	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; wall mounted.		1
1		1	MSC128	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; wall mounted.		1
1		1	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
3		3	OUT010	SOCKET outlet, switched, 13amp, twin		1
5		5	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1
3		3	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1



ADB		Schedule of Components by Room				X0105	
Project:		11072		RHSC & DCN			
Department:		M1		DCN Outpatients			
Room:		X0105		Treatment Room			
Room Number:		G-M1-014		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1	
1		1	PEG2500	HOOK; Pat Slide.		1	
1		1	PRI015	PRINTER; label; portable		3	
1		1	RAI130	RAIL, clinical equipment, wall mounted, 600mm		1	
1		1	RAI132	RAIL, clinical equipment, wall mounted, 1200mm		1	
1		1	RSU012	DEFIBRILLATOR; Automated External		3	
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1	
1		1	SLI2500	PATSLIDE		3	
1		1	SUC004	SUCTION UNIT; electric; portable; 350H 320W 340D		3	
1		1	SWC025	SWITCH, light		1	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL1000	TELEPHONE; handset.		3	
1		1	TRO133	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 750W 450D		3	
1		1	TRO135	TROLLEY; Gratnell; dressing/instrument; 6 clear trays, stainless steel; buffered; 890H 510W 480D		3	
1		1	TRO310	TROLLEY, emergency/resuscitation, complete with defibrillator, 955H 825W 575D		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	VIE900	PEEPHOLE		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
2		2	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1	

ADB	Room Data Sheet			C0224
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	C0224	Consulting/examination: DCN		
Room Number:	G-M1-018	Revision Date:	18/09/2014	
Activities:	1) Consultations. 2) Minimally invasive clinical procedures undertaken from one or both sides of the couch. 3) Storage of sterile supplies and consumables on a trolley 4) Assessment / updating of electronic patient records (EPRs) 5) Clinical handwashing 6) Patient may undress/dress in privacy			
Personnel:	1 x patient 2 x staff 2 x escorts			
Planning Relationships:				
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		C0224
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0224	Consulting/examination: DCN	
Room Number:	G-M1-018		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 28	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	3.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	3.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	300		
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):	1,000.0	@ Bed/Trolley 1450 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	35	SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		C0224
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	C0224	Consulting/examination: DCN	
Room Number:	G-M1-018	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 series of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	Clear, solar control (East, South, West facing), privacy control		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				C0224
Project:	11072	RHSC & DCN				
Department:	M1	DCN Outpatients				
Room:	C0224	Consult/Examination				
Room Number:	G-M1-018				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	BED2502	BED HEAD BUFFER; bed and wall protection; vertical; wall mounted.		1
1		1	BIN2503	BIN; sharps disposal		3
1		1	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
2		2	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM035	COMPUTER PRINTER; line; small		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COU2506	COUCH; examination/treatment; (3 section); electric; variable height; retractable wheels; with paper roll holder.		3
1		1	DIA2500	DIAGNOSTIC SET; auroscope/ophthalmoscope; wall mounted.		2
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOO022	HOOK; double; wall mounted.		1
1		1	LIG963	LUMINAIRE; examination; ceiling; adjustable.		1
1		1	MIR010	MIRROR; wall mounted; 800H 300W.		1
1		1	MSC197	CABINET top; 600mm facing; with 1 shelf; 1 door hinged right; wall mounted.		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
1		1	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	PRI015	PRINTER; label; portable		3
1		1	RAI130	RAIL, clinical equipment, wall mounted, 600mm		1
1		1	SIG2500	SIGN; vacant/engaged; wall mounted.		1
1		1	SIG2501	Sign; door slot Drs name		1
1		1	SPH003	SPHYGMOMANOMETER; rail mounted		3
2		2	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset		3
1		1	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
1		1	TRO135	TROLLEY; Gratnell; dressing/instrument; 6 clear trays, stainless steel; buffered; 890H 510W 480D		3
2		2	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1



ADB			Schedule of Components by Room		C0224	
Project:		11072	RHSC & DCN			
Department:		M1	DCN Outpatients			
Room:		C0224	Consult/Examination			
Room Number:		G-M1-018	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	VIE900	PEEPHOLE		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1003L	WORKTOP: 720 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet			E0128
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0128	Imaging Room: General X-ray		
Room Number:	G-Q1-004	Revision Date:	18/09/2014	
Activities:	1) Patient is positioned or repositioned for examination 2) Use of radiation protection equipment 3) Imaging x-ray examination of patient 4) Use of oxygen and vacuum services for resuscitation 5) Storage of Positioning aids e.g. wedges pillows and other immobilisation devices 6) Clinical handwashing			
Personnel:	1 x patient 1 x staff 1 x escort			
Planning Relationships:	Adjacent to viewing/reporting area. Direct access from changing cubicles - optional.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,100
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		E0128
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0128	Imaging Room: General X-ray	
Room Number:	G-Q1-004	Revision Date:	18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	8.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	8.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	F7 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Warm Air - Reheat Battery with BMS Adjustable Sensor. Cooling: Comfort Cooled			
LIGHTING	Requirements	Notes	
Service Illumination (Lux):	300	Not Applicable	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):	1,000.0	@ General working plane 1000 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
NOISE	Requirements	Notes	
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	35	SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
SAFETY	Requirements	Notes	
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
FIRE	Requirements	Notes	
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		E0128
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0128	Imaging Room: General X-ray	
Room Number:	G-Q1-004	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings Floor Recess required		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				E0128
Project:	11072	RHSC & DCN				
Department:	Q1	Radiology				
Room:	E0128	General X-Ray Room 1				
Room Number:	G-Q1-004				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, intefral back outlet, 500W 400D		1
1		1	BIN2508	BIN; storage;toy box		3
1		1	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
1		1	CAB050	CABINET; x-ray cassette storage; mobile; 550H 700W 500D		3
3		3	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CHA902	CHAIR; Scoliosis		3
1		1	CHR900	IMAGING CHAIR; Chest Paediatric		3
1		1	CLC003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
4		4	LIG074	ILLUMINATED SIGN DO NOT ENTER		1
1		1	MSC091	CABINET base; 400mm facing; (400x600 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
1		1	MSC092	CABINET base; 400mm facing; (400x600 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 900.		1
1		1	MSC096	CABINET base; 400mm facing; (400x600 inserts); with 3 telescopic runners; 1 door hinged left; on plinth; o/a height 900.		1
1		1	OUT002	OUTLET, cable 13amp		1
1		1	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
12		12	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT059	CONNECTION UNIT switched 13amp, indicator light		1
4		4	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT208	SOCKET outlet television aerial; single; ceiling mounted.		1
1		1	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1
1		1	OUT215	SOCKET outlet, telephone		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	PEG2500	HOOK; Pat Slide.		1
1		1	PLA002	PLATFORM; step-stand; stackable; portable; 130H 480W 330D		3
1		1	PRO026	PROJECTOR; multi-media; ceiling mounted		2



ADB		Schedule of Components by Room				E0128	
Project:		11072		RHSC & DCN			
Department:		Q1		Radiology			
Room:		E0128		General X-Ray Room 1			
Room Number:		G-Q1-004		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
2		2	RAC197	RACK; x-ray lead apron; 6 swivel arms; mobile		3	
1		1	SCR061	SCREEN shielding; radiation proof; 2mm lead; solid/glass; 2000H 2100L; angle		5	
3		3	SLI2500	PATSLIDE		3	
1		1	STA2502	STAND; scoliosis cassettes		3	
1		1	STF2500	STORAGE UNIT; tall; cupboard; 2 door; adjustable shelves; lockable; 1800H 600W 300D		2	
3		3	SWC025	SWITCH, light		1	
2		2	SWC062	EMERGENCY STOP switch button, wall mounted		1	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL1000	TELEPHONE; handset.		3	
2		2	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1	
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	
1		1	XRA010	X-RAY CS; ceiling suspensions; with telescopic tube of column and rotating/tilting arm		5	
1		1	XRA011	X-RAY CS CONTROL DESK UNIT; freestanding.		5	
1		1	XRA012	X-RAY CS STAND for control unit;		5	
1		1	XRA013	X-RAY CS GENERATOR CABINET.		5	
2		2	XRA018	X-RAY CS RAIL; ceiling suspensions; 2455mm (3655 w/optional extension rail)		5	
1		1	XRA021	X-RAY TABLE PATIENT; floating top; motorised variable height horizontal bucky; 800H 2180W 700D		5	
1		1	XRA030	X-RAY CHEST stand; universal; includes Bucky mechanism		5	

ADB	Room Data Sheet			E0115
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0115	Ultrasound Treatment Room		
Room Number:	G-Q1-010	Revision Date:	18/09/2014	
Activities:	1) Assessment / updating of electronic patient records (EPRs) 2) Storage of sterile supplies and consumables on a trolley 3) Use of monitoring/diagnostic or therapeutic equipment 4) Use of computer workstation(s) 5) Patient is positioned or repositioned on examination/treatment couch or in a chair 6) Patient may have an ultrasound scan 7) Clinical hand washing			
Personnel:	1 x patient 2 x staff 2 x escorts			
Planning Relationships:	Close to a clean utility room. Close to a dirty utility room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		E0115
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0115	Ultrasound Treatment Room	
Room Number:	G-Q1-010		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  6.0 6.0 Balanced /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 25:  Ventilation Type: Central Supply and Extract.  F7 - minimum	
<b>General Notes:</b> Heating Type: Warm Air - Reheat Battery with BMS Adjustable Sensor. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300  1,000.0 Y A	Not Applicable @ General working plane 1000 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35     Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		E0115
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0115	Ultrasound Treatment Room	
Room Number:	G-Q1-010	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				E0115
Project:	11072	RHSC & DCN				
Department:	Q1	Radiology				
Room:	E0115	Ultrasound Room				
Room Number:	G-Q1-010				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, intefral back outlet, 500W 400D		1
1		1	BIN2504	BIN; confidential waste		3
1		1	BIN2508	BIN; storage;toy box		3
1		1	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
2		2	CHA017	CHAIR; upright; upholstered; stacking		3
2		2	CHR903	CHAIR; Saddle Operator		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COM2503	COMPUTER MONITOR, PACS REVIEW STATION; 2 21", high-resolution screens,		3
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
1		1	COU2506	COUCH; examination/treatment; (3 section); electric; variable height; retractable wheels; with paper roll holder.		3
2		2	CUP378	CUPBOARD/DRAWER UNIT; 1 drawer; 1 shelf; on castors; 660H 480W 390D		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOO022	HOOK; double; wall mounted.		1
1		1	LIG005	LUMINAIRE, bedhead, dimmable, patient reading and general nursing care/examination		1
1		1	LIG910	Task lamp: Anglepoise type.		3
1		1	MSC128	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; wall mounted.		1
1		1	MSC2530	CABINET base; 400mm facing; (400x600 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 780.		1
1		1	MSC2531	CABINET base; 400mm facing; (400x600 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 780.		1
1		1	MSC2532	CABINET base; 400mm facing; (400x600 inserts); with 3 telescopic runners; 1 door hinged left; on plinth; o/a height 780.		1
1		1	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
7		7	OUT010	SOCKET outlet, switched, 13amp, twin		1
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1
4		4	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
1		1	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1



ADB			Schedule of Components by Room			E0115	
Project:		11072		RHSC & DCN			
Department:		Q1		Radiology			
Room:		E0115		Ultrasound Room			
Room Number:		G-Q1-010		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	OUT215	SOCKET outlet, telephone		1	
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1	
1		1	OUT463	OUTLET; nitrous oxide; medical, trunking mounted.		1	
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1	
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1	
1		1	OUT481	OUTLET; gas scavenging (AGS); medical, trunking mounted.		1	
1		1	PRO026	PROJECTOR; multi-media; ceiling mounted		2	
1		1	SWC025	SWITCH, light		1	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL1000	TELEPHONE; handset.		3	
1		1	TRA141	TRACK; curtain; door; one sided; 1500mm doorset.		1	
1		1	TRO131	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 450W 450D.		3	
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	ULT017	ULTRASOUND computed sonography; 128 channels; multi purpose; mobile; 1295H 635W 920D		3	
1		1	WAR051	WARMER, ultrasound couplant gel, 200H 100W 150D		3	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	

ADB	Room Data Sheet			E0716
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0716	Imaging Room: Gamma Camera		
Room Number:	G-Q1-039	Revision Date:	18/09/2014	
Activities:	1) Patient is positioned or repositioned for examination 2) Use of radiation protection equipment 3) Imaging x-ray examination of patient 4) Use of oxygen and vacuum services for resuscitation 5) Storage of small items of equipment 6) Storage of Positioning aids e.g. wedges pillows and other immobilisation devices 7) Clinical handwashing			
Personnel:	1 x patient 2 x staff 2 x escort			
Planning Relationships:	Adjacent to viewing/reporting area. Direct access from changing cubicles - optional.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p> <p>Radiation protection requirements are subject to RPA advice upon selection of equipment.</p> <p>The "radiation in use" warning lamp should be installed at eye level outside the entrance(s) to the room.</p>			

ADB	Room Environmental Data		E0716
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0716	Imaging Room: Gamma Camera	
Room Number:	G-Q1-039		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  8.0 8.0 Balanced /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC) : 18 - 25:  Ventilation Type: Central Supply and Extract.  F7 - minimum	
<b>General Notes:</b> Heating Type: Warm Air - Reheat Battery with BMS Adjustable Sensor. Cooling: Comfort Cooled			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300  1,000.0 Y A	Not Applicable  (@ General working plane 1000 AFFL) Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Leq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35    Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		E0716
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0716	Imaging Room: Gamma Camera	
Room Number:	G-Q1-039	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings Floor Recess required		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Viewing panel from control room, radiation protection.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				E0716
Project:		11072	RHSC & DCN			
Department:		Q1	Radiology			
Room:		E0716	Gamma Camera 1			
Room Number:		G-Q1-039	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ANA004	ANAESTHETIC MACHINE/WORKSTATION with ventilator, with accessories, mobile, 1580H 565W 695D		3
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, intefral back outlet, 500W 400D		1
1		1	BIN025	BIN, disposal, standard, pedal, epoxy coated steel, radioisotope symbol, 17 litres 6mm lead, 640H 240W 360D		3
1		1	BIN2508	BIN; storage;toy box		3
2		2	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
2		2	BRA015	BRACKET, flat panel monitor, height adjustable, wall mounted		2
1		1	CAM031	CAMERA; CCTV; pan/tilt/zoom.		1
2		2	CHA083	CHAIR, stacking, polypropylene, with back and seat pads		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
1		1	CUP2569	Generator Cabinet.		5
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
2		2	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
3		3	HOO024	HOOK; hat and coat; 1.		1
1		1	IMG072	IMAGER GAMMA CAMERA; digital; multi detector/PET; with monitor		5
1		1	IMG073	TABLE PATIENT - SPECT; gamma camera; variable height; 970/730H 2060W 720D: Part of gamma camera)		5
4		4	IMG076	IMAGER CART exchange collimator; gamma camera; 1270H 670W 910D; (Part of IMG070 and IMG072		5
1		1	IMG077	CONSOLE UNIT and COMPUTER for gamma camera/PET. 1180H 1040W 900D; (Included in IMG070; IMG071; IMG072 and IMG091)		5
2		2	LIG074	ILLUMINATED SIGN DO NOT ENTER		1
1		1	LIG1001	LUMINAIRE variable spotlight beam produce around 40000 lux @ 1m and 60000 lux @ 0.8m. flexible arm; wall/ceiling mounted.		1
1		1	MON011	MONITOR; electrocardiograph (ECG); 12-lead		3
1		1	MON904	MONITOR; High end multi-functionality for ITU/Theatre/High Acuity		3
1		1	MON919	MONITOR; Portable contamination detection		5
1		1	MON920	MONITOR; electrocardiograph (ECG); 3 lead		3
1		1	MSC091	CABINET base; 400mm facing; (400x600 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
1		1	MSC092	CABINET base; 400mm facing; (400x600 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 900.		1



ADB		Schedule of Components by Room				E0716
Project:	11072	RHSC & DCN				
Department:	Q1	Radiology				
Room:	E0716	Gamma Camera 1				
Room Number:	G-Q1-039				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	MSC096	CABINET base; 400mm facing; (400x600 inserts); with 3 telescopic runners; 1 door hinged left; on plinth; o/a height 900.		1
1		1	MSC127	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; wall mounted.		1
1		1	MST001	TROLLEY; single open frame; with handle; up to 5 sets of runners; 600mm facing; approx 850H 730W 450D		3
1		1	MST005	TROLLEY; half size open frame; up to 5 sets of runners; 400mm facing; approx 850H 450W 350D		3
1		1	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
5		5	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
1		1	OUT079	OUTLET isolator, equipment manufacturer's specification		1
5		5	OUT121	SOCKET outlet; computer data; double.		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT208	SOCKET outlet television aerial; single; ceiling mounted.		1
1		1	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
1		1	OUT463	OUTLET; nitrous oxide; medical, trunking mounted.		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
2		2	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	OUT481	OUTLET; gas scavenging (AGS); medical, trunking mounted.		1
1		1	PEG2500	HOOK; Pat Slide.		1
1		1	PRO026	PROJECTOR; multi-media; ceiling mounted		2
1		1	RAC194	RACK; x-ray lead apron; 3 hangers; wall mounted		2
1		1	SCR2501	SCREEN; Mobile		3
3		3	SLI2500	PATSLIDE		3
1		1	SWC025	SWITCH, light		1
1		1	SWC062	EMERGENCY STOP switch button, wall mounted		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
1		1	UPS003	Uninterrupted power supply (UPS).		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet			E0604-04
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0604-04	Control room: Gamma Camera		
Room Number:	G-Q1-042	Revision Date:	18/09/2014	
Activities:	1) Use of computer workstation(s) 2) Viewing of X-ray films 3) Displaying notices 4) Maintenance and storage of EBME equipment records and reports 5) Viewing diagnostic images on VDT 6) Use of Imaging x-ray equipment			
Personnel:	2 x staff Access to visitors, researchers			
Planning Relationships:	Direct access to/from CT & MRI room. Access may be required to medical conference room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligatureStrategy for anti-ligature provision			

ADB	Room Environmental Data		E0604-04
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0604-04	Control room: Gamma Camera	
Room Number:	G-Q1-042		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	4.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	300	@ desk 750 - 850mm AFFL	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):		None	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):	35	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Mechanical Services (NR):		40:daytime (LAeq,1hr)	
Intrusive Noise (NR Eq):			
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):			
Hot Water Max. Temp (DegC):			
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		E0604-04
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0604-04	Control room: Gamma Camera	
Room Number:	G-Q1-042	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to Gamma Camera Room to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Viewing panel to CT/MRI room, radiation protection.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				E0604-04	
Project:		11072		RHSC & DCN			
Department:		Q1		Radiology			
Room:		E0604-04		Gamma Camera Control Area		Revision Date: 09/09/2014	
Room Number:		G-Q1-042					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	BIN2504	BIN: confidential waste		3	
2		2	BOA034	BOARD: marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1	
2		2	CAB066	CABINET: roller shutter; screen-hung/wall mounted; 430H 800W 430D.		1	
6		6	CHA002	CHAIR: height adjustable; medium back; swivel; 5 star base; on castors		3	
2		2	COM033	COMPUTER KEYBOARD		3	
2		2	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3	
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1	
1		1	HOL005	HOLDER: bin; medium; capacity 70 litres; freestanding.		3	
2		2	IMG2500	Gamma camera control console		5	
2		2	IMG2511	Single monitor processing station		3	
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1	
11		11	OUT010	SOCKET outlet, switched, 13amp, twin		1	
11		11	OUT121	SOCKET outlet; computer data; double.		1	
1		1	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1	
1		1	OUT215	SOCKET outlet, telephone		1	
2		2	PAN2500	PANEL; syringe injector controller.		5	
2		2	REC030	RECORDER/VIDEO; playback		3	
7		7	SUP2501	SUPPORT LEG; for 720 high worktop		1	
1		1	SWC025	SWITCH, light		1	
2		2	SWC062	EMERGENCY STOP switch button, wall mounted		1	
1		1	TEL1000	TELEPHONE; handset.		3	
3		3	TRU1000	TRUNKING: Power and Data trunking; length as drawn.		1	
1		1	WKT1003L	WORKTOP; 720 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1	
2		2	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	



ADB	Room Data Sheet		E0601	
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0601	CT Room DCN		
Room Number:	G-Q1-059	Revision Date:	18/09/2014	
Activities:	1) Patient may arrive on foot in a wheelchair or on a trolley 2) Patient undergoes examination with diagnostic x-rays to localise tumour and verify proposed treatment method. 3) Storage of Positioning aids e.g. wedges pillows and other immobilisation devices 4) Clinical hand washing 5) Use of computer workstation(s) 6) Contrast media, I.V. injections and other sterile procedures may be prepared 7) Use of radiation protection equipment 8) Radiation measurement will be used 9) Parking, storage of patients' trolley(s)			
Personnel:	1 x Patient 4 x Staff			
Planning Relationships:	Direct access to/from control room. Close to sub-waiting area. Adjacent to changing facilities (direct access optional).			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,100
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p> <p>Radiation protection requirements are subject to RPA advice upon selection of equipment.</p> <p>The "radiation in use" warning lamp should be installed at eye level outside the entrance(s) to the room.</p>			

ADB	Room Environmental Data		E0601
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0601	CT Room DCN	
Room Number:	G-Q1-059		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	8.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	8.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	F7 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Warm Air - Reheat Battery with BMS Adjustable Sensor. Cooling: Comfort Cooled			
<b>LIGHTING</b>			
Service Illumination (Lux):	300	Not Applicable	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):	1,000.0	@ General working plane 1000 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b>			
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	35	SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		E0601
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0601	CT Room DCN	
Room Number:	G-Q1-059	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Viewing panel from control room, radiation protection.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				E0601
Project:		11072	RHSC & DCN			
Department:		Q1	Radiology			
Room:		E0601	CT Room			
Room Number:		G-Q1-059	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BIN2509	BIN; sharps disposal; 7 litre; rail mounted		3
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1
1		1	CAB034	CABINET warming, contrast media, stainless steel, wall mounted		2
1		1	CAM031	CAMERA; CCTV; pan/tilt/zoom.		1
1		1	CHA317	CHAIR, upright, upholstered, stacking, wipeable		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
3		3	CUP2510	CUPBOARD; base unit; LH door; ; 600mm.		1
1		1	CUP2569	Generator Cabinet.		5
2		2	CUP2998	CUPBOARD, base unit, 1 door, 1 shelf 600W 300D 880H		1
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS024	DISPENSER, soap, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
2		2	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
3		3	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO020	HOOK, single, large, wall mounted		1
1		1	IMG066	TABLE PATIENT - CT imager; floating top; (Part of IMG2502)		5
1		1	IMG2502	IMAGER; COMPUTER TOMOGRAPHY (CT) ; 128 slice unit		5
1		1	IMG901	SAM HALL TURNER		3
1		1	INS002	INSUFFLATOR: automatic delivery 30L/min; 145H X 300W X 320D		3
1		1	KIC001	KICKABOUT; bowl stand; stainless steel; 360mm dia.		3
2		2	LIG074	ILLUMINATED SIGN DO NOT ENTER		1
1		1	MON906	MONITOR; Clinical slave		2
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
4		4	OUT010	SOCKET outlet, switched, 13amp, twin		1
9		9	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
3		3	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT207	SOCKET outlet aerial television, closed circuit (CCTV), wall mounted		1
1		1	OUT453	OUTLET, 4kPa compressed air, medical		1
1		1	OUT461	OUTLET, nitrous oxide, medical		1
1		1	OUT470	OUTLET, oxygen, medical		1
2		2	OUT475	OUTLET, vacuum, medical		1
1		1	OUT480	OUTLET, gas scavenging (AGS), medical		1
1		1	PEG2500	HOOK; Pat Slide.		1
1		1	PEN2504	PENDANT; Anaesthetic; medical & power supply unit; vertical movement; ceiling mounted; outlets comprising: MRI compatible.		1
1		1	RAC197	RACK; x-ray lead apron; 6 swivel arms; mobile		3
2		2	SLI2500	PATSLIDE		3
2		2	STA142	STAND; infusion; twin hook; breaks; mobile		3
2		2	STF275	STORAGE UNIT; upper; cupboard; 2 door; 1 shelf; lockable; 550H 600W 300D		1



ADB			Schedule of Components by Room		E0601	
Project:		11072		RHSC & DCN		
Department:		Q1		Radiology		
Room:		E0601		CT Room		
Room Number:		G-Q1-059		Revision Date:		09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	SWC025	SWITCH, light		1
1		1	SWC062	EMERGENCY STOP switch button, wall mounted		1
1		1	SYR2502	SYRINGE INJECTOR; automatic; hi pressure injection; contrast media; ceiling mounted		5
1		1	TAP892	TAP, bib, 2x8 mm thermostatic mixer, automatic action, sensor operated, non-touch		1
1		1	TRO133	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 750W 450D		3
1		1	TRO401	TROLLEY; walking aid		3
1		1	TRO601	TROUGH scrub-up; hospital pattern; stainless steel; single; 75mm upstand; 800W 450D. HTM64SUH1.		1
1		1	TRO907	TROLLEY; Caretray.		3
1		1	UPS003	Uninterrupted power supply (UPS).		1
1		1	WAS102	WASTE, unslotted flush-grated, metal, 1, 1/2 in		1
1		1	WAS108	TRAP, bottle, 1, 1/2 in, plastic resealing		1
1		1	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1
1		1	WRT003	WORKTOP, 1200W 400D		1



ADB	Room Data Sheet			E0604-02
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0604-02	Control room: CT DCN		
Room Number:	G-Q1-071	Revision Date:	18/09/2014	
Activities:	1) Use of computer workstation(s) 2) Viewing of X-ray films 3) Displaying notices 4) Maintenance and storage of EBME equipment records and reports 5) Viewing diagnostic images on VDT 6) Use of Imaging x-ray equipment			
Personnel:	5 x staff Access to visitors, researchers			
Planning Relationships:	Direct access to/from CT room. Access may be required to medical conference room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		E0604-02
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0604-02	Control room: CT DCN	
Room Number:	G-Q1-071		Revision Date: 18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Central Supply & Extract	
Mechanical Ventilation (Extract ac/hr):	4.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	G4 - Minimum	
Humidity (%RH):			
General Notes: Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
LIGHTING	Requirements	Notes	
Service Illumination (Lux):	300	@ desk 750 - 850mm AFFL	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):		None	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
General Notes: Control: Switch			
NOISE	Requirements	Notes	
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	35	SHTM 09-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
SAFETY	Requirements	Notes	
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):			
General Notes:			
FIRE	Requirements	Notes	
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		E0604-02
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0604-02	Control room: CT DCN	
Room Number:	G-Q1-071	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to CT to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Viewing panel to CT room, lead glass screen.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				E0604-02
Project:	11072	RHSC & DCN				
Department:	Q1	Radiology				
Room:	E0604-02	Control Room - CT				
Room Number:	G-Q1-071					Revision Date: 09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BIN2504	BIN: confidential waste		3
2		2	BOA034	BOARD: marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
2		2	BOA2502	BOARD: display/notice; magnetic; wall mounted; 900H 1200W		1
1		1	BRA015	BRACKET, flat panel monitor, height adjustable, wall mounted		2
1		1	CAB056	CABINET; stationery; metal; 10 drawer with lock; 600H 280W 410D		3
4		4	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
2		2	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
1		1	COM039	COMPUTER, CPU, vertical, specific to radiation therapy software		3
2		2	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
1		1	COM910	MONITOR; double CT monitor		5
1		1	COM911	CONTROL CONSOLE; for CT injector & hard drive		5
1		1	CUP332	CUPBOARD; key; 30 hooks; lockable; wall mounted; 305H 230W 70D.		1
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	IMG2512	CONTROL CONSOLE; for CT		5
1		1	LIG074	ILLUMINATED SIGN DO NOT ENTER		1
1		1	LOC019	LOCKER; 6 compartments; 1800H 300W 450D		3
1		1	MON2504	MONITOR and CONTROL for CCTV; complete with flat screen monitor; keyboard; digital recorder (computer) and power supply		5
1		1	MON2519	CT MULTI MODALITY WORKSTATION		5
1		1	MON921	MONITOR; chiller temperature display		5
1		1	OUT002	OUTLET, cable 13amp		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
11		11	OUT010	SOCKET outlet, switched, 13amp, twin		1
11		11	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1
2		2	OUT215	SOCKET outlet, telephone		1
1		1	PRI015	PRINTER; label; portable		3
2		2	STF120	STORAGE UNIT; lower; cupboard; 1 door; 1 shelf; on castors; 600H 500W 450D		3
9		9	SUP2501	SUPPORT LEG; for 720 high worktop		1
2		2	SWC025	SWITCH, light		1
1		1	SWC062	EMERGENCY STOP switch button, wall mounted		1
2		2	TEL1000	TELEPHONE; handset.		3
4		4	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
4		4	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet			E0113
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0113	Doppler Ultrasound		
Room Number:	G-Q1-081	Revision Date:	18/09/2014	
Activities:	1) Assessment / updating of electronic patient records (EPRs) 2) Use of monitoring/diagnostic or therapeutic equipment 3) Use of computer workstation(s) 4) Patient is positioned or repositioned on examination/treatment couch or in a chair 5) Patient may have an ultrasound scan 6) Clinical hand washing 7) Hanging clothing			
Personnel:	1 x patient 2 x staff 1 x escort			
Planning Relationships:	Close to a clean utility room. Close to a dirty utility room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			



ADB	Room Environmental Data		E0113
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0113	Doppler Ultrasound	
Room Number:	G-Q1-081		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	8.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	8.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	F7 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Warm Air - Reheat Battery with BMS Adjustable Sensor. Cooling: Comfort Cooled			
<b>LIGHTING</b>			
Service Illumination (Lux):	300	Not Applicable	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):	1,000.0	@ General working plane 1000 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b>			
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	35	SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		E0113
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0113	Doppler Ultrasound	
Room Number:	G-Q1-081	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				E0113
Project:	11072	RHSC & DCN				
Department:	Q1	Radiology				
Room:	E0113	Doppler Ultrasound				
Room Number:	G-Q1-081				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, interfl back outlet, 500W 400D		1
1		1	BIN2504	BIN; confidential waste		3
1		1	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
1		1	BOA2502	BOARD; display/notice; magnetic; wall mounted; 900H 1200W		1
1		1	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CHR903	CHAIR; Saddle Operator		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
2		2	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
2		2	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COM2503	COMPUTER MONITOR, PACS REVIEW STATION; 2 21", high-resolution screens,		3
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
1		1	COU2506	COUCH; examination/treatment; (3 section); electric; variable height; retractable wheels; with paper roll holder.		3
1		1	CUP378	CUPBOARD/DRAWER UNIT; 1 drawer; 1 shelf; on castors; 660H 480W 390D		3
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
2		2	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	HOO022	HOOK; double; wall mounted.		1
3		3	LIG003	LUMINAIRE, reading, adjustable arm, 100 watt		1
1		1	LIG963	LUMINAIRE; examination; ceiling; adjustable.		1
1		1	MSC081	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
1		1	MSC082	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 900.		1
1		1	MSC127	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; wall mounted.		1
1		1	MSC128	CABINET top; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; wall mounted.		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
9		9	OUT010	SOCKET outlet, switched, 13amp, twin		1
7		7	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1
1		1	OUT215	SOCKET outlet, telephone		1
1		1	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
2		2	STO023	STOOL; laboratory; complete with footing		3

ADB		Schedule of Components by Room				E0113	
Project:		11072		RHSC & DCN			
Department:		Q1		Radiology			
Room:		E0113		Doppler Ultrasound			
Room Number:		G-Q1-081		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
3		3	SUP2500	SUPPORT LEG; for 920 high worktop		1	
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TEL1000	TELEPHONE; handset.		3	
1		1	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1	
1		1	TRO907	TROLLEY; Caretray.		3	
3		3	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	ULT901	SONOSITE MICROMAX		3	
1		1	ULT902	SCAN MED MULTIDOP		3	
1		1	ULT903	SIEMENS ANTARES		3	
1		1	ULT904	TROLLEY: U/S machine (micromax & multidop) to sit on.		3	
1		1	WAR051	WARMER, ultrasound couplant gel, 200H 100W 150D		3	
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1	
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1	
1		1	WKT1003L	WORKTOP; 720 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1	
1		1	WKT1006H	WORKTOP; 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	
1		1	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	



ADB	Room Data Sheet			E0715
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0715	Injection Room: DCN MRI		
Room Number:	G-Q1-108	Revision Date:	18/09/2014	
Activities:	1) Assessment / updating of electronic patient records (EPRs) 2) Storage of sterile supplies and consumables on a trolley 3) Use of monitoring/diagnostic or therapeutic equipment 4) Use of computer workstation(s) 5) Patient is positioned or repositioned on examination/treatment couch or in a chair 6) Clinical hand washing 7) Contrast media, I.V. injections and other sterile procedures may be prepared			
Personnel:	1 x patient 2 x staff			
Planning Relationships:	Close to a clean utility room. Close to a dirty utility room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			



ADB	Room Environmental Data		E0715
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0715	Injection Room: DCN MRI	
Room Number:	G-Q1-108		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  10.0  Positive  /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Supply Air  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	500  1,000.0  Y  A	Not Applicable @ Bed/Trolley 1450 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35      Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		E0715
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0715	Injection Room: DCN MRI	
Room Number:	G-Q1-108	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings		
Floor:	Refer to HLM 330 serie of drawing		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				E0715
Project:		11072	RHSC & DCN			
Department:		Q1	Radiology			
Room:		E0715	Injection Room			
Room Number:		G-Q1-108	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
2		2	CHA905	CHAIR; Venepuncture reclining		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
1		1	COM033	COMPUTER KEYBOARD		3
1		1	COM1000	COMPUTER MONITOR; TFT: Sunray digital flat panel display; desk top		3
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
2		2	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOL020	HOLDER, sharps box, up to 7 litre capacity, rail/trolley hang or wall mounted, 170H 125W 100D		3
2		2	HOO024	HOOK; hat and coat; 1.		1
2		2	LIG055	LUMINAIRE variable spotlight beam produce around 40000 lux @ 1m and 60000 lux @ 0.8m. flexible arm; wall/ceiling mounted.		1
2		2	MST001	TROLLEY; single open frame; with handle; up to 5 sets of runners; 600mm facing; approx 850H 730W 450D		3
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
7		7	OUT010	SOCKET outlet, switched, 13amp, twin		1
2		2	OUT059	CONNECTION UNIT switched 13amp, indicator light		1
2		2	OUT131	SOCKET outlet double data/voice; wall/trunking mounted.		1
1		1	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1
2		2	OUT471	OUTLET; oxygen medical; trunking mounted.		1
2		2	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	SCA081	SCALE column; weighing person; electronic; and telescopic column for height measure		3
2		2	STF135	STORAGE UNIT; lower; cupboard; 2 door; 1 shelf; lockable; 750H 1000W 450D		1
2		2	STF281	STORAGE UNIT; upper; cupboard; 2 door; 1 shelf; lockable; 550H 1000W 300D		1
2		2	STO2502	INJECTION STOOL: MR compatible		3
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset.		3
1		1	TRA1003	TRACK; curtain; bed/trolley; length and shape as drawn.		1
2		2	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1
1		1	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet			E0604-03
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0604-03	Control room: MRI DCN		
Room Number:	G-Q1-111	Revision Date:	18/09/2014	
Activities:	1) Use of computer workstation(s) 2) Viewing of X-ray films 3) Displaying notices 4) Maintenance and storage of EBME equipment records and reports 5) Viewing diagnostic images on VDT 6) Use of Imaging x-ray equipment			
Personnel:	7 x staff Access to visitors, researchers			
Planning Relationships:	Direct access to/from MRI room. Access may be required to medical conference room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
Refer to HLM-SZ-SL-SH-200-001 for room areas.				
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			



ADB	Room Environmental Data		E0604-03
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0604-03	Control room: MRI DCN	
Room Number:	G-Q1-111		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	4.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b>			
Service Illumination (Lux):	300	@ desk 750 - 850mm AFFL	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):		None	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b>			
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	35	SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):			
<b>General Notes:</b>			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			



ADB	Room Design Character		E0604-03
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0604-03	Control room: MRI DCN	
Room Number:	G-Q1-111	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to MRI to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Viewing panel to MRI room, radiation protection.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				E0604-03
Project:	11072	RHSC & DCN				
Department:	Q1	Radiology				
Room:	E0604-03	Control Room - MRI				
Room Number:	G-Q1-111				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BIN2504	BIN; confidential waste		3
2		2	BOA022	BOARD; display/notice; magnetic; wall mounted; 900H 600W.		1
1		1	BOA034	BOARD; marker; whiteboard; dry-wipe; with pen holder; wall mounted; 600H 900W.		1
1		1	BRA015	BRACKET, flat panel monitor, height adjustable, wall mounted		2
2		2	BUT2500	Quench button.		5
5		5	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
2		2	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
3		3	COM033	COMPUTER KEYBOARD		3
1		1	COM041	COMPUTER PRINTER; SCANNER; PHOTOCOPIER; FAX; A4; 235H 485W 390D.		3
3		3	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
2		2	COM913	Hard drive for MRI scanner		5
2		2	CUP2531	CUPBOARD; wall unit; 2 door; lockable; 600mm.		1
1		1	CUP2540	CUPBOARD; key; 30 hooks; lockable; wall mounted; right hand; 305H 230W 70D.		1
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	IMG112	CONTROL CONSOLE; for MRI		5
2		2	IMG2507	Wave Guide.		5
8		8	LOC1012	LOCKER; MR compatible, wall mounted; 340H 300W 300D		1
2		2	MON017	MONITOR and CONTROL for CCTV; complete with flat screen monitor; keyboard; digital recorder (computer) and power supply.		1
2		2	MON901	MONITOR; double MRI monitor		5
1		1	MON906	MONITOR; Clinical slave		2
2		2	MON921	MONITOR; chiller temperature display		5
2		2	MON922	MONITOR; oxygen monitoring		5
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
20		20	OUT010	SOCKET outlet, switched, 13amp, twin		1
12		12	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1
2		2	OUT215	SOCKET outlet, telephone		1
2		2	OUT2500	OUTLET; connection for IPOD.		1
2		2	PAN2500	PANEL; syringe injector controller.		5
1		1	PRI015	PRINTER; label; portable		3
3		3	SHE1002	SHELF; 300mm deep; length as drawn.		1
2		2	STF151	STORAGE UNIT; lower; 2 drawer; on castors; 600H 500W 450D		3
10		10	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1
2		2	SWC062	EMERGENCY STOP switch button, wall mounted		1
2		2	TEL1000	TELEPHONE; handset.		3

ADB			Schedule of Components by Room		E0604-03	
Project:		11072		RHSC & DCN		
Department:		Q1		Radiology		
Room:		E0604-03		Control Room - MRI		
Room Number:		G-Q1-111		Revision Date:		09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
3		3	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	UPS003	Uninterrupted power supply (UPS).		1
3		3	WKT1006L	WORKTOP; 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet			E0801
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0801	Imaging room: MRI DCN		
Room Number:	G-Q1-123	Revision Date:	18/09/2014	
Activities:	1) Patient is positioned or repositioned for examination 2) Use of radiation protection equipment 3) Imaging x-ray examination of patient 4) Use of oxygen and vacuum services for resuscitation 5) Storage of small items of equipment 6) Storage of Positioning aids e.g. wedges pillows and other immobilisation devices 7) Clinical handwashing			
Personnel:	1 x patient 3 x staff			
Planning Relationships:	Adjacent to viewing/reporting area. Direct access from changing cubicles - optional.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,100
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)			
	Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		E0801
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0801	Imaging room: MRI DCN	
Room Number:	G-Q1-123		Revision Date: 18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	8.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	8.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	F7 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Warm Air - Reheat Battery with BMS Adjustable Sensor. Cooling: Comfort Cooled			
LIGHTING	Requirements	Notes	
Service Illumination (Lux):	300	Not Applicable	
Service Illumination Night (Lux):		@ General working plane 1000 AFFL	
Local Illumination (Lux):	1,000.0	Colour rendering characteristics (Ra) 80	
Colour Rendering Required:	Y	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
Standby Lighting Grade:	A		
<b>General Notes:</b> Control: Switch/ Dimmer			
NOISE	Requirements	Notes	
Privacy Factor Required (dB):	35	Intrusive Noise:	
Mechanical Services (NR):		SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
SAFETY	Requirements	Notes	
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):			
<b>General Notes:</b>			
FIRE	Requirements	Notes	
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	



ADB	Room Design Character		E0801
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0801	Imaging room: MRI DCN	
Room Number:	G-Q1-123	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings Floor Recess required Radiation protection to be agreed with NHSL RPO		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Viewing panel from control room, radiation protection.		
Hatch:	N/A		
Notes:			

ADB			Schedule of Components by Room			E0801	
Project:		11072	RHSC & DCN				
Department:		Q1	Radiology				
Room:		E0801	MRI Room 1				
Room Number:		G-Q1-123			Revision Date:	09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	ANA007	ANAESTHETIC MACHINE/WORKSTATION; MRI compatible; electrically powered piston ventilator; mobile; 1350H 750W 650D		3	
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1	
1		1	BUT2500	Quench button.		5	
1		1	CAM2505	CAMERA CCTV; pan/tilt/zoom; MRI compatible.		5	
2		2	CHA023	CHAIR; upright; wood		3	
2		2	CUP2570	CUPBOARD UNIT; non-ferrous; open; 9 adjustable shelf; on plinth; 1000H 500W 2700D.		1	
1		1	DET2500	Ferromagnetic detector		1	
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
1		1	IMG081	IMAGER; MAGNETIC RESONANCE IMAGING (MRI); closed bore; 1.5 Tesla unit		5	
2		2	IMG086	TABLE PATIENT - MRI imager; floating top; (Part of IMG081)		5	
1		1	IMG2501	Coil Holder.		5	
2		2	IMG2507	Wave Guide.		5	
1		1	LAD2502	FOOT STEPS; MR compatible		3	
1		1	OUT010	SOCKET outlet, switched, 13amp, twin		1	
3		3	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1	
2		2	OUT056	CONNECTION UNIT, unswitched, 13 amp		1	
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1	
1		1	OUT463	OUTLET; nitrous oxide; medical, trunking mounted.		1	
2		2	OUT471	OUTLET; oxygen medical; trunking mounted.		1	
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1	
1		1	OUT481	OUTLET; gas scavenging (AGS); medical, trunking mounted.		1	
1		1	PEG2500	HOOK; Pat Slide.		1	
2		2	SLI2500	PATSLIDE		3	
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1	
1		1	SWC062	EMERGENCY STOP switch button, wall mounted		1	
1		1	SYR005	SYRINGE INJECTOR; MRI compatible; automatic; hi pressure injection; media contrast		5	
2		2	TRO901	TROLLEY; Coil cupd		3	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	TVM2503	TV / monitor flat screen with DVD player. MRI compatible		3	

ADB	Room Data Sheet			E0801-01
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0801-01	Imaging Room: MRI RHSC		
Room Number:	G-Q1-134	Revision Date:	18/09/2014	
Activities:	1) Patient is positioned or repositioned for examination 2) Use of radiation protection equipment 3) Imaging x-ray examination of patient 4) Use of oxygen and vacuum services for resuscitation 5) Storage of small items of equipment 6) Storage of Positioning aids e.g. wedges pillows and other immobilisation devices 7) Clinical handwashing			
Personnel:	1 x patient 2 x staff 2 x escort			
Planning Relationships:	Adjacent to viewing/reporting area. Direct access from changing cubicles - optional.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	3,100
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		E0801-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0801-01	Imaging Room: MRI RHSC	
Room Number:	G-Q1-134	Revision Date:	18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	8.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	8.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	F7 - minimum	
Humidity (%RH):			
General Notes: Heating Type: Warm Air - Reheat Battery with BMS Adjustable Sensor. Cooling: Comfort Cooled			
LIGHTING			
Service Illumination (Lux):	300		
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):	1,000.0	@ General working plane 1000 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
General Notes: Control: Switch / Dimmer			
NOISE			
Privacy Factor Required (dB):			
Mechanical Services (NR):	35	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report. (PCP 4.13)			
SAFETY			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):			
General Notes:			
FIRE			
Enclosure:			
Automatic Detection:		Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)	

ADB	Room Design Character		E0801-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0801-01	Imaging Room: MRI RHSC	
Room Number:	G-Q1-134	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings Floor Recess required Radiation protection to be agreed with NHSL RPO		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Viewing panel from control room, radiation protection.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				E0801-01	
Project:		11072		RHSC & DCN			
Department:		Q1		Radiology			
Room:		E0801-01		MRI Room		Revision Date: 09/09/2014	
Room Number:		G-Q1-134					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	ANA007	ANAESTHETIC MACHINE/WORKSTATION; MRI compatible; electrically powered piston ventilator; mobile; 1350H 750W 650D		3	
1		1	BRA013	BRACKET; TV; height adjustable; wall mounted.		1	
1		1	BUT2500	Quench button.		5	
1		1	CAM2505	CAMERA CCTV; pan/tilt/zoom; MRI compatible.		5	
2		2	CHA023	CHAIR; upright; wood		3	
2		2	CUP2570	CUPBOARD UNIT; non-ferrous; open; 9 adjustable shelf; on plinth; 1000H 500W 2700D.		1	
1		1	DET2500	Ferromagnetic detector		1	
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2	
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3	
1		1	IMG081	IMAGER; MAGNETIC RESONANCE IMAGING (MRI); closed bore; 1.5 Tesla unit		5	
1		1	IMG086	TABLE PATIENT - MRI imager; floating top; (Part of IMG081)		5	
1		1	IMG2501	Coil Holder.		5	
2		2	IMG2507	Wave Guide.		5	
1		1	LAD2502	FOOT STEPS; MR compatible		3	
1		1	MON051	MONITOR; patient; MR compatible; vital signs; multi-parameter; includes pulse oximeter		3	
1		1	OUT010	SOCKET outlet, switched, 13amp, twin		1	
3		3	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1	
2		2	OUT056	CONNECTION UNIT, unswitched, 13 amp		1	
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1	
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1	
1		1	OUT463	OUTLET; nitrous oxide; medical, trunking mounted.		1	
2		2	OUT471	OUTLET; oxygen medical; trunking mounted.		1	
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1	
1		1	OUT481	OUTLET; gas scavenging (AGS); medical, trunking mounted.		1	
1		1	PEG2500	HOOK; Pat Slide.		1	
1		1	RAC2500	RACK; magazine; double sided; mobile; MRI compatible		3	
3		3	SLI2500	PATSLIDE		3	
1		1	SWC031	SWITCH; light; dimmer to M&E design.		1	
2		2	SWC062	EMERGENCY STOP switch button, wall mounted		1	
1		1	SYR005	SYRINGE INJECTOR; MRI compatible; automatic; hi pressure injection; media contrast		5	
1		1	TRO139	TROLLEY; dressing/instrument; MRI compatible; 870H 450W 450D		3	
2		2	TRO901	TROLLEY; Coil cupd		3	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	TVM2503	TV / monitor flat screen with DVD player, MRI compatible		3	
1		1	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1	

ADB	Room Data Sheet			E0604-01
Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0604-01	Control room: CT/MRI RHSC		
Room Number:	G-Q1-135	Revision Date:	18/09/2014	
Activities:	1) Use of computer workstation(s) 2) Viewing of X-ray films 3) Displaying notices 4) Maintenance and storage of EBME equipment records and reports 5) Viewing diagnostic images on VDT 6) Use of Imaging x-ray equipment			
Personnel:	1 x patient 8 x Staff 2 x escorts Access to visitors, researchers			
Planning Relationships:	Direct access to/from CT & MRI room. Access may be required to medical conference room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2,700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision			

ADB	Room Environmental Data		E0604-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0604-01	Control room: CT/MRI RHSC	
Room Number:	G-Q1-135	Revision Date:	18/09/2014
AIR	Requirements	Notes	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC) : 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	4.0	Ventilation Type: Central Supply & Extract	
Mechanical Ventilation (Extract ac/hr):	4.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	G4 - minimum	
Humidity (%RH):			
General Notes: Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
LIGHTING	Requirements	Notes	
Service Illumination (Lux):	300	@ desk 750 - 850mm AFFL	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):		None	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
General Notes: Control: Switch			
NOISE	Requirements	Notes	
Privacy Factor Required (dB):		Intrusive Noise:	
Mechanical Services (NR):	35	SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
General Notes: Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
SAFETY	Requirements	Notes	
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):			
General Notes:			
FIRE	Requirements	Notes	
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		E0604-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0604-01	Control room: CT/MRI RHSC	
Room Number:	G-Q1-135	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to CT/MRI to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Viewing panel to CT/MRI room, radiation protection.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				E0604-01
Project:	11072	RHSC & DCN				
Department:	Q1	Radiology				
Room:	E0604-01	Control Room - CT/MRI				
Room Number:	G-Q1-135				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	BIN2504	BIN: confidential waste		3
2		2	BOA2504	BOARD: marker; whiteboard; dry-wipe; with pen holder;magnetic; wall mounted: 600H 900W.		1
2		2	BUT2500	Quench button.		5
2		2	CAB024	CABINET; filing; 2 drawer; 710H 470W 620D		3
6		6	CHA002	CHAIR; height adjustable; medium back; swivel; 5 star base; on castors		3
2		2	CHA017	CHAIR; upright; upholstered; stacking		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
3		3	COM033	COMPUTER KEYBOARD		3
1		1	COM038	COMPUTER PRINTER, laser, A4, 250H 380W 385D		3
3		3	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COM2503	COMPUTER MONITOR, PACS REVIEW STATION; 2 21", high-resolution screens.		3
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
1		1	CUP332	CUPBOARD; key; 30 hooks; lockable; wall mounted; 305H 230W 70D.		1
4		4	CUP378	CUPBOARD/DRAWER UNIT; 1 drawer; 1 shelf; on castors; 660H 480W 390D		3
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
1		1	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
1		1	IMG112	CONTROL CONSOLE; for MRI		5
1		1	IMG2501	Coil Holder.		5
1		1	IMG2507	Wave Guide.		5
1		1	IMG2512	CONTROL CONSOLE; for CT		5
1		1	LIG074	ILLUMINATED SIGN DO NOT ENTER		1
1		1	LOC2503	LOCKER; wall mounted; RH; 340H 300W 300D.		1
2		2	MON017	MONITOR and CONTROL for CCTV; complete with flat screen monitor; keyboard; digital recorder (computer) and power supply.		1
2		2	MON2515	Injection control monitor		5
1		1	MON901	MONITOR; double MRI monitor		5
1		1	MON906	MONITOR; Clinical slave		2
1		1	OUT002	OUTLET, cable 13amp		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
20		20	OUT010	SOCKET outlet, switched, 13amp, twin		1
11		11	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
1		1	OUT210	SOCKET outlet two-way communication system (intercom), wall mounted		1
3		3	OUT215	SOCKET outlet, telephone		1
2		2	OUT2500	OUTLET; connection for IPOD.		1
2		2	PAN2500	PANEL; syringe injector controller.		5
2		2	PRI015	PRINTER; label; portable		3
2		2	SHE1002	SHELF; 300mm deep; length as drawn.		1
9		9	SUP2501	SUPPORT LEG; for 720 high worktop		1
1		1	SWC025	SWITCH, light		1
2		2	SWC062	EMERGENCY STOP switch button, wall mounted		1
3		3	TEL1000	TELEPHONE; handset.		3
1		1	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1



ADB			Schedule of Components by Room		E0604-01	
Project:		11072	RHSC & DCN			
Department:		Q1	Radiology			
Room:		E0604-01	Control Room - CT/MRI			
Room Number:		G-Q1-135	Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	UPS003	Uninterrupted power supply (UPS).		1
3		3	WKT1006L	WORKTOP: 720 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1

ADB	Room Data Sheet		E0601-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0601-01	CT Room RHSC	
Room Number:	G-Q1-136	Revision Date:	18/09/2014
Activities:	1) Patient may arrive on foot in a wheelchair or on a trolley 2) Patient undergoes examination with diagnostic x-rays to localise tumour and verify proposed treatment method. 3) Storage of Positioning aids e.g. wedges pillows and other immobilisation devices 4) Clinical hand washing 5) Use of computer workstation(s) 6) Contrast media, I.V. injections and other sterile procedures may be prepared 7) Use of radiation protection equipment 8) Radiation measurement will be used 9) Parking, storage of patients' trolley(s)		
Personnel:	1 x patient 5 x Staff 2 x escorts		
Planning Relationships:	Direct access to/from control room. Close to sub-waiting area. Adjacent to changing facilities (direct access optional).		
Space Data:	Area (m <sup>2</sup> ):		Height (mm): 3,100
Refer to HLM-SZ-SL-SH-200-001 for room areas.			
Notes:	Refer to ME 571 series of drawings for access control (PCP 4.17)  Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision  Radiation protection requirements are subject to RPA advice upon selection of equipment.  The "radiation in use" warning lamp should be installed at eye level outside the entrance(s) to the room.		

ADB	Room Environmental Data		E0601-01
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0601-01	CT Room RHSC	
Room Number:	G-Q1-136		Revision Date: 18/09/2014
<b>AIR</b>	<b>Requirements</b>	<b>Notes</b>	
Winter Temperature (DegC):		Permissible space temperature range (dry bulb) (degC): 18 - 25	
Summer Temperature (DegC):			
Mechanical Ventilation (Supply ac/hr):	8.0	Ventilation Type: Central Supply and Extract	
Mechanical Ventilation (Extract ac/hr):	8.0		
Pressure Relative to Adjoining Space:	Balanced		
Filtration (%DSE and % Arrestance):	/	F7 - minimum	
Humidity (%RH):			
<b>General Notes:</b> Heating Type: Warm Air - Reheat Battery with BMS Adjustable Sensor. Cooling: Comfort Cooled			
<b>LIGHTING</b>			
Service Illumination (Lux):	300	Not Applicable	
Service Illumination Night (Lux):		Not Applicable	
Local Illumination (Lux):	1,000.0	@ General working plane 1000 AFFL	
Colour Rendering Required:	Y	Colour rendering characteristics (Ra) 80	
Standby Lighting Grade:	A	Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch/ Dimmer			
<b>NOISE</b>			
Privacy Factor Required (dB):	35	Intrusive Noise:	
Mechanical Services (NR):		SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1	
Intrusive Noise (NR Eq):		40:daytime (LAeq,1hr)	
*Acceptable Sound Level [L10dB(A)]:			
*Speech Privacy Required:	Y		
*Quality Which Cannot Be Tolerated: (* alternative format)			
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b>			
Hot Surface Max. Temp (DegC):	43		
Hot Water Max. Temp (DegC):	41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b>			
Enclosure:			
Automatic Detection:			
Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		E0601-01
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0601-01	CT Room RHSC	
Room Number:	G-Q1-136	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Viewing panel from control room, radiation protection.		
Hatch:	N/A		
Notes:			

ADB		Schedule of Components by Room				E0601-01
Project:	11072	RHSC & DCN				
Department:	Q1	Radiology				
Room:	E0601-01	CT Room				
Room Number:	G-Q1-136	Revision Date:				09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ANA007	ANAESTHETIC MACHINE/WORKSTATION; MRI compatible; electrically powered piston ventilator; mobile: 1350H 750W 650D		3
1		1	BIN2509	BIN; sharps disposal; 7 litre; rail mounted		3
1		1	CAB034	CABINET warming, contrast media, stainless steel, wall mounted		2
1		1	CAM031	CAMERA; CCTV; pan/tilt/zoom.		1
2		2	CHA317	CHAIR, upright, upholstered, stacking, wipeable		3
1		1	CLO003	CLOCK synchronous with second sweep hand, wall mounted		1
2		2	CUP048	CUPBOARD; 2 shelves; 1 pull out shelf; lockable; on plinth; 800H 600W 500D.		1
1		1	CUP2538	CUPBOARD; base unit; 4 drawer; lockable; 500W 860H 500D.		1
1		1	CUP2569	Generator Cabinet.		5
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2500	DISPENSER; danicentre; combined glove/apron.		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
3		3	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
2		2	HOO020	HOOK, single, large, wall mounted		1
1		1	IMG066	TABLE PATIENT - CT imager; floating top; (Part of IMG2502)		5
1		1	IMG2502	IMAGER; COMPUTER TOMOGRAPHY (CT) ; 128 slice unit		5
1		1	IMG901	SAM HALL TURNER		3
1		1	IMG902	CONTRAST OVEN		3
2		2	LIG074	ILLUMINATED SIGN DO NOT ENTER		1
1		1	LIG081	LUMINAIRE fitted with single fluorescent lamp with switch; below drug cupboard; 8watt; 400mm.		1
1		1	MON902	MONITOR; Mid range use in Recovery & HDU.		3
1		1	MON906	MONITOR; Clinical slave		2
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
5		5	OUT010	SOCKET outlet, switched, 13amp, twin		1
4		4	OUT012	SOCKET outlet switched 13amp twin; trunking/pendant mounted.		1
1		1	OUT050	OUTLET, controlled drugs cupboard		1
1		1	OUT052	CONNECTION UNIT, switched, 13 amp		1
1		1	OUT059	CONNECTION UNIT switched 13amp, Indicator light		1
1		1	OUT079	OUTLET Isolator, equipment manufacturer's specification		1
2		2	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT206	SOCKET outlet television aerial; single; wall mounted.		1
1		1	OUT207	SOCKET outlet aerial television, closed circuit (CCTV), wall mounted		1
1		1	OUT452	OUTLET; 4 kPa compressed air medical; trunking mounted.		1
1		1	OUT463	OUTLET; nitrous oxide; medical, trunking mounted.		1
2		2	OUT471	OUTLET; oxygen medical; trunking mounted.		1
1		1	OUT476	OUTLET; vacuum medical; trunking mounted.		1
1		1	OUT481	OUTLET; gas scavenging (AGS); medical, trunking mounted.		1



ADB		Schedule of Components by Room				E0601-01	
Project:		11072		RHSC & DCN			
Department:		Q1		Radiology			
Room:		E0601-01		CT Room		Revision Date: 09/09/2014	
Room Number:		G-Q1-136					
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	PEG2500	HOOK; Pat Slide.		1	
1		1	RAC197	RACK; x-ray lead apron; 6 swivel arms; mobile		3	
3		3	SLI2500	PATSLIDE		3	
1		1	STF286	STORAGE UNIT; upper; cupboard; medicine; 2 door; lockable; 550H 600W 300D		1	
1		1	STF290	STORAGE UNIT; upper; cupboard; controlled drugs; 1 door; lockable; with inner lockable cupboard and warning light; 550H 600W 300D		1	
3		3	SWC031	SWITCH; light; dimmer to M&E design.		1	
1		1	SWC062	EMERGENCY STOP switch button. wall mounted		1	
1		1	SYR2502	SYRINGE INJECTOR; automatic; hi pressure injection; contrast media; ceiling mounted		5	
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1	
1		1	TRO133	TROLLEY; dressing/instrument. stainless steel. buffered; 870H 750W 450D.		3	
1		1	TRO135	TROLLEY; Gratnell; dressing/instrument; 6 clear trays. stainless steel; buffered; 890H 510W 480D		3	
1		1	TRO601	TROUGH scrub-up; hospital pattern; stainless steel; single; 75mm upstand; 800W 450D. HTM64SUH1.		1	
1		1	TRU1001	MEDICAL SERVICE TRUNKING; horizontal; length as drawn.		1	
1		1	UPS003	Uninterrupted power supply (UPS).		1	
1		1	WAS102	WASTE, unslotted flush-grated. metal. 1.1/2 in		1	
1		1	WAS108	TRAP, bottle. 1.1/2 in. plastic resealing		1	
1		1	WKT1003H	WORKTOP; 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1	

<b>ADB</b>	<b>Room Data Sheet</b>	<b>E0135</b>
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Project:	11072	RHSC & DCN		
Department:	01	Key Rooms (Financial Close)		
Room:	E0135	Dental room		
Room Number:	G-Q1-141		Revision Date:	18/09/2014

Activities:	1) Use of Imaging x-ray equipment 2) Viewing of diagnostic images on monitor 3) Assessment / updating of electronic patient records (EPRs) 4) Clinical handwashing			
Personnel:	1 x patient 1 x staff 1 x escort			
Planning Relationships:	Adjacent to recovery room.			
Space Data:	Area (m <sup>2</sup> ):		Height (mm):	2.700
	Refer to HLM-SZ-SL-SH-200-001 for room areas.			

Notes:	<p>Refer to ME 571 series of drawings for access control (PCP 4.17)</p> <p>Refer to HLM-SZ-00-PL-331-001 Anti-ligature Strategy for anti-ligature provision</p> <p>Radiation protection requirements are subject to RPA advice upon selection of equipment.</p> <p>The "radiation in use" warning lamp should be installed at eye level outside the entrance(s) to the room.</p>			
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ADB	Room Environmental Data		E0135
Project:	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0135	Dental room	
Room Number:	G-Q1-141		Revision Date: 18/09/2014
<b>AIR</b> Winter Temperature (DegC): Summer Temperature (DegC): Mechanical Ventilation (Supply ac/hr): Mechanical Ventilation (Extract ac/hr): Pressure Relative to Adjoining Space: Filtration (%DSE and % Arrestance): Humidity (%RH):	<b>Requirements</b>  3.0 3.0 Balanced /	<b>Notes</b> Permissible space temperature range (dry bulb) (degC): 18 - 28  Ventilation Type: Central Supply and Extract  G4 - minimum	
<b>General Notes:</b> Heating Type: Radiant Panels with TRV Remote Head Adj. Cooling: Comfort Cooled Fresh Air			
<b>LIGHTING</b> Service Illumination (Lux): Service Illumination Night (Lux): Local Illumination (Lux): Colour Rendering Required: Standby Lighting Grade:	300  1,000.0 Y A	Not Applicable  (@ Bed/Trolley 1450 AFFL Colour rendering characteristics (Ra) 80 Lighting of the level and quality equal or nearly equal to that provided by normal lighting	
<b>General Notes:</b> Control: Switch			
<b>NOISE</b> Privacy Factor Required (dB): Mechanical Services (NR): Intrusive Noise (NR Eq):  *Acceptable Sound Level [L10dB(A)]: *Speech Privacy Required: *Quality Which Cannot Be Tolerated: (* alternative format)	35    Y	Intrusive Noise: SHTM 08-01 noise intrusion from external noise sources is not given in NR values but instead in LAeq,1hr and LAmax,1  40:daytime (LAeq,1hr)	
<b>General Notes:</b> Refer to HLM 252 series of drawings for partition types and Acoustic Report (PCP 4.13)			
<b>SAFETY</b> Hot Surface Max. Temp (DegC): Hot Water Max. Temp (DegC):	43 41		
<b>General Notes:</b> Maximum cold water discharge temperature (degC): 20			
<b>FIRE</b> Enclosure: Automatic Detection: Refer to HLM 572 series of drawings and Fire Strategy Report (PCP 4.12)			

ADB	Room Design Character		E0135
Project	11072	RHSC & DCN	
Department:	01	Key Rooms (Financial Close)	
Room:	E0135	Dental room	
Room Number:	G-Q1-141	Revision Date:	18/09/2014
Walls:	Refer to HLM 330 series of drawings Radiation protection to be agreed with NHSL RPO		
Floor:	Refer to HLM 330 series of drawings		
Ceiling:	Refer to HLM 332 series of drawings		
Doorsets:	Refer to HLM 322 series of drawings for location / type.		
Windows:	N/A		
Internal Glazing:	Refer to HLM 322 series for door and screen types.		
Hatch:	N/A		
Notes:			



ADB		Schedule of Components by Room				E0135
Project:	11072	RHSC & DCN				
Department:	Q1	Radiology				
Room:	E0135	Dental Room				
Room Number:	G-Q1-141				Revision Date:	09/09/2014
Quantity			Code	Description	Alt. Code	Grp
New	Trans	Total				
1		1	ALA001	PUSH BUTTON, security alarm		1
1		1	BAS101	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet, 500W 400D		1
1		1	CHA901	CHAIR; X-Ray Dental		5
1		1	CHR903	CHAIR; Saddle Operator		3
3		3	COM033	COMPUTER KEYBOARD		3
3		3	COM1000	COMPUTER MONITOR; TFT; Sunray digital flat panel display; desk top		3
1		1	COM2509	INTERCOM two way communication system; wall mounted (flush).		1
1		1	DIS013	DISPENSER, paper towel, wall mounted		2
1		1	DIS030	DISPENSER, soap, disposable single cartridge, lever action, wall mounted		2
1		1	DIS2503	DISPENSER; alcohol gel; disposable single cartridge; wall mounted.		2
2		2	HOL005	HOLDER; bin; medium; capacity 70 litres; freestanding.		3
3		3	HOO020	HOOK, single, large, wall mounted		1
1		1	IMG2506	READER; CR dental		3
1		1	LIG074	ILLUMINATED SIGN DO NOT ENTER		1
1		1	MSC081	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
1		1	MSC082	CABINET base; 600mm facing; (600x400 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 900.		1
1		1	MSC091	CABINET base; 400mm facing; (400x600 inserts); with formed plastic liners; 1 door hinged right; on plinth; o/a height 900.		1
1		1	MSC092	CABINET base; 400mm facing; (400x600 inserts); with formed plastic liners; 1 door hinged left; on plinth; o/a height 900.		1
1		1	OUT004	OUTLET cable, fused, 13 amp, ceiling mounted		1
1		1	OUT005	SOCKET outlet, switched, 13amp, single		1
9		9	OUT010	SOCKET outlet, switched, 13amp, twin		1
7		7	OUT121	SOCKET outlet; computer data; double.		1
1		1	OUT208	SOCKET outlet television aerial; single; ceiling mounted.		1
1		1	OUT210	SOCKET outlet two-way communication system (Intercom), wall mounted		1
1		1	OUT215	SOCKET outlet, telephone		1
1		1	PRO026	PROJECTOR; multi-media; ceiling mounted		2
1		1	RAC194	RACK; x-ray lead apron; 3 hangers; wall mounted		2
1		1	SCR060	SCREEN shielding; radiation proof; 1mm lead; solid/glass; 2000H 2100L; angle		5
1		1	SUP2500	SUPPORT LEG; for 920 high worktop		1
1		1	SWC025	SWITCH, light		1
1		1	SWC062	EMERGENCY STOP switch button, wall mounted		1
1		1	TAP894	TAP bib; hospital pattern; integral thermostatic mixer; HTM64		1
1		1	TEL1000	TELEPHONE; handset.		3
2		2	TRU1000	TRUNKING; Power and Data trunking; length as drawn.		1
1		1	WAS100	WASTE, unslotted flush-grated, metal, 1.1/4 in		1
1		1	WAS1000	TRAP; concealed waste; for back outlet basins.		1



ADB			Schedule of Components by Room			E0135	
Project:		11072		RHSC & DCN			
Department:		Q1		Radiology			
Room:		E0135		Dental Room			
Room Number:		G-Q1-141		Revision Date:		09/09/2014	
Quantity			Code	Description	Alt. Code	Grp	
New	Trans	Total					
1		1	WKT1003H	WORKTOP: 920 high 600 deep 40mm thick; with 50mm upstand; length as drawn.		1	
1		1	WKT1006H	WORKTOP: 920 high 800 deep 40mm thick; with 50mm upstand; length as drawn.		1	
1		1	XRA003	X-RAY UNIT TUBE; dental; fixed		5	
1		1	XRA004	X-RAY GENERATOR for dental tube; wall mounted		5	
1		1	XRA005	X-RAY UNIT DENTAL PANORAMIC (OPG); height adjustable; floor mounted		5	
1		1	XRA006	X-RAY IMAGING CEPHALOSTAT ATTACHMENT; dental; (Part of XRA005)		5	

## Royal Hospital for Sick Children and Department for Clinical Neurosciences - Edinburgh

### RHSC / DCN RDS Environmental Matrix

Dept Code	Index
~	Cover
~	Guidance Notes
~	Room Function Reference Sheet
A1 - A4	Front Door - A&E / Assessment Ward
B1	Critical Care / HDU / Neonatal Surgery
C1- C5	RHSC In Patient Pathway / Ward Care
D1 - D10	RHSC Ambulatory Care
E1	Pod
F1	Child and Adolescent Mental Health
G2 - G3	Clinical Support
H1 - H3	Academic
I1 - I2	Facilities / Infrastructure Support Services
J1 - J2	Patient / Family Support
K1 - K2	Family Facilities
L1 - L2	DCN In Patient Pathway / Ward Care
M1- M4	DCN Support Space
N1	DCN Out Patient Departments
P1	Combined Theatres
Q1	Combined Radiology
R1 - R2	Office / Admin Support Services
S1 - S7	Combined Facilities / Infrastructure Support Services
T1	Plant
U1	Shelled Space

Rev	By	Description	Date

**Environmental Matrix - Guidance Notes**

- 1 This workbook is prepared for the Financial Close Stage as an easier reference tool to replace ADB RDS M&E Sheets for the Environmental Criteria elements as described on these sheets.
- 2 The services matrices are produced from the Schedule of Accommodation Sheets.
- 3 The design of the HVAC systems to the theatres shall be in accordance with SHTM 03-01.
- 4 Where radiant panels are indicated in any room in these matrices, detailed design development may remove the need for these without detriment to environmental temperature. This design development is dependant on actual room layout - i.e. whether a room is located adjacent to an external wall, ground bearing floor, roof surface or is internal.
- 5 Ventilation air change rates and the use of natural ventilation in Patient Areas shall be reviewed throughout the detail design process to ensure a maximum internal temperature of 25°C (dry bulb) is not exceeded during normal occupancy. This criteria shall also apply to cellular and open plan office spaces.
- 6 Maximum internal temperatures listed relate to normal occupancy and Summer Design Conditions ; External Summer Conditions for Cooling Plant Selection as per SHTM2025.Enthalpy 54kJ/kgda.26deg°Cdb,19deg°C wb. External Winter Conditions as per CIBSE Guide A Table A 2.2 for locality = - 6°C for Heat Losses, and as SHTM 2025 for locality = -10°C for AHU Ventilation Plant design.
- 7 Examination lamp notes where listed are provisional. Detailed requirements (fixed, mobile, illumination) will be detailed on C sheets as agreed from signed off 1:50 RDS, which shall take precedence over this schedule.
- 8 All lighting levels are derived from CIBSE Lighting Guide LG2.
- 9 Colour rendering refers to CIBSE Lighting Design Guide and will be applied throughout.  
"80" : Normal  
"90" - Enhanced to provide close as possible match to natural light for clinical purposes
- 10 Thermostatic Mixing Devices - SHTM 04-01 Guidance shall be employed for specific TRV Type versus listed Area/Activity.
- 11 Standby Lighting to be Grade A throughout .
- 12 The internal temperature in naturally or mechanically ventilated rooms shall not exceed the maximum temperature as listed on these Environmental Matrices provided external summer design criteria is not exceeded .
- 13 Local Radiant Panel PICV's shall have adjustable sensors.
- 14 Local Control BMS Temperature Sensors for ducted reheat zones and chilled water cassettes for hotspots shall be provided with local range adjustment to +/- 2°C of BMS Set Point. BMS set point shall be adjustable via operator/user dialogue through formal FM
- 15 **Typical bedroom** - Design Criteria - SHTM 03-01 Clause 2.11 - internal temperatures in patient areas should not exceed 28°C db for more than 50 hrs per year. Appendix 1 SHTM 03-01 gives 18°C to 28°C float range. NHSL however require that the maximum internal design temperature should not exceed 25°C for more than 50 hrs per year.  
**HDU bed areas** - Design Criteria - HBN 57 gives specific guidance as well as SHTM 03-01 - Appendix 1 for air change rates - 10ac/hr Supply, 18°C to 25°C control range. ( Capability shall be provided but not at the summer and winter external ambient design extremes against the internal maximum and minimum range conditions ).  
The department will be comfort cooled and controlled on a zonal basis.  
Central AHU to be provided with blank section for future provision of humidification.  
**Post theatre recovery areas** - Design Criteria - SHTM 03-01 - Appendix 1 for air change rates - 15ac/hr S&E , 18°C to 25°C control range.( Capability shall be provided but not at the summer and winter external ambient design extremes against the maximum and minimum range conditions ).  
**Critical Care areas** - Design Criteria - SHTM 03-01 - Appendix 1 for air change rates - 10ac/hr Supply , 18°C to 25°C control range.( Capability shall be provided but not at the summer and winter external ambient design extremes against the maximum and minimum range conditions). NHSL may require specific rooms to have a control range up to 28°C.  
Central AHU to be provided with blank section for future provision of humidification.
- 16 **Corridor** ventilation may be either mechanical or where the opportunity exists natural. To be determined during detailed design with due regard to clinical functionality.
- 17 **Single Room WC** - SHTM 03-01 Appendix 1 suggests 3ac/hr extract air change rate only. We have applied 10ac/hr extract rate to provide a more robust rate of extract.
- 18 **Diagnostic Rooms** - ( X Ray, CT Scanner, MRI Scanners, Gamma Camera ) - air change rates listed at 8ac/hr. Actual air change rate must be derived through room heat gain analysis and actual equipment guidance.
- 19 **Operating Theatre Laminar Flow/UCV Requirements** - Refer to Operational Policy Documents for specific theatres which require Laminar Flow/UCV canopy style ventilation solution.
- 20 **Small workshop Areas** - Local Extract Ventilation (LEV) unit requirement to be determined from room equipment schedules.
- 21 **Note that Isolation Suite ventilation solutions for this project shall follow HBN 4 Supplement 1 Section 4 Item 4.8 Guidance i.e.**  
A common departmental AHU shall be employed to provide supply air ventilation ( and shall therefore employ duty & standby motors ).  
Isolation Rooms En Suite Extracts shall be provided with an independent Isolation Room toilet extract ventilation system.  
Isolation Rooms En Suite Extracts shall be provided with either externally located 3 mtr high discharge stack in a safe location or with extract filters ( H14 ) within a safe change housing outside the building on the suction side of the fan.  
Heating & Cooling Isolation Suites shall be provided via the ventilation system.
- 22 **Retail Provision** - Service provisions listed are Infrastructure only for future fit-out by retailer. ( Fire detection shall be provided to assist completion).
- 23 **Comfort Cooled Fresh Air** - Where noted as such on the matrices, this means as provided via departmental air handling plant via chilled water cooling coils.
- 24 **Body View Room** to be provided with ceiling cassette incorporating specialist refrigeration based cooling unit to reduce room temperature to 8°C minimum +/- 2°C. Room temperature will be achieved within two hours of plant operation.  
This room will have dual function capability, normally at 28°C design max temperature and when required go to 8°C for storage and viewing of body.
- 25 Anti ligature rooms (5no. off ) will be treated as sealed rooms with Supply at 6ac/hr and Extract to match to achieve a balanced pressure.
- 26 **Single Bedroom** - The design philosophy for ventilation is for a mixed mode operation where natural vent is encouraged which has benefits both physiological with users being partly in control, and from an energy stand point where mechanical vent loading is partly reduced (2/3rds). This strategy results in zero pressure differential regime within the room where supply and extract is balanced.



Room Function Reference Sheet.

The following table details reference templates which are used to populate cells within the environmental matrix. Refer to individual department sheets for individual room environmental conditions

Room Function	Temperature		Heating		Cooling Present	Cooling Type	Ventilation				Safety temperatures		Safety Notes	Lighting						Notes	Medical Location Group		
	Design Max deg C	Design Min deg C	Type	Control			Type	Supply ac/hr	Extract ac/hr	Relative Pressure	Min Filtration	Surface deg C		Water deg C	Normal lux	Night lux	Local lux	Standby Grade	Colour Rendering			Control	Plane
Bathroom	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Bedroom	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	0	Balanced	G4	43	41		100	5	300	A	80	switch	Bed / Trolley 1.45m	See Guidance Notes	1
Cellular / Ward Offices	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
Changing Facilities	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Circulation Areas	28	18	Radiant Panels	Remote Sensor Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes		G4	43	41		200	n/a	None	A	80	presence detection	Floor 0m	See Guidance Notes	n/a
Circulation Areas - Entrance Lobby	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Classroom	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
Common room/staff room/lounge	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
Consulting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
Clean Utility	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41		300	n/a	1000	A	80	switch	General working plane 1m	See Guidance Notes	1
Eating/Drinking	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
Small Workshop	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
Kitchen (Commercial)	28	16	None	None	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	DW172 Dependant	DW172 Dependant	Negative	G4	43	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
Laboratory	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
Laundry	28	18	Adjacent Space Transfer Air	None	No	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative	G4	43	60		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
Meeting Room	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
Patient Accommodation Day	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	0	Positive	G4	43	41		100	n/a	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
Multi-bed Wards	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	0	Positive	G4	43	41		100	5	300	A	80	switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
Physiotherapy Studio	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	6	Negative	G4	43	41		300	n/a	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	n/a
Body View	28	8	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette Specialist Cooling	Central Supply and Extract	4	6	Negative	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
Reception	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	3	0	Positive	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a

query



## Room Function Reference Sheet.

The following table details reference templates which are used to populate cells within the environmental matrix. Refer to individual department sheets for individual room environmental conditions

Storage Area Med Gas	28	16	Adjacent Space Transfer Air	None	No	None	Natural ventilation	0	0	Balanced	None	n/a	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Storage Area Equipment	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Tea Making	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Waiting Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
Treatment Room	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
Isolation Lobby	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant		F7	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Resuscitation Bay	25	21	Radiant Panels	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	6	Positive	G4	43	41	500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Isolation Bedroom	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant	Balanced	F7	43	41	100	5	300	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	n/a	500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
Disposal Hold	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	n/a	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
Resus Trolley bay	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	0	0	Balanced	None	43	n/a	500	n/a	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
Baby Feeding Room / Nappy Change	25	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Relatives Overnight Stay	25	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41	100	n/a	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
Pantry	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
Linen Bay	28	16	Adjacent Space Transfer Air	None	No	None	Central Supply and Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Multi Disciplinary Work Areas	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a	300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
Open Plan Office	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
Equipment Decontamination	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	200	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
Circulation Phone Both	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	0	0	Balanced	G4	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Recovery Bay / Recovery Room	28	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41	500	n/a	1000	A	80	switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
IPS Room	Manufacturer Dependant	Manufacturer Dependant	Adjacent Space Transfer Air	None	No	None	None	0	3	Negative	None	43	n/a	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a



RHSC / DCN Environmental Matrix

Dept	Dept	Room Name	Qty	Room Function	AHB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
		Bedroom		Bedroom		28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
		Bedroom		Bedroom		25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
		Colliar / Ward Offices		Colliar / Ward Offices		25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Changing Facilities		Changing Facilities		28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Circulation Areas		Circulation Areas		28	18	underfloor heating / none to suit location	BMS Adjustable Sensor	No	None	Central Supply and Extract or to suit location	to suit location	to suit location	Balanced	G4	43	41		200	n/a	None	A	80	presence detection	Floor 0m	See Guidance Notes	n/a
		Circulation Areas - Entrance Lobby		Circulation Areas - Entrance Lobby		28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Classroom		Classroom		25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Common room/Staff room/lounge		Common room/Staff room/lounge		28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Consulting Room		Consulting Room		28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Clean Utility		Clean Utility		28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
		Dirty utility		Dirty utility		28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Diagnostic room		Diagnostic room		25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
		Eating/Drinking		Eating/Drinking		28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Ward Kitchen		Ward Kitchen		28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
		Small Workshop		Small Workshop		28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		IT equipment (comms server)		IT equipment (comms server)		25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Kitchen (Commercial)		Kitchen (Commercial)		28	16	None	None	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	DW172 Dependant	DW172 Dependant	Negative	G4	43	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
		Laboratory		Laboratory		25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Laundry		Laundry		28	18	Adjacent Space Transfer Air	None	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	10	Negative	G4	43	60		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Meeting Room		Meeting Room		25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Patient Accommodation Day		Patient Accommodation Day		25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	41		100	n/a	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Multi-bed Wards		Multi-bed Wards		25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	Positive to ensuite	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Physiotherapy Studio		Physiotherapy Studio		28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	6	Negative	G4	43	41		300	n/a	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	n/a
		Body View		Body View		28	8	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette Specialist Cooling	Central Supply and Extract	4	6	Negative	G4	43	n/a		300	n/a	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	n/a
		Reception		Reception		28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Storage Area Mid-Gate		Storage Area Mid-Gate		28	16	Frost protection	Room Thermostat	No	None	Natural ventilation	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Storage Area Equipment		Storage Area Equipment		28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Tea Making		Tea Making		28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Toilet		Toilet		28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Waiting Room		Waiting Room		28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Treatment Room		Treatment Room		28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Isolation Lobby		Isolation Lobby		25	18	Warm Air - Reheat Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	60	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Resuscitation Bay		Resuscitation Bay		25	21	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	6	Positive	G4	43	41		500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Circulation Equipment Storage Bays		Circulation Equipment Storage Bays		28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Isolation Bedroom		Isolation Bedroom		25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
		Operating Theatre Suite		Operating Theatre Suite		25	18	warm air via AHU Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Disposal Hold		Disposal Hold		28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
		DSR		DSR		28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
		Resus Trolley bay		Resus Trolley bay		28	18	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		500	n/a	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Baby Feeding		Baby Feeding		25	18	Radiant Panels	Remote Sensor Adj	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Nappy Change		Nappy Change		25	18	Radiant Panels	Remote Sensor Adj	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Recovery Overnight Stay		Recovery Overnight Stay		28	20	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41		100	n/a	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Pantry		Pantry		28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Linon Bay		Linon Bay		28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Multi Disciplinary Work Areas		Multi Disciplinary Work Areas		25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Oper Plan Office		Oper Plan Office		25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Equipment Decontamination		Equipment Decontamination		28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	7	10	Negative	G4	43	41		200	n/a	None	A	90	Presence detection	General working plane 1m	See Guidance Notes	n/a
		Circulation Phone Booth		Circulation Phone Booth		28	18	Radiant Panels	Remote Sensor Adj	No	None	n/a	0	0	n/a	n/a	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Recovery Bay / Recovery Room		Recovery Bay / Recovery Room		28	20	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Staff Base		Staff Base		28	18	Radiant Panels	Remote Sensor Adj	No	None	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
Dept	Dept	Room Name	Qty	Room Function	AHB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plane	Medical Location	
		Main Entrance Draught Lobby	2	10.0	Circulation Areas - Entrance Lobby	G0800.01	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a		200	n/a	None	A	80	Presence detection</		



RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach)	Extract (ach)	Relative pressure	Min filtration	Surface temp.	Water temp.	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Floors	Medical Location		
A1 Emergency Department	Nappy Change	1	4.0 Toilet	V1131	26	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Baby Infant / Feeding Room	1	4.0 baby Feeding	S0012	25	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Triage Room	1	16.0 Consulting Room	X0242-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
	Treatment Room: Dual Access (Mental Health)	10	16.0 Treatment Room	X0242-04	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
	Treatment Room: Single Access	4	14.0 Treatment Room	X0242-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
	WC - Wheelchair accessible	2	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Plaster Suite (2 bays)	1	24.0 Consulting Room	X0206	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
	Store - Plaster	1	6.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Quiet Room	1	12.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Supplies Base	1	10.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Washdown Room	1	16.0 Dirty Utility	V0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	General X-Ray Room	1	33.0 Diagnostic room	E0128	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1	
	Consultant Psychiatrist / Psychologist Office	1	20.5 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Changing Cubicle	1	4.0 Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Resuscitation Room: 2 places	2	50.0 Resuscitation Bay	X0242-06	25	21	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	6	Positive	G4	43	41		500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
	Sitting Room	1	16.0 Common room/staff room/lounge	B1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
	WC - Wheelchair accessible	1	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Body Viewing Room	1	10.0 Body View	S0027-01	28	8	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Specialist Cooling	Central Supply and Extract	4	6	Negative	G4	43	n/a		300	n/a	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	n/a	
	Laboratory - Near Patient Testing / Status	1	8.0 Laboratory	L1308	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Dirty Utility	1	11.0 Dirty Utility	V0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Pantry - Staff / Patient	1	5.0 Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
	WC - Staff	2	3.0 Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Staff Shower: ambulant	2	2.5 Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Male Staff Changing Room and Lockers: 20 places	1	11.5 Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Female Staff Changing and Lockers: 30 places	1	16.0 Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Beverage Bay	1	3.0 Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes	n/a	
	Secretary/Finng Office	1	16.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Ward Manager's Office	1	16.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Admin Office	1	20.5 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Interview/Meeting Room: 6 persons	1	9.0 Meeting Room	H1313-02	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 1/2 per person	10 1/2 per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Store - Equipment & Supplies	1	18.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Linon Bay (1 Trolley)	1	1.5 Linon Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Store - Stock & Storage Supplies	1	18.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Store - Dispensing Drugs	1	8.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Store - Major Incident / Ambulance Equipment	1	6.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Store - Medical Gas Cylinders	1	3.0 Storage Area Med Gas	W1585-??	28	16	Frost protection	Room Thermostat	No	None	Natural ventilation	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Disposal Hold	1	10.0 Disposal Hold	V0046	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
	DSR	1	7.0 DSR	V1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
	A2 Paediatric Acute Receiving Unit 34 Beds	4 Bed Room	1	63.0 Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
		En-suite wheelchair-accessible WC, Shower & wash	1	6.0 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Single Bedroom		6	17.0 Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
En-suite wheelchair-accessible WC, Shower & wash		6	4.5 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Reception/Staff Base		1	6.0 Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Touchdown Base		4	2.0 staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10 1/2 per person	10 1/2 per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Single Isolation Bed Room		1	17.0 Isolation Bedroom	B0308	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
Isolation Bedroom Entrance Lobby		1	4.0 Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	60	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Single Bedroom (RHSC)		13	17.0 Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
En-suite wheelchair-accessible WC, Shower & wash		13	4.5 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
4 Bed Room		2	56.5 Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a	
En-suite wheelchair-accessible WC, Shower & wash		2	4.5 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Single Bedroom (RHSC)		2	17.0 Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
En-suite wheelchair-accessible WC, Shower & wash		2	4.5 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0																



RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach)	Extract (ach)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenium	Medical Location	
A3	Senior Academic Staff Office	6	11.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	16 Person Office	1	80.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	WC - Staff	2	3.0 Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	WC - Visitors	1	3.0 Toilet	V1010-02	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Clean Utility	1	12.0 Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a	
	Dirty Utility	1	14.0 Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Pantry	1	10.0 Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
	Resuscitation Trolley Bay	1	1.0 Resus Trolley bay	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	None	None	0	0	n/a	None	43	n/a	500	n/a	None	A	80	switch	Floor 0m	See Guidance Notes	n/a
	Union Bay (1 Trolley)	2	1.5 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Store - General	1	8.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Store - Equipment	1	8.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Host Bay	1	3.0 Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	DSR	1	7.0 DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Ward Kitchen	1	12.0 Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60	500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a	
	Disposal Hold	1	10.0 Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Meeting / Case Conference Room	1	32.0 Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Seminar & Training Room	1	32.0 Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Staff Room	1	80.0 Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
	B1	Waiting Area (Visitors)	1	16.5 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		WC - Wheelchair accessible	1	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Public Telephone Booth		1	7.0 Circulation Phone Booth	G0710	28	18	Adjacent Space Transfer Air	None	No	None	n/a	0	0	n/a	n/a	n/a	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Reception		1	7.0 Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Office - 4 person		1	20.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Staff Base		1	12.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Single Bed Isolation Cubicle		2	26.0 Isolation Bedroom	B1401-01	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
Gowning Lobby		2	6.0 Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	60	0	Positive	F7	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Single Bed Cubicle		2	26.0 Bedroom	B1401	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
Open Plan Day (4 beds)		1	104.0 Multi-bed Wards	B1809-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a	
Staff Base		1	4.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Single Bed Cubicle		1	26.0 Bedroom	B1401	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
Single Bed Isolation Cubicle		1	26.0 Isolation Bedroom	B1401-01	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
Gowning Lobby		1	6.0 Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	60	0	Positive	F7	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Open Plan Day (4 beds)		1	80.0 Multi-bed Wards	B1609-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41	100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a	
Patients' Assisted Bathroom		1	14.0 Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Staff Base		1	6.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Single Bed Cubicle		1	16.0 Bedroom	B1401	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
En-suite wheelchair accessible WC, Shower & wash		1	4.5 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Open Plan Day (3 cots)		1	45.0 Multi-bed Wards	B1407-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41	100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a	
Staff Base	1	4.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
Single Cot Cubicle	1	26.0 Bedroom	B1421	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
Single Bed Isolation Cubicle	1	26.0 Isolation Bedroom	B1401-01	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
Gowning Lobby	1	6.0 Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	60	0	Positive	F7	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Open Plan Day (4 beds)	1	104.0 Multi-bed Wards	B1609-02	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41	100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a		
Clean Utility	1	18.0 Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a		
Clean Utility	1	8.0 Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a		
Clean Utility	1	8.0 Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a		
Dirty Utility	1	19.0 Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Dirty Utility	1	14.0 Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Laboratory	1	10.0 Laboratory	L1804	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60	500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
Disposal Hold	1	10.0 Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a		
DSR	1	7.0 DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a		
Pantry / Milk Store	1	10.0 Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
Baby Infant / Feeding Room	1	5.0 Baby Feeding	S0012	25	18	Radiant Panels	Remote Sensor Adj	No	None	Central Supply Air	5	0	Positive	G4	43	41	100	n/a	None	A							



RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (achr)	Extract (achr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenis	Medical Location	
	Relative Oversight Stay Room	2	10.0	Relatives Oversight Stay	D1311	28	20	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41	100	n/a	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
	En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Quiet / Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Family Interview Room	1	12.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Bulk Supplies Store	1	55.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Store - Equipment	1	40.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Bed/Patient Chair / Buggy Storage	1	8.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Retrieval Equipment Store	1	15.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Equipment Service Room	1	24.0	Small Workshop	L1804	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Linon Bay (1 Trolley)	2	1.5	Linon Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Gas Cylinder Store	2	2.0	Storage Area Med Gas	W1585-??	28	16	Flood protection Room Thermostat	None	No	None	Natural ventilation	0	0	n/a	None	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Cardiac Echo/ECG Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Mobile X-Ray / Ultrasound Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	X Ray Processing	1	8.0	Diagnostic room	L1804	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
	Host Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Resuscitation Trolley Bay	4	1.0	Circulation Equipment Storage Bays	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	On call consultant	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Retrieval Team	1	12.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Senior Nursing Office	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Multidisciplinary Work Area PICU	1	15.0	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Multidisciplinary Work Area HDU	1	15.0	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Seminar Room	1	37.5	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	IPS Room	1	2.0	IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	IPS Room	1	3.0	IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Staff Room	1	32.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Reception / Staff Base	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Single Bedroom	5	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	Single Isolation Bedroom	3	17.0	Isolation Bedroom	B0308	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	Isolation Bedroom Entrance Lobby	3	4.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	En-suite wheelchair-accessible WC, Shower & wash	8	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	4 Bed Room	2	58.5	Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
	WC	2	4.5	Toilet	V1010	28	16	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	En-suite wheelchair-accessible WC, Shower & wash	2	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Single Bedroom (RHSC)	3	19.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	Single Isolation Bedroom (RHSC)	1	19.0	Isolation Bedroom	B0308	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	En-suite trolley shower	4	8.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Sitting Room / Lounge	1	16.0	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Single Bedroom	3	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	En-suite wheelchair-accessible WC, Shower & wash	3	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Patients' Assisted Bathroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Treatment Room	1	16.0	Treatment Room	A0105	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
	Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
	Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a	500	n/a	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
	Dirty Utility	1	14.0	Dirty utility	V0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Touchdown Base	2	10.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj	No	None	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Ward Management Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Multi-disciplinary Office	1	18.0	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Patient Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	WC - Staff	2	3.0	Toilet	V1010-03	28	18	Adjacent Space																			



## RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach)	Extract (ach)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenis	Medical Location		
	Store - Equipment	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Host Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Ward kitchen	1	12.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60	500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a	
	Mobile X-Ray/Ultrasound Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	IPS Room	1	1.8	IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	DSR	1	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Reception / Staff Base	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Single Bedroom	2	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
	En-suite wheelchair-accessible WC, Shower & wash	2	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
4 Bed Room	2	58.5	Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41	100	5	300	A	90	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a		
WC	2	4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Wetroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Single Bedroom (RHSC)	5	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1		
En-suite wheelchair-accessible WC, Shower & wash	5	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Discharge Lounge	1	20.0	Common room/staff room/lounge	D1135	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
Patients' Assisted Bathroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Treatment Room	1	10.0	Treatment Room	X0105	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a		
Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a		
Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a	500	n/a	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a		
Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Touchdown Base	1	3.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10's/per person	10's/per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
Ward Management Office	1	10.0	Collular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
Multi-Disciplinary Office	1	18.0	Multi-Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
Patient Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 1/2 per person	10 1/2 per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
WC - Staff	2	3.0	Toilet	V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
WC - Visitors	1	3.0	Toilet	V1010-02	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Dining / Play Room	1	13.0	Eating/Drinking	D0606-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 1/2 per person	10 1/2 per person	Balanced	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
Pantry	1	8.0	Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
Linon Bay (1 Trolley)	1	1.5	Linon Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Store - back up clothing	1	4.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Store - General	1	12.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Store - Equipment	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Host Bay	1	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a		
Ward kitchen	1	12.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60	500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a		
DSR	1	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a		
	Reception / Staff Base	1	3.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Waiting Area	1	10.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
	Single Bedroom (RHSC)	3	17.0	Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
	Single Isolation Bedroom (RHSC)	1	17.0	Isolation Bedroom	B0306	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
	Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	69	0	Positive	F7	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	En-suite wheelchair-accessible WC, Shower & wash	4	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	4 Bed Room	2	58.5	Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41	100	5	300	A	80	switch / dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a	
	Wetroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Patients' Assisted Bathroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Treatment Room	1	10.0	Treatment Room	X0105	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a		
Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a	500	n/a	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a		
Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Touchdown Base	2	7.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10's/per person	10's/per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
Patient Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 1/2 per person	10 1/2 per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See			



RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp.	Water temp.	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Planes	Medical Location
C1.4	Store - General	1	10.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Store - Equipment	1	10.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Host Bay	1	3.0 Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Disposal Hold	1	10.0 Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Ward Kitchen	1	12.0 Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60	500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
	BSR	1	7.0 BSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Stenozyten Room	1	12.0 Consulting Room	C0224-??	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	WC Accessible	2	4.5 Toilet	Y0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Rehabilitation Room	1	30.0 Consulting Room	C0224-??	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Waiting Area	1	12.0 Waiting Room	J0132-??	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Reception / Staff Base	1	3.0 Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Touchdown Base	1	2.0 staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10's/per person	10's/per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Single Bedroom (RHSC)	3	17.0 Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	Single Isolation Bedroom (RHSC)	4	17.0 Isolation Bedroom	B0308	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	Isolation Bedroom Entrance Lobby	4	4.0 Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	60	0	Positive	F7	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	En-suite wheelchair-accessible WC, Shower & wash	7	4.5 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Patients' Assisted Bathroom	1	14.0 Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Multi Bed Room: day care, 4 beds & 2 chairs	1	72.5 Multi-bed Wards	B0405-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	Positive to ensuite	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
	Single Bedroom (RHSC)	3	17.0 Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	En-suite wheelchair-accessible WC, Shower & wash	4	4.5 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Treatment Room	1	12.0 Treatment Room	X0105	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
Clean Utility	1	10.0 Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a	
Single Bedroom	3	17.0 Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
En-suite wheelchair-accessible WC, Shower & wash	3	4.5 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Richard's Lounge/Social Space	1	25.0 Common room/staff room/lounge	D1120-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	6	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
Quiet Study Room	1	10.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Treatment / Clean Utility	1	10.0 Treatment Room	X0105-??	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
Resuscitation Trolley Bay	1	1.0 Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Host Bay	1	3.0 Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Dirty Utility	1	14.0 Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Complementary Therapy Room	1	10.0 Consulting Room	X0613	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
Ward Management Office	1	10.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Consultant Office (5 person)	1	25.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Medical Staff Office	1	20.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Nursing Staff Office	1	15.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Multi-Disciplinary Office	1	18.0 Multi-Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Research Staff Office	1	19.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
WC - Staff	2	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
WC - Visitors	1	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Play Room	1	25.0 Common room/staff room/lounge	H1322-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
Plantry	1	8.0 Plantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
Linen Bay (1 Trolley)	1	1.5 Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Store - General	1	10.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Ward Kitchen	1	12.0 Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60	500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a	
Store - Equipment	1	10.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Pharmacy Base	1	9.0 Consulting Room	T0151	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
Patient Interview Room	1	9.0 Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10.15 per person	10.15 per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
C1.5	Family Sitting Room	1	27.0 Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Breast Pump Room	1	4.0 Baby Feeding	S0012	25	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Positive	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Nappy Change	1	4.0 Nappy Change	V1131	25	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Dirty Extract	0	10	Negative	None	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Baby Infant / Feeding Room	1	4.0 Baby Feeding	S0012	25	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply Air	5	0	Positive	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
WC-Wheelchair Accessible	2	4.5 Toilet	Y0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
C1.6	Dining / Recreation Room	1	26.0 Common room/staff room/lounge	D0908-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	F		



## RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach)	Extract (ach)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenis	Medical Location		
C1.8 Surgical Short Stay Inpatients 14 Beds	Dining / Play Room	1	15.0	Eating/Drinking	D0908-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
	Single Bedroom	4	17.0	Bedroom	R0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1	
	En-suite Shower / WC / WHB	4	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	4 Bed Room	2	58.5	Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a	
	En-suite Shower / WC / WHB	2	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Single Bedroom (RHSC)	2	17.0	Bedroom	R0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	En-suite wheelchair accessible WC, Shower & wash	2	4.5	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Patient Assisted Bathroom	1	14.0	Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Treatment Room	1	16.0	Treatment Room	X0105	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
	Ward Management Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Touchdown Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10l/s per person	10l/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Visitors	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Clean Utility	1	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
	Dirty Utility	1	14.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Ward Kitchen	1	12.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
	Resuscitation Trolley Bay	1	1.0	Circulation/Equipment Storage Bays	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Linon Bay (1 Trolley)	1	1.5	Linon Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Store - General	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Store - Equipment	1	10.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
WC Wheelchair Accessible	2	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
DSR	1	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
C2 Wards Support Areas	Staff Room	1	48.0	Common room/Staff room/lounge	D0908-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	DSR	1	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	Meeting Room	1	25.0	Meeting Room	H1131-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
C3 Special Feeds Unit	Food Prep Area	1	24.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
	Store - Feeds	1	8.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Office Ante Room	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
C4 Sleep Lab	Wash Room	1	5.0	Bathroom	V1738	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Sleep Room	2	15.0	Bedroom	R0704	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	En-suite wheelchair accessible WC, Shower & wash	2	6.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Parents Room	2	10.0	Bedroom	D1311	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
C5 Classrooms	Control Room	1	15.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Store	1	8.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Primary Classroom	1	18.0	Classroom	H1131-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Upper Primary Classroom	1	18.0	Classroom	H1131-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Secondary Classroom	1	18.0	Classroom	H1131-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Resource Storage	1	10.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Administration Area	1	15.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
C6	WC Ambulant	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Store	1	3.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Consult/Examination	10	15.5	Consulting Room	C0224-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Child Protection Room	1	24.0	Consulting Room	C0224-??	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Consult/Examination (Child Protection)	1	15.5	Consulting Room	C0224-2	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Consult/Multi-Disciplinary	1	24.0	Consulting Room	C0217	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Treatment Room (with prep area)	1	16.0	Treatment Room	X0105-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
	Plaster Suite (3 bays)	1	40.0	Consulting Room	X0206	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Store: Plaster	1	6.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Orthotics Workshop	1	16.0	Small Workshop	K0420	28	18	Radiant Panels	Remote Sensor Adj.</																				



RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach)	Extract (ach)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenis	Medical Location			
D1	RHSC Main Outpatients Department	1	Resus Trolley Bay	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		500	n/a	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a		
		1	Phlebotomy Room	C0224-??	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
		1	Specimen/ Disabled WC	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
		2	Staff WC	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	WC - Fully accessible changing room	V0922-01	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	Baby Infant / Feeding Room	S0012	25	18	Radiant Panels	Remote Sensor Adj	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	Nappy Change	V1131	25	18	Radiant Panels	Remote Sensor Adj	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	Sub Waiting Area (incl supervised play) with Nurse Base	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
		1	Sub Waiting Area	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
		1	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
		2	WC wheelchair accessible	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		4	Consult/Examination	C0224-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
		1	Consult/Examination (Ophthalmology)	C0224-??	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
		1	Consult/Multi-Disciplinary	C0217	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
		1	Equipment / General Store	W1585	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	Play Therapy (inc messy play) Room	H1322-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
		2	Physical Measurement	C0522-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
		1	Infant Measuring Room	C0522-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
		1	Shower Room	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	Mobile Host Bay	G0180-03	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		2	Consult/Examination (Child)	C0224-??	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
		3	Consult/Examination (ENT)	C0224-??	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
		1	Store Room	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		2	Treatment Room (with prep area)	X0105-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a		
		1	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a		
		1	Dirty Utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	Resuscitation Trolley Bay	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	Phlebotomy Room	C0224-??	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
		1	Linen Bay (1 Trolley)	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	Staff WC	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	Baby Infant / Feeding Room	S0012	25	18	Radiant Panels	Remote Sensor Adj	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	Nappy Change	V1131	25	18	Radiant Panels	Remote Sensor Adj	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	Outpatients Management Office	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
		1	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Leaking Cassette - Chilled Water	Central Supply and Extract	10 1/s per person	10 1/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
		D2	Cardiology & Respiratory	1	Waiting Area	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
				1	Store/ Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
1	WC Staff			V1010-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
1	DSR			Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a		
1	Physical Measurement			C0522-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
1	ECC Procedure Room			C0718-??	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
1	Echocardiography Room			C0712	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1		
1	Exercise Tolerance Test Room			C0718-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
1	Admin Office			M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
1	Lung Function Laboratory			C0718-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a		
1	Exercise Room/Lung Function Laboratory			C0715	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a		
1	Admin Office			M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
1	Domestic Sleep Studies	C0224-03	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1				
D3	Orthotics	1	Staff Office	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
		1	Parking Bay - pushchairs	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a		
		1	WC & handwash: specimen, wheelchair	V0822	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
		1	Examination Room - Fields test	C0143	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43													



RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (achr)	Extract (achr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenis	Medical Location		
D4	Audiology	Testing/Clinic Rooms	2	21.0 Consulting Room	C0515	26	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Obs/Control	2	8.0 Diagnostic room	C0516	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
		ABR Room	1	16.0 Treatment Room	C0517	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Test Room	1	16.0 Treatment Room	C0517-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Work Room	1	12.0 Small Workshop	L1804	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Mould Room	1	8.0 Small Workshop	L1804	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Store	1	15.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Shared Staff Office	1	32.8 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
D5	Paediatric Dentistry	Surgeries (standard)	3	18.0 Operating Theatre Suite	C0903	25	18	warm air via AHU Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Surgery (multi-disciplinary)	1	20.0 Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Recovery	1	10.0 Recovery Bay / Recovery Room	C0522-04	28	20	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Laboratory	1	10.0 Laboratory	L1804	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Clean Utility / Dental Store	1	23.0 Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
		Dirty Utility	1	11.0 Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Mobile Inter-oral Storage	1	6.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Rehabilitation Room	4	30.0 Treatment Room	X0208-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
D6	RHSC Therapies	Rehabilitation Room (inc CV equip)	1	30.0 Treatment Room	X0208-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Changing Cubicles	2	4.0 Changing Facilities	Y0226	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Standard Treatment Room	3	15.0 Treatment Room	X0105	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Treatment Room (OT equip)	1	20.0 Treatment Room	X0105	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Infant Measuring Room	1	6.0 Consulting Room	C0522-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Standard Distraction Free Treatment Room	2	15.0 Consulting Room	C0110-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Large Distraction Free Treatment Room	1	20.0 Consulting Room	C0110-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Dietetic Clinic Room	2	12.0 Diagnostic room	C0224-02	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
		Spinting / Casting Room	1	18.0 Consulting Room	X0206-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Management office	1	20.5 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Staff Office - All specialties (30 person)	1	159.0 Open Plan Office	M0132-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Meeting Room - 4 person	1	6.0 Meeting Room	H1133-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Meeting Room - 6 person	1	9.0 Meeting Room	H1133-02	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Director's 1:1/Phone Booth	1	4.2 Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		A&C Staff Office/Appliance Office	1	12.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		WC - Staff	2	3.0 Toilet	Y1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Reception	1	6.0 Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Waiting Play Area	1	33.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		WC - Wheelchair accessible	1	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		WC - assisted (large changing)	1	12.3 Toilet	V0922-01	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Store - OT	1	4.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Store - OT	1	16.5 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Store - OT	1	2.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Store - SALT	1	8.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Store - Dietetic	1	8.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Store - Dietetic	1	1.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Store - Dietetic	1	1.5 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Store - Physio	1	4.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Store - Physio	1	8.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Store - Physio	1	24.5 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Store - Physio	1	8.5 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Store - Physio	1	6.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Store - Physio	1	3.5 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Store - Physio	1	13.5 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Store - TIP	1	4.5 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
Equipment Decontamination	1																											



RHSC / DCN Environmental Matrix

Dept	Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (achr)	Extract (achr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenis	Medical Location	
D7	Plastics Dressings Clinic	Sluice	1	6.0 Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	0	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Single Telephone Booth	1	4.0 Circulation Areas	G0710	28	18	underfloor heating / none to suit location	BMS Adjustable Sensor	No	None	to suit location	to suit location	to suit location	Balanced	G4	43	41		200	n/a	None	A	80	presence detection	Floor 0m	See Guidance Notes	n/a
		Dressings Room (Burns)	2	10.0 Consulting Room	X0242	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Assisted Bathroom	1	14.0 Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
D8	Social Work	Open Plan Area	1	45.1 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Interview Room	1	9.0 Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 1/s per person	10 1/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
D9	Medical Day Care Unit - 5 Beds	Reception: 2 staff	1	3.0 Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Office and Storage 2 staff	1	12.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Waiting Area	1	12.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Waiting Play Area	1	20.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		WC - Wheelchair accessible	1	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Touchdown Base	1	2.0 staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10 1/s per person	10 1/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Multi Bed Room: day care, 3 beds	1	40.5 Multi-bed Wards	B0405-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		WC - Wheelchair accessible	1	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Single Bedroom	2	17.0 Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
		En Suite WC / WHB	2	4.5 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Patient Treatment Lounge	1	32.4 Treatment Room	X1504	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Consult/Examination	1	15.5 Consulting Room	C0224	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Treatment Room	1	18.0 Treatment Room	X0105	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Parking Bay: 1 patient trolley/whch	1	5.0 Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Interview, Counselling & Quiet Room	1	9.0 Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 1/s per person	10 1/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		WC - Staff	1	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Pantry	1	8.0 Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Ward Management Office	1	9.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Resuscitation Trolley Bay	1	1.0 Resus Trolley bay	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Clean Utility	1	12.0 Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
		Dirty Utility	1	11.0 Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Store - General	1	8.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Linon Bay	1	1.5 Linon Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Disposal Hold	1	10.0 Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Physical Measurement	1	3.5 Consulting Room	C0522-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1		
D10	Ambulatory Care Shared Support	Staff Room	1	48.0 Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Reception Desk/Staff Base	1	3.0 Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Dining / Play Room	1	15.0 Eating/Drinking	D0608-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 1/s per person	10 1/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Single Bedroom	4	17.0 Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
		En-suite Shower / WC / WHB	4	4.5 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		4 Bed Room	2	63.0 Multi-bed Wards	B0405	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural and Central Supply Air	4	via ensuite	positive to ensuite	G4	43	41		100	5	300	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		En-suite Shower / WC / WHB	2	6.0 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Single Bedroom	2	17.0 Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
		En-suite wheelchair accessible WC, Shower & wash	2	4.5 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Bath / WC / Washing	1	14.0 Bathroom	V1736	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Treatment Room	1	16.0 Treatment Room	X0105	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Ward Management Office	1	9.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Touchdown Base	2	2.0 staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10 1/s per person	10 1/s per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Staff WC	1	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		WC - Visitors	1	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Clean Utility	1	12.0 Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
		Dirty Utility	1	14.0 Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Pantry	1	8.0 Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Resus Trolley Bay	1	1.0 Resus Trolley bay	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Linon Bay	1	1.5 Linon Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Store - General	1	10.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3														



RHSC / DCN Environmental Matrix

Dept	Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach)	Extract (ach)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenis	Medical Location	
		WC - Ambulant	1	7.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		DSR	1	7.0 DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
		Reception	1	6.0 Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Waiting Area	1	18.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Group Room	1	24.0 Meeting Room	H1107	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette-Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Control / Viewing	1	10.0 Diagnostic room	E0004-06	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
		Time Out Room	1	6.0 Common room/staff room/lounge	H1107-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Play Room	1	24.0 Common room/staff room/lounge	H1322-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Multi-Disciplinary Office	1	28.7 Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Sitting Room	1	15.0 Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Multi-Disciplinary Office	1	28.7 Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Group Room	1	24.0 Common room/staff room/lounge	H1107	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Sitting Room	1	15.0 Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Multi-Disciplinary Office	1	28.7 Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Single Bed Room	10	10.0 Bedroom	B0510	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
		Single Bed Room (large)	2	11.5 Bedroom	B0510	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
		En-suite wheelchair-accessible WC, Shower & wash	12	4.5 Bathroom	V1610	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Clinical Base - Open Plan Area	1	10.0 Reception	T0151	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		TV / Living Room - Open Plan Area	1	24.0 Common room/staff room/lounge	D1120-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Open Space	1	43.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Pantry	1	8.0 Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Quiet Room	1	12.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		WC - Staff	2	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Therapy Room	1	15.0 Consulting Room	X0813	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Group Room	1	24.0 Meeting Room	H1107	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette-Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Laundry Room	1	6.0 Laundry	Y0521	28	18	Adjacent Space Transfer Air	None	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative	G4	43	60		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Drug Room	1	6.0 Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
		Dirty Utility	1	6.0 Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	0	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Disposal Hold	1	10.0 Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Linen Bay	1	1.5 Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Treatment Room	1	16.0 Treatment Room	X0105	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Multi-disciplinary Office - Inpatients	1	28.7 Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Multi-disciplinary Office - ITS	1	24.6 Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Resuscitation Trolley Bay	1	1.0 Resus Trolley bay	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		500	n/a	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Consultant Psychiatrist / Psychologist	1	20.5 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Secretary/Waiting Office	1	18.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Storage (testing)	1	6.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Storage / Photocopy	1	10.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Physical Measurement	1	3.5 Consulting Room	C0522-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Large Family Interview Room	1	14.0 Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette-Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Family Interview Room	1	12.0 Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette-Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Interview Room	4	8.0 Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette-Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		WC - Wheelchair accessible	3	4.5 Toilet	Y0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Shower / WC / WHB assisted	1	6.0 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Dining Room (inpatients & Day Prog)	1	62.0 Eating/Drinking	D0608-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Pantry	1	8.0 Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Therapeutic Kitchen	1	22.0 Ward Kitchen	G0121	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette-Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60		500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
		Large Group Room	1	30.0 Meeting Room	H1107	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette-Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Therapy / Play Therapy Room	1	15.0 Common room/staff room/lounge	H0322-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Art Room	1	24.0 Classroom	H1313-03	25																						



RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach)	Extract (ach)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenis	Medical Location	
G3	On-Call Bedroom	3	10.0 Bedroom	D1311	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	DSR	1	7.0 DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	Mini Kitchen	1	3.6 Eating/Drinking	00008-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	En-suite Shower / WC / WHB	3	4.5 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
H1	Seminar / Tutorial Room	2	40.0 Classroom	H1313-03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Conference / Meeting Room	1	25.0 Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Lockers	1	12.0 Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Ambulant	4	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Accessible	2	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Waiting Area	1	10.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Admin Office	1	20.5 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Beverage Bay	1	3.0 Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes	n/a
	Head of Department	1	16 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Laboratory / Finance Manager's Office	1	11 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Student Records Store	1	12.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Senior Academic Staff	6	11 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	16 Person Office	1	80 Open Plan Office	M0132-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Meeting Room - 4 person	1	6.0 Meeting Room	H1313-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Stairway / Photocopying	1	6.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Tissue Culture Room	1	8.0 Laboratory	L0102-03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Freezer Store	1	6.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Physiological Laboratory	1	45.0 Laboratory	L0102-02	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	DSR	1	7.0 DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	Disposal Hold	1	10.0 Disposal Hold	Y0946	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
Molecular Biology Laboratory	1	45.0 Laboratory	L0102-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60		500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
H2	Waiting Play Area	1	9.5 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Reception	1	3.0 Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	DSR	1	7.0 DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	Clinical Study Room	1	63.0 Consulting Room	B0405-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	En Suite Shower / WC / WHB	1	6.0 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Single Bed Room	2	15.0 Bedroom	B0305-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	Isolation Bedroom Entrance Lobby	1	4.0 Isolation Lobby	G0510	25	18	Warm Air - Reheat Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	60	0	Positive	F7	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	En Suite Shower / WC / WHB	2	4.5 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC Accessible Patients	1	3.0 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Clean Utility	1	8.0 Clean Utility	T0101	28	18	Radiant Panels	TRV Remote Head Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
	Dirty Utility	1	6.0 Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Pantry	1	6.0 Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Linen Bay	1	1.5 Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Consult/Examination	1	15.5 Consulting Room	C0224	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Consult / Assessment	1	12.0 Consulting Room	C0224	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	WC Staff	1	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Disposal Hold	1	10.0 Disposal Hold	Y0946	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	Store - Equipment	1	24.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Sample Processing	1	15.0 Diagnostic room	L1804	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
	Office - 4 person	1	20 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
Seminar Room	1	40.0 Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Meeting Room	1	25.0 Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Scenario Room	1	20.0 Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Control Room	1	8.0 Diagnostic room	C0516	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1	
Workshop / Tutorial Room	3	20.0 Classroom	H0202-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Practice Based Educators Office	1	20 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Management / Admin Office	1	15 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract																	



RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach)	Extract (ach)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenium	Medical Location	
11	Computer Canteen	6	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	90	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Draught Lobby	1	Circulation Areas - Entrance Lobby	G0800-01	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Reception / Information Desk	1	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Waiting Area	1	Waiting Room	J1155	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Public Telephone Booth	1	Circulation Phone Booth	G0710	28	18	Radiant Panels	Remote Sensor Adj.	No	None	n/a	0	0	n/a	n/a	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Fire Control room	1	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Vending Machine	1	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	WC - Visitors	1	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Wheelchair accessible	1	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Assisted Change/Nappy Change	1	Nappy Change	V1131	25	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Dirty Extract	0	10	Negative	None	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	DSR	1	DSR	V1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
Security Office	1	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Wheelchair Bay	1	Circulation Areas	G0180-02	28	18	underfloor heating / none to suit location	BMS Adjustable Sensor	No	None	to suit location	to suit location	to suit location	to suit location	Balanced	G4	43	41		200	n/a	None	A	80	presence detection	Floor 0m	See Guidance Notes	n/a
12	DSR	1	DSR	V1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	Store - Beds	1	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Store - Toys	1	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
J1	Body Viewing Room	1	Body View	S0027-01	25	8	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Specialist Cooling	Central Supply and Extract	4	6	Negative	G4	43	n/a		300	n/a	None	A	80	Switch Dimmer	Floor 0m	See Guidance Notes	n/a
	Lobby	1	Circulation Areas - Entrance Lobby	G0800	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Sitting Room with Beverage Bay	1	Common room/staff room/lounge	D1120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	6	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
J2	WC - Wheelchair accessible	1	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Prayer / Meditation / Reflection Area	1	Common room/staff room/lounge	D0434-04	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Store	1	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC wheelchair accessible / Ritual Washing Area	1	Toilet	V0922-02	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Office	1	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Interview Room	1	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 1/2 per person	10 1/2 per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Waiting	1	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Meeting Rooms (family size)	2	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 1/2 per person	10 1/2 per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Drop-in Lounge / Beverage Bay	1	Common room/staff room/lounge	D1120-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Drop-in Multi-Purpose Room	1	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 1/2 per person	10 1/2 per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Complementary Therapy Room	1	Consulting Room	X0613	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
Interview Rooms	2	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 1/2 per person	10 1/2 per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Radio Lollipop Broadcasting Studio, Lobby	1	Circulation Areas	C0516-01	28	18	underfloor heating / none to suit location	BMS Adjustable Sensor	No	None	to suit location	to suit location	to suit location	to suit location	Balanced	G4	43	41		200	n/a	None	A	80	presence detection	Floor 0m	See Guidance Notes	n/a
K1	Office 1	1	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Office 2	1	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Office 3	1	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Office 4	1	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Office 5	1	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Office 6	1	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Beverage Bay	1	Tea Making	P0626	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		200	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	DSR	1	DSR	V1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	Store	1	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Store	1	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Staff	1	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
K2	Nappy Changing Room	1	Toilet	V1131	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Wheelchair accessible	2	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Wheelchair Bay	1	Circulation Equipment Storage Bays	G0180-02	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Reception/Waiting	1	Waiting Room	J0232-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Office - 1 person	1	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Lounge - non residents	1	Common room/staff room/lounge	D1120-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	WC - Female	1	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Male	1	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Wheelchair accessible	1	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Family Room accessible for 4 persons inc en-suite	2	Bedroom	D1311-01	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43											



RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach)	Extract (ach)	Relative pressure	Min filtration	Surface temp.	Water temp.	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenum	Medical Location
L1 DCN Acute Care - 24 Beds	WC - Wheelchair accessible	1	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Store	2	12.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Laundry	2	15.0 Laundry	Y0521	28	18	Adjacent Space Transfer Air	None	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative	G4	43	60	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	DSR	1	7.0 DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	Store	1	10.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	En-suite Shower / WC / WHB	26	6.0 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Storage - refuse	1	10.0 Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	Waiting Area, relatives	1	30.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Multi-Disciplinary Office / Reception	1	18.0 Multi-Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Refreshment / Vending Machine	1	3.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Visitor toilets, baby changing	2	4.5 Toilet	V1131	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC: Independent Wheelchair	1	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Interview/Relatives Quiet Room	1	9.0 Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Consulting/Examination Room	4	15.5 Consulting Room	C0224	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Patient Waiting	1	20.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Receiving/Resuscitation area	1	30.0 Resuscitation Bay	B1411	25	21	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	6	Positive	G4	43	41	500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
	Relatives Overnight Stay Room	1	10.0 Relatives Overnight Stay	D1311	28	20	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41	100	n/a	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
	Ensuite Accessible Shower/WC/WHB	1	6.0 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Single Bed Room	12	19.0 Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	Ensuite Shower/WC/WHB	12	4.5 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Single Bedroom (level 1)	12	19.0 Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	Shower Room-en-suite	12	4.5 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Touchdown Base	4	2.0 staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Ward Management Office	1	10.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
Multi-disciplinary Office	1	18.0 Multi-Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Staff Base	1	6.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Linen Bay	2	1.5 Linen Bay	W1594-01	28	18	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Resuscitation Trolley Bay	2	1.0 Resus Trolley bay	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a	500	n/a	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
Mobile X-Ray Bay	1	4.0 Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Pantry	1	8.0 Pantry	P0827	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	6	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
Interview/Relatives Quiet Room	1	9.0 Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Teaching Room	1	20.0 Classroom	H1313-03	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	41	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Host Bay	2	3.0 Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
Clean Utility	1	12.0 Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a	
Dirty Utility	2	14.0 Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
DSR	1	7.0 DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
Disposal Hold	2	10.0 Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
Storage Equipment	1	10.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Storage Consumables	1	18.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Storage Stationery	1	4.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Staff Room	1	9.0 Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	6	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
Ward Kitchen	1	12.0 Ward Kitchen	P0827-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60	500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a	
WC Staff	3	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
L2 DCN Inpatients 43 Beds	Reception	1	3.0 Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Waiting Area	1	16.5 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	WC: Semi Ambulant	2	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC: Independent Wheelchair	1	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Single Bedroom	41	19.0 Bedroom	B0305	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Natural & Central Supply Air	4	via ensuite	Balanced	G4	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	Single Isolation Bedroom	2	19.0 Isolation Bedroom	B0306-??	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Supply via lobby	10	0	Balanced	F7	43	41	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
	Isolation Bedroom Entrance Lobby	2	4.0 Isolation Lobby	G0510-02	25	18	Warm Air - Reheat Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply	60	0	Positive	F7	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Shower Room-en-suite	43	4.5 Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Assisted Bathroom	1	14.0 Bathroom	V1726	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Treatment Room	1	18.0 Treatment Room	X0105	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
	Ward Management Office	2	9.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels</																			



RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (achr)	Extract (achr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenis	Medical Location	
M1	Pastry	2	8.0	Pantry	P0627	28	16	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Mobile X-Ray Bay	1	4.0	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Resuscitation Trolley Bay	2	1.0	Resus Trolley bay	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a	500	n/a	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
	Hoist Bay	5	3.0	Circulation Equipment Storage Bays	G0180-03	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Store	2	12.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Linen Bay	2	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Clean Utility	2	12.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a
	Dirty Utility	3	14.0	Dirty utility	V0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	DSR	2	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	Disposal Hold	2	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	Ward Kitchen	2	16.0	Ward Kitchen	P0627-01	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	n/a	60	500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a
	WC - Staff	4	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Enquiry / Information Desk: 2 staff	1	8.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Medical Records Store	1	6.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Main Waiting	1	59.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
Public Telephone Booth	1	1.5	Circulation Phone Booth	G0710	28	18	Radiant Panels	Remote Sensor Adj.	No	None	n/a	0	0	n/a	n/a	n/a	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Public Telephone: Single Booth, Accessible	1	2.0	Circulation Phone Booth	G0712	28	18	Radiant Panels	Remote Sensor Adj.	No	None	n/a	0	0	n/a	n/a	n/a	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
WC Fully Accessible Changing Room	1	7.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Refreshment: Vending Machine	1	3.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
Nurse Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10's/per person	10's/per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Physical Measurement	1	3.5	Consulting Room	C0522-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
Consult/Examination	15.5	15.5	Consulting Room	C0224	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
Consult/Multi-Disciplinary	2	24.0	Consulting Room	C0207-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
Treatment Room (with prep area)	1	16.0	Treatment Room	X0105-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
Phlebotomy Room	1	8.0	Consulting Room	C0224-??	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
Store - Equipment / General	1	6.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Sub Waiting Area	1	16.5	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
Nurse Base	1	2.0	staff base	T0151	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central Supply and Extract	10's/per person	10's/per person	Balanced	G4	n/a	n/a	200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
WC - Wheelchair accessible	1	4.5	Consulting Room	V0922	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
Physical Measurement	1	3.5	Consulting Room	C0522-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
Consult/Examination	4	15.5	Consulting Room	C0224	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1	
Multi-Disciplinary Office	1	26.0	Multi Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Clean Utility	1	8.0	Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a	
Dirty Utility - urine test	1	11.0	Dirty utility	V0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Patient Interview Room	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 1's per person	10 1's per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Outpatients Management Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Staff Room	1	12.0	Common room/Staff room/lounge	D0606-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
WC - Staff	2	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Store: Clinical Supplies, Equipment & Stationery	1	15.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Linen Bay	1	1.5	Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
DSR	1	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
M2	Waiting	1	18.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Staff Lockers	1	4.5	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Reception	1	8.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	ADL Kitchen	1	22.0	Pantry	G0120	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	ADL Bathroom, Shower, WC with hoists	1	13.0	Toilet	V1736-01	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Physio Treatment Room	1	16.0	Physiotherapy Studio	X0105-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	6	Negative	G4	43	41	300	n/a	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	n/a
	Multi-Purpose Rehabilitation Room	1	80.0	Physiotherapy Studio	X0318	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	6	Negative	G4	43	41	300	n/a	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	n/a
	Consult/Examination	1	15.5	Consulting Room	C0224	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Detraction Free Treatment Room	2	15.0	Treatment Room	X0105	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
	Store: General/Equipment	1	25.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection			



RHSC / DCN Environmental Matrix

Dept	Programme	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach/hr)	Extract (ach/hr)	Relative pressure	Min filtration	Surface temp.	Water temp.	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Floors	Medical Location		
M3	Investigations Unit	Treatment Area	1	45.0	Treatment Room	X0111	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Treatment Room	1	16.0	Treatment Room	X0105	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
M4	DCN Neurophysiology	Waiting Area (DCN)	1	15.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		WC - wheelchair access ble (DCN)	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		EEG Recording Room	3	16.0	Diagnostic room	X0125	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
		EMG/Nerve Conduction Room	3	16.0	Diagnostic room	X0136	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
		VTEM/Ambulatory Review Room	1	20.0	Diagnostic room	M0251	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
		Reporting Room	1	20.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		HOD Office	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Clinical Physiologist Room	1	24.6	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Secretarial Office	1	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Quiet Room	1	10.0	Common room/staff room/lounge	H1107-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
N1	DCN Entrance	Store / Records	1	32.5	Storage Area Equipment	W1585-77	28	18	Radiant Panels	Remote Sensor Adj.	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		WC - Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Reception / Information Desk	1	6.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Draught Lobby	1	9.0	Circulation Areas - Entrance Lobby	G0800-01	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	to suit location	to suit location	Balanced	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Waiting Area	1	8.0	Waiting Room	J1155	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Vending Machine	1	3.0	Circulation Areas	P0808	28	18	underfloor heating / none to suit location	BMS Adjustable Sensor	No	None	to suit location	to suit location	Balanced	G4	43	41		200	n/a	None	A	80	presence detection	Floor 0m	See Guidance Notes	n/a	
		WC - Visitors	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Wheelchair Bay	1	6.0	Circulation Equipment Storage Bays	G0180-02	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		WC - Wheelchair accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		N2	DCN Wards / Health Records Support - (N2)	Staff Room	1	34.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m
Disposal Hold (small)	1			4.0	Disposal Hold	V0846	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
N3	DCN Wards / Health Records Support - (N3)	Staff Reception / Office / Control Base	1	20.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Reception	1	8.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Multi-Disciplinary Office	1	18.0	Multi-Disciplinary Work Areas	M0254	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Main Waiting/Play Area	1	50.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		WC - Wheelchair accessible	3	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Single Rooms ensuite	3	15.0	Bathroom	V1643	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		En Suite WC / WHB	3	4.5	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Changing Cubicles	3	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Locker Bay	1	13.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Interview Rooms	2	12.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Consult/Examination	2	15.5	Consulting Room	C0224	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Physical Measurement Bay	1	3.5	Consulting Room	C0522-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Reception, administration office & communication base: 4 staff	1	24.0	Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Duty Room: 2 porters	1	5.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Admissions Lounge	1	36.0	Common room/staff room/lounge	D2155	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		WC & handwash: accessible, wheelchair assisted	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Consulting, examination & changing room	3	15.5	Consulting Room	C0224	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Interview, counselling & quiet room: 5 persons	1	9.0	Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Changing Cubicle	1	4.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		WC & handwash: accessible, wheelchair assisted	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Immediate Pre Theatre Wait	1	50.0	Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a		
WC - Wheelchair accessible	3	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a		
N4	DCN Theatre Suite	Anaesthetic Room	8	19.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Anaesthetic room: emergency operators	1	29.0	Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Operating Theatre	9	55.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
		Minor Procedures Room	1	19.0	Operating Theatre Suite	N0106-01	25	18	warm air via AHU Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a



RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (achr)	Extract (achr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenis	Medical Location		
P1 Operating Theatres & RHSC Surgical Day Case Unit	MRI Room	1	45.0 Diagnostic room	E0801.02	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1	
	Control Room - MRI	1	16.0 Cellar / Ward Offices	E0004.03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Equipment Room - MRI	1	16.0 Storage Area Equipment	E0311	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Trolley Bay	2	4.0 Circulation Equipment Storage Bays	J1264	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Sub-Wall Area	1	4.5 Waiting Room	J0132-02	28	16	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
	WC Accessible	1	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Preparation Room	1	14.0 Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Local BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
	Anaesthetic Room	1	19.0 Operating Theatre Suite	N0305	25	18	warm air via AHU Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
	Angiography Procedures Room	1	55.0 Operating Theatre Suite	E0311	25	18	warm air via AHU Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
	Angiography Procedures Control Room	1	16.0 Operating Theatre Suite	X0216	25	18	warm air via AHU Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
	Angiography Procedures Machine Room	1	16.0 Operating Theatre Suite	E0311	25	18	warm air via AHU Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
	Preparation Room	1	12.0 Operating Theatre Suite	T0526	25	18	warm air via AHU Battery	Local / BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	41		500	n/a	10,000 - 100,000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
	Sterile Supplies Store	1	12.0 Clean Utility	T0101	28	16	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a	
	X-Ray/Ultrasound Bay	1	4.0 Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Image Intensifier Bay	3	4.0 Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Satellite Pharmacy Store	1	6.0 Clean Utility	T0526-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a	
	Sterile Supplies Store	1	94.0 Clean Utility	T0526-2	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a	
	Clinical Equipment Store	1	60.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Clinical Equipment Store	1	30.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Linens Bay	2	1.5 Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Linens Bay	1	1.5 Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Dirty Scopes Store	1	6.0 Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Decontaminated Scopes Store	1	8.0 Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Medical Gas Cylinder Store	1	4.0 Storage Area Med Gas	W1585-??	28	16	Frost protection Room Thermostat	None	No	None	Natural ventilation	0	0	n/a	None	n/a	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	DSR	2	7.0 DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	0	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Disposal Hold	1	15.0 Disposal Hold	Y0946	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Disposal Hold	1	10.0 Disposal Hold	Y0640	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Store - Pilester	1	6.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	TRV Remote Head Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Resuscitation Trolley Bay	1	1.0 Resus Trolley bay	G0180-01	28	18	Adjacent Space Transfer Air	None	No	None	None	0	0	n/a	None	43	n/a		500	n/a	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a	
	Parking bay fibre optic bronchoscope light source trolley DCN	1	1.0 Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Trolley Holding Bay Clean	1	12.0 Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	IPS Room	1	1.5 IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	IPS Room	1	1.8 IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central Supply and Extract	0	3	Negative	None	43	n/a		0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Trolley Holding Bay Dirty	2	6.0 Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Laser Printer / CR Room DCN	1	16.0 Cellar / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Post Anaesthetic Recovery	1	145.8 Recovery Bay / Recovery Room	B2417	28	20	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a	
	Recovery Staff Base	1	12.0 Cellar / Ward Offices	M0254	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Recovery Clean Utility	1	12.0 Clean Utility	T0101	28	16	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a	
	Recovery Dirty Utility	1	14.0 Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	SDCU Dispensary	1	8.0 Clean Utility	T0526-2	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a	
	SDCU Recovery	1	110.0 Recovery Bay / Recovery Room	B2517	28	20	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a	
	SDCU Discharge Lounge	1	40.0 Common room/staff room/lounge	D1135	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
	Pantry (DCU)	1	8.0 Pantry	P0627	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
	SDCU Post Op Staff Base/Utility	1	10.0 staff base	T0151-??	28	18	Radiant Panels	Remote Sensor Adj	No	None	Central Supply and Extract	10lx/per person	10lx/per person	Balanced	G4	n/a	n/a		200/300	n/a	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Wheelchair Parking Bay	1	1.5 Circulation Equipment Storage Bays	G0180-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Interview Room - DCU	2	9.0 Meeting Room	M0724	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 lx per person	10 lx per person	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Charge Nurse Office	1	6.0 Cellar / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	WC - Patients	1	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	WC - Wheelchair accessible	1	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Recovery bay, post anaesthetic, 1 place	6	13.5 Recovery Bay / Recovery Room	B2417-01	28	20	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a	
Recovery room: post anaesthetic, 1 place	2	26.0 Recovery Bay / Recovery Room	B2417-01	28	20	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41		500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a		
Staff and communication base, enclosed 3 staff																												



RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (achr)	Extract (achr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenis	Medical Location
	Dictation / 1 iPhone Booth	4	4.2 Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Office Senior Nurse Theatres	1	8.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Office Staff	1	18.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Charge Nurse Office	1	9.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	WC-Staff	2	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Male Staff Changing and Lockers	1	60.0 Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Female Staff Changing and Lockers	1	70.0 Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Footwear Machine Washing Area	1	4.0 Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	General X-Ray Room	2	33.0 Diagnostic room	E0128	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
	Changing Cubicles	5	4.0 Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Screening Room (fluoroscopy)	1	39.0 Diagnostic room	E0218-01	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
	Preparation Room	1	10.0 Consulting Room	T0526-2	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Ultrasound Room	2	16.0 Diagnostic room	E0115	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
	Dental Room	1	20.0 Consulting Room	E0135	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Main Reporting	1	25.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Acute Reporting	1	10.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	MRI Reporting	1	10.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Processing Area	1	30.0 Diagnostic room	M0251	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
	Gamma Camera	2	40.0 Diagnostic room	E0176	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41	300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
	Gamma Camera Control Area	1	17.0 Consulting Room	E0004-04	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Radioactive Waste Store	1	2.0 Storage Area Equipment	W1505-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC Ambient (Hot)	2	4.5 Toilet	V0922-03	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Injection Room	2	8.0 Consulting Room	E0715	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Preparation Room	1	14.0 Consulting Room	T0526-2	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Hot Waiting Area	2	10.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Cold Waiting Area	2	10.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Stress Room (myocardial work)	1	14.0 Consulting Room	C0224-04	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Changing Cubicles	2	4.0 Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Counting Laboratory	1	14.0 Laboratory	L1804	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60	500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Beverage Bay	1	3.0 Tea Making	P0825	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41	200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes	n/a
	Admin Office	1	10.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	WC Ambient (Cold)	1	4.5 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Recovery Area	1	15.0 Recovery Bay / Recovery Room	C0522-04	28	20	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15	15	Balanced	G4	43	41	500	n/a	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	n/a
	Gamma Camera Reporting	1	10.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Medical Physics Office	1	10.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Emergency Shower	1	2.5 Bathroom	V1643-01	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Reception Area	1	8.0 Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Admin Office	1	30 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Waiting Area - Main Dept	1	50.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Baby Infant / Feeding Room	1	4.0 Baby Feeding	S0012	25	18	Radiant Panels	Remote Sensor Adj	No	None	Central Supply Air	5	0	Positive	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Nappy Change Room with handwash	1	4.0 Toilet	V1131	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Wheelchair accessible	2	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Resuscitation Trolley Bay	1	1.0 Circulation Equipment Storage Bays	G0180-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Reception	1	8.0 Reception	J0132-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Admin Office	1	28.7 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Waiting Area	1	35.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	WC - Patients	1	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Wheelchair accessible	1	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Acute Reporting	1	25.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Quiet Reporting	1	20.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Tele-radiology Reporting	1	12.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Doppler Ultrasound	1	16.0 Diagnostic room	E0113	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41									



## RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (achr)	Extract (achr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenis	Medical Location	
Q1	Store Room	1	20.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Disposal Hold	2	10.0 Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	DSR	1	7.0 DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	IPS Room	1	1.0 IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Linen Bay	2	1.5 Linen Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Photocopy Room	1	6 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	MRI Room	1	45.0 Diagnostic room	E0801	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
	Control Room - CT/MRI	1	24.0 Cellular / Ward Offices	E0604-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Equipment Room - MRI	1	16.0 IT equipment (comms server)	E0311	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	CT Room	1	36.0 Diagnostic room	E0801-01	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
	WC - Wheelchair accessible	1	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Changing Cubicles	2	4.0 Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Baby Infant / Feeding Room	1	4.0 Baby Feeding	S0012	25	18	Radiant Panels	Remote Sensor Adj	No	None	Central Supply Air	5	0	Positive	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Induction Area - 1 place	1	16.0 Treatment Room	X0145-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
	Recovery Area - 1 place	1	16.0 Treatment Room	B2417-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
	Waiting Area	1	12.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Trolley Bay	2	4.0 Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Adult Waiting Area	1	8.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	WC - Wheelchair accessible & change	1	7.0 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Wheelchair accessible	1	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	CT Room	1	36.0 Diagnostic room	E0801	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
	Control Room - CT	1	16.0 Cellular / Ward Offices	E0604-02	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Preparation Room	1	14.0 Consulting Room	T0526-??	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Injection Room	1	12.0 Treatment Room	E0715	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	n/a	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	n/a
	Changing Cubicles	2	4.0 Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Inpatient Holding Bays	1	43.2 Circulation Equipment Storage Bays	J0132-02	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Toilets	1	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Disabled Toilet	1	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	MRI Room	2	45.0 Diagnostic room	E0801-01	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
	Control Room - MRI	1	24.0 Cellular / Ward Offices	E0604-03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Equipment Room	2	16.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Preparation Room	1	14.0 Consulting Room	T0526-??	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Injection Room	1	12.0 Consulting Room	E0715	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	n/a	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
	Sub Wat	1	6.0 Waiting Room	J0132-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	Changing Cubicles	6	4.0 Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Recovery Bays	1	8.0 Circulation Equipment Storage Bays	B2417-01	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Toilets	1	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Disabled Toilet	1	4.5 Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	MRI Room	1	45.0 Diagnostic room	E0801-01	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	to suit location	to suit location	Balanced	F7	43	41		300	n/a	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
	Control Room - MRI	1	24.0 Cellular / Ward Offices	E0604-03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Equipment Room	1	16.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Equipment Store	1	6.0 Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	University Staff Office	1	10.0 Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a		300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Store Room	1	20.0 Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	DSR	1	7.0 DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60		100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	Dirty Utility	1	9.0 Dirty Utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	IPS Room	1	3.0 IPS Room	Engineering	Manufacturer Dependant	Manufacturer Dependant	None	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	0	n/a	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Clean Utility	1	10.0 Clean Utility	T0101	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41		150	n/a	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	n/a	
Staff WC	1	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Male Staff Changing and Lockers	1	27.0 Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Female Staff Changing and Lockers	1	65.0 Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41		100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Staff WC	2	3.0 Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Resource Room / Library	1	30.0 Open Plan Office	H1313-03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43												



RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (achr)	Extract (achr)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenium	Medical Location	
R1	Superintendent/PACS Manager/Radiographers/Nursing Office	1	28.7	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Meeting Room - 6 person	1	9.0	Meeting Room	H1313-02	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Meeting Room - 4 person	2	6.0	Meeting Room	H1313-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	2nd Floor Desks	1	233.7	Open Plan Office	M0132-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	2nd Floor Desks	1	143.5	Open Plan Office	M0132-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	2nd Floor Desks	1	160.4	Open Plan Office	M0132-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	2nd Floor Desks	1	221.4	Open Plan Office	M0132-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	2nd Floor Desks	1	89.7	Open Plan Office	M0132-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	2nd Floor Desks	1	147.6	Open Plan Office	M0132-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	2nd Floor Desks	1	180.4	Open Plan Office	M0132-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Meeting Room - 4 person	7	6.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Meeting Room - 6 person	2	9.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Dictation / 1 iPhone Booth	18	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	WC - Wheelchair Accessible	2	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Staff (Male)	1	17.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Staff (Male)	1	11.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Staff (Female)	1	18.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	WC - Staff (Female)	1	21.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Store Clinical	1	24.0	Storage Area/ Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41	200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes	n/a
	Printer/Photocopier Room	1	16.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Staff Room	1	12.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
	DSR	2	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	60	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	Disposal Hold (small)	1	4.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	4th Floor Desks	1	213.0	Open Plan Office	M0132-02	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Meeting Room - 4 person	1	6.0	Meeting Room	H1313-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Meeting Room - 6 person	1	4.0	Meeting Room	H1313-02	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Dictation / 1 iPhone Booth	2	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Management Conference Room	2	26.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 l/s per person	10 l/s per person	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	WC - Wheelchair Accessible	1	4.5	Toilet	V0922	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
WC - Staff (Male)	1	8.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
WC - Staff (Female)	1	11.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
Store Management	1	6.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Store Management	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Beverage Bay	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41	200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes	n/a	
Printer/Photocopier Room	1	6.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
Staff Room	2	6.0	Common room/staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
DSR	1	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	60	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
Disposal Hold (small)	1	4.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a	
R2	Receipt / Dispatch Counter	1	6.0	Reception	H0132-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	Trolley Area	1	6.0	Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	RHSC Office	1	15.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	RHSC & DCN Records Library (180,000 records)	1	388.0	Storage Area/ Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Assistant Health Records Manager / Supervisors	1	12.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
	WC Staff	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
RHSC / DCN Office 17 Person	3	3.0	Open Plan Office	M0132-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
S1	Receipt Bay	1	3.0	Circulation Areas	eds	28	18	underfloor heating / none to suit location	BMS Adjustable Sensor	No	None	to suit location	to suit location	to suit location	Balanced	G4	43	41	200	n/a	None	A	80	presence detection	Floor 0m	See Guidance Notes	n/a
	Dry Goods	1	9.0	Storage Area/ Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Kitchen Equipment	1	6.0	Storage Area/ Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Refuse	1	10.0	Storage Area/ Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
	Disposables / Detergent	1	6.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	60	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
	Veg Store	1</																									



RHSC / DCN Environmental Matrix

Dept	Room Name	Qty	Room Function	ADB Code	Temp (max)	Temp (min)	Heating Type	Heating Control	Cooling (present)	Cooling (type)	Ventilation (type)	Supply (ach)	Extract (ach)	Relative pressure	Min filtration	Surface temp	Water temp	Safety Notes	Normal lux	Night lux	Local lux	Standby grade	Colour render	Control	Plenis	Medical Location		
	Temperature Controlled Sandwich Prep	1	18.0	CDS	eds	12	10	None	None	Yes	Ceiling Cassette - Chilled Water	General Supply and Extract	4	4	Balanced	G4	43	41	500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a	
	Weighing	1	7.0	CDS	eds	28	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	DWT/2 Dependant	DW/172 Dependant	Negative	G4	43	60	300	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a	
	Clean Trolleys Park	1	21.5	CDS	eds	28	18	Adjacent Space Transfer Air	None	No	None	General Supply and Extract	1	2	Negative	None	n/a	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Bakery Preparation	1	13.0	CDS	eds	12	10	None	None	Yes	Ceiling Cassette - Chilled Water	General Supply and Extract	4	4	Balanced	G4	43	41	500	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a	
	Returned Trolleys	1	25.0	CDS	eds	28	18	Adjacent Space Transfer Air	None	No	None	General Supply and Extract	1	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Trolley Wash Area	1	6.0	CDS	eds	28	18	Adjacent Space Transfer Air	None	No	None	General Supply and Extract	2	3	Negative	None	43	41	300	n/a	None	A	80	Switch	General working plane 1m	See Guidance Notes	n/a	
	Office 5 person	1	20.5	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a	
	Female Staff Changing inc Shower	1	13.0	Changing Facilities	V0554	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	Male Staff Changing inc Shower	1	10.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a	
	DSR	1	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	60	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a	
82	Health Infrastructure	Core Server Room	1	40.0	IT equipment (comms server)	Engineering	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	90	Switch	Floor 0m	See Guidance Notes	n/a
93	Domestic Services	Domestic Service Office	1	20.5	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Doctors 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	M0251-01	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Sanitary Bins Store	1	6.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Bulk Equipment Store	1	10.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Supplies Store	1	20.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Linon Pool (Clean)	1	32.0	Linon Bay	W1594-01	28	16	Adjacent Space Transfer Air	None	No	None	Central Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
94	Materials Management	Linon Pool (Dirty)	1	32.0	Dirty utility	Y0431	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Storage/Holding Area	1	100.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Porters Office	1	10.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Office	1	3.0	Tea Making	P0625	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41	200	n/a	None	A	80	switch	Floor 0m	See Guidance Notes	n/a
95	Central Staff Changing	Mealroom	1	20.0	Cellular / Ward Offices	M0251	25	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	4	Balanced	G4	43	n/a	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Female Staff Changing, Shower, WC & Lockers	1	240.0	Changing Facilities	V0554	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Male Staff Changing, Shower, WC & Lockers	1	100.0	Changing Facilities	V0554-01	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Bay for Token Machine	1	5.0	Circulation Equipment Storage Bays	P0888	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		DSR	1	7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	60	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
96	Estates	Workshop (NPD)	1	45.0	Small Workshop	R0421	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Workshop (NHSL)	1	30.0	Small Workshop	R0421	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	6	Negative	G4	43	41	300	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Store	1	30.0	Storage Area Equipment	W1585	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Staff Room (4th floor)	1	12.0	Common room/Staff room/lounge	D0608-03	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		BMS Room	1	10.0	IT equipment (comms server)	q0887	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
		Staff Change	1	15.0	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Staff WC	1	3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Shower	2	2.5	Bathroom	V1043	28	20	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		97	Restaurant	Restaurant	1	157.0	Eating/Drinking	D0608-02	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10 1/s per person	10 1/s per person	Balanced	G4	43	41	300	n/a	None	A	80	Switch	Floor 0m
Storage/Dishwashing	1			25.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
Male WC	2			3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
DSR	1			7.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	60	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
Female WC	2			3.0	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
98	Sterile Support Store			Trolley Holding Bay	1	23	Circulation Equipment Storage Bays	J1624	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m
		RFFS Changing / Support	1	29	Changing Facilities	V0726	28	18	Radiant Panels	Remote Sensor Adj	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	positive to wc	G4	43	41	100	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Bed Bay	1	34	Circulation Equipment Storage Bays	G0180-06	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		WC Ambulant	1	3	Toilet	V1010	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
99	Helped Support	RFFS Medical Equipment Store	1	6	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
		IT Node Rooms	25	9.0	IT equipment (comms server)	q0887	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	n/a	n/a	300	n/a	None	A	80	Switch	Floor 0m	See Guidance Notes	n/a
U1	Labs	Main Lab	1	120.0	Laboratory	L1804	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60	500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Utility Area Wash Up	1	12.0	Laboratory	L1804	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60	500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		Temp Controlled Store	1	15.2	Laboratory	L1804	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	6	6	Balanced	F7	43	60	500	n/a	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	n/a
		DSR	1	8.0	DSR	Y1510	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	60	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
		Record Store	1	15.0	Storage Area Equipment	W1585-??	28	16	Radiant Panels	Remote Sensor Adj	No	None	Central General Extract	0	3	Negative	None	43	n/a	200	n/a	None	A	80	Presence detection	Floor 0m	See Guidance Notes	n/a
		Disposal Hold	1	10.0	Disposal Hold	Y0646	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	n/a	100	n/a	None	A	90	Presence detection	Floor 0m	See Guidance Notes	n/a
		Meeting/Staff	1	16.0	Meeting Room	H1313-03	25	18	Radiant Panels	Remote Sensor Adj	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10 1/s per person	10 1/s per person	Balanced	G4	43	n/a	300</								

Disposition of comments on  
**September 2010 consultation draft of**  
 Scottish Health Technical Memorandum 03-01- Ventilation for healthcare premises: Part A Design and  
 Validation

*Consultation period expires 22<sup>nd</sup> October 2010*

Name:

Date:

<sup>1</sup>T= Technical; G= General; E=Editorial

Paragraph No.	Page	Type <sup>1</sup>	Comment

Comments on consultation SHTM 03-01 Part A





**Scottish Health Technical Memorandum  
03-01**

Ventilation for healthcare premises  
Part A – Design and validation

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Draft for consultation



## Preface

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### About Scottish Health Technical Memoranda

Engineering Scottish Health Technical Memoranda (SHTMs) give comprehensive advice and guidance on the design, installation and operation of specialised building and engineering technology used in the delivery of healthcare.

The focus of Scottish Health Technical Memorandum guidance remains on healthcare-specific elements of standards, policies and up-to-date established best practice. They are applicable to new and existing sites, and are for use at various stages during the whole building lifecycle.

Healthcare providers have a duty of care to ensure that appropriate engineering governance arrangements are in place and are managed effectively. The Engineering Scottish Health Technical Memorandum series provides best practice engineering standards and policy to enable management of this duty of care.

It is not the intention within this suite of documents to repeat unnecessarily international or European standards, industry standards or UK Government legislation. Where appropriate, these will be referenced.

Healthcare-specific technical engineering guidance is a vital tool in the safe and efficient operation of healthcare facilities. Scottish Health Technical Memorandum guidance is the main source of specific healthcare-related guidance for estates and facilities professionals.

The core suite of eight subject areas provides access to guidance which:

- is more streamlined and accessible;
- encapsulates the latest standards and best practice in healthcare engineering;
- provides a structured reference for healthcare engineering.

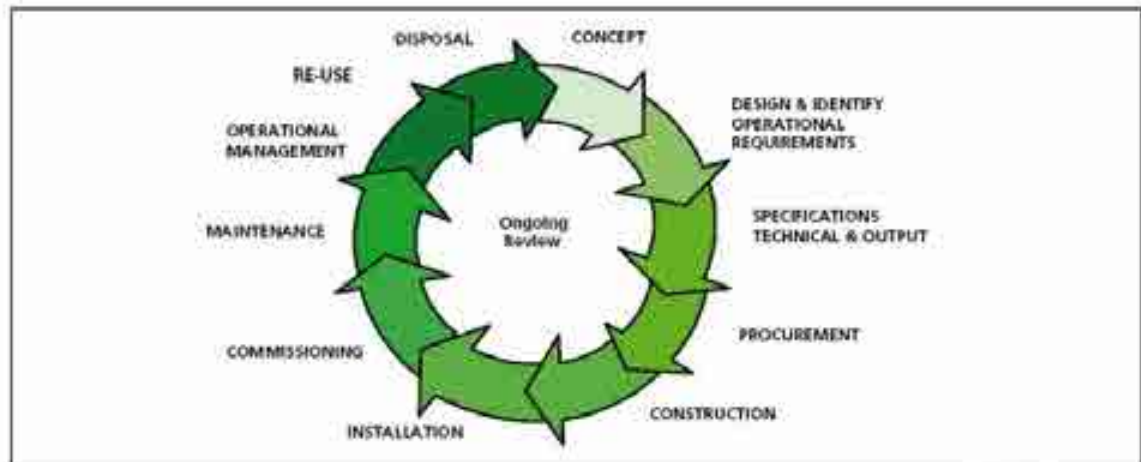


Figure 1: Healthcare building lifecycle

## Structure of the Scottish Health Technical Memorandum suite

The series of engineering-specific guidance contains a suite of eight core subjects:

Scottish Health Technical Memorandum 00 - Policies and principles (applicable to all Scottish Health Technical Memoranda in this series).

Scottish Health Technical Memorandum 01 - Decontamination.

Scottish Health Technical Memorandum 02 - Medical gases.

Scottish Health Technical Memorandum 03 - Heating and ventilation systems.

Scottish Health Technical Memorandum 04 - Water systems.

Scottish Health Technical Memorandum 05 - Reserved for future use.

Scottish Health Technical Memorandum 06 - Electrical services.

Scottish Health Technical Memorandum 07 - Environment and sustainability.

Scottish Health Technical Memorandum 08 - Specialist services.

Some subject areas may be further developed into topics shown as -01, -02 etc and further referenced into Parts A, B etc.

Example: Scottish Health Technical Memorandum 06-02 Part A will represent: Electrical Services – Electrical safety guidance for low voltage systems.

In a similar way Scottish Health Technical Memorandum 07-02 will simply represent:

Environment and Sustainability – EnCO<sub>2</sub>de.



All Scottish Health Technical Memoranda are supported by the initial document Scottish Health Technical Memorandum 00 which embraces the management and operational policies from previous documents and explores risk management issues.

Some variation in style and structure is reflected by the topic and approach of the different review working groups.

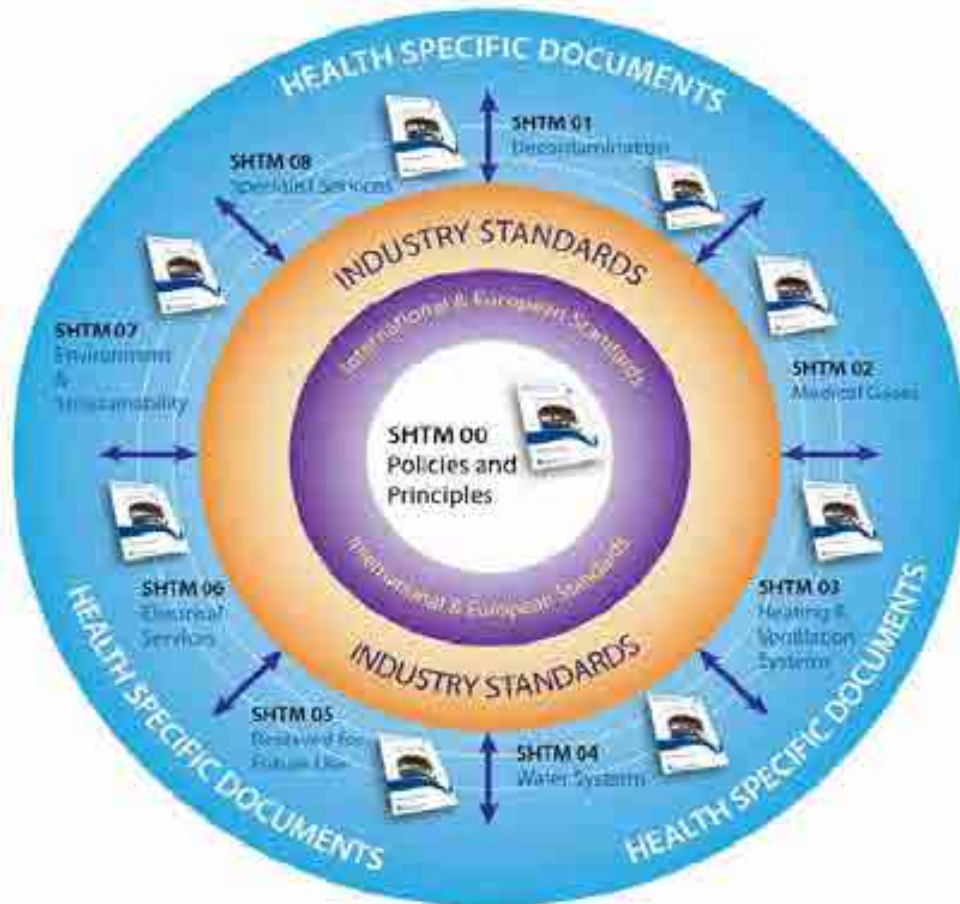


Figure 2: Engineering guidance

## 1. Introduction

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- 1.1 Ventilation is used extensively in healthcare premises for primary patient treatment in operating departments, high dependency units and isolation facilities. It is also installed to ensure compliance with quality assurance of processed items in pharmacy and sterile supply departments and to protect staff from harmful organisms and toxic substances, for example, in laboratories.
- 1.2 This edition of Scottish Health Technical Memorandum 03 'Ventilation in healthcare premises' is published in two sections. It is equally applicable to both new and existing sites. It gives comprehensive advice and guidance to healthcare management, design engineers, estate managers and operations managers on the legal requirements, design implications, maintenance and operation of general and specialised ventilation in all types of healthcare premises.
- 1.3 Current statutory legislation requires both 'management' and 'staff' to be aware of their collective responsibility.
- 1.4 'Ventilation' is also provided in healthcare premises for the comfort of the occupants of buildings. More specialised ventilation will also provide comfort but its prime function will be to control closely the environment and air movement of the space that it serves in order to contain, control and reduce hazards to patients and staff from airborne contaminants, dust and harmful micro-organisms.
- 1.5 Ventilation systems in themselves present little danger to patients or staff. However, they do possess the ability to transmit hazards arising from other sources to large numbers of people. The danger may not become apparent until many patients and staff have been affected.
- 1.6 The sophistication of ventilation systems in healthcare premises is increasing. Patients and staff have a right to expect that it will be designed, installed, operated and maintained to standards that will enable it to fulfil its desired functions reliably and safely.
- 1.7 The Health and Safety at Work etc Act 1974 (HSW Act 1974) is the core legislation that applies to ventilation installations. As these installations are intended to prevent contamination, control closely the environment, dilute contaminants or contain hazards. Their very presence indicates that risks to health have been

### Statutory requirements

- 1.8 The Control of Substances Hazardous to Health (COSHH) regulations place upon management an obligation to ensure that suitable measures are in place to protect their staff and others affected by the work activity. These methods may include both safe systems of work and the provision of a specialised



ventilation system. In laboratories the requirements are often met by the provision of fume cupboards and safety cabinets.

- 1.9 The existing requirements to provide ventilation, implicit under HSW Act 1974 and COSHH, have been made explicit by the Management of Health and Safety at Work Regulations 1999, the Workplace (Health, Safety and Welfare) Regulations 1992 and the Provision and Use of Work Equipment Regulations 1998, all issued as a result of European Directives.
- 1.10 Where specialised ventilation plant is provided as part of the protection measures there is a statutory requirement that it be correctly designed, installed, commissioned, operated and maintained. The local exhaust ventilation (LEV) section of the COSHH regulations requires that the plant be inspected and tested at least every 14 months by an independent organisation and that management maintain comprehensive records of its performance, repair and maintenance.
- 1.11 Certain substances have Occupational Exposure Limits (OEL) set out in Guidance Note EH 40 published annually by the Health and Safety Executive. If special ventilation systems are provided in order to achieve these standards they will be subject to the COSHH regulations as above.
- 1.12 All ventilation systems should conform to the principles set out in the 'Approved Code of Practice on the Prevention or Control of Legionellosis' published by the Health and Safety Commission and Scottish Health Technical Memorandum SHTM 04-01 – The control of *Legionella*, hygiene, "safe" hot water, cold water and drinking water systems.
- 1.13 Special ventilation plants installed in laboratories dealing with research, development or testing, whether involving drugs, animals or genetically modified organisms, may be subject to particular legislation with regard to their operation in addition to that mentioned above. Further information is given by the Health and Safety Commission Health Services Advisory Committee in:
- safe working and prevention of infection in clinical laboratories;
  - safe working and prevention of infection in clinical laboratories: model rules for staff and visitors;
  - safe working and prevention of infection in clinical laboratories in the mortuary and post-mortem room.
- 1.14 Plants installed in units manufacturing medicinal products to the standards set out in the current European Guide to Good Manufacturing Practice may also be subject to particular legislation with regard to their operation in addition to that mentioned above.
- 1.15 Records should be kept of equipment design and commissioning information. The Health and Safety Executive, Medicines Inspectorate and other interested bodies have a statutory right to inspect them at any time. All records should be kept for at least five years.



- 1.16 The fire regulations require that if ventilation ductwork penetrates the fabric of a building it should be designed and installed so as to contain the spread of fire.
- 1.17 Increased health risks to patients will occur if the more specialised ventilation systems installed to supply high quality air to operating departments do not achieve and maintain the required standards. The link between post-operative infection and theatre air quality has been well established. Plants serving conventional operating departments, for instance, will be required to ensure the separation of areas within the suite by maintaining a specific direction of air flow between rooms, even when doors are opened. They will also maintain the selected operating department environmental conditions regardless of changes in the outside air conditions or activities within the space. In addition ultra-clean operating ventilation systems that are designed to provide an effectively particle-free zone around the patient while the operation is in progress, have been shown to reduce significantly post-operative infection in patients undergoing deep wound surgery. Their use for other forms of surgery may well be indicated.
- 1.18 Ventilation systems that can be shown to be inappropriate, inadequate or ineffective and that give rise to proven failures can result in a civil suit by the patient against the operators.
- 1.19 If the plant has been installed to dilute, extract or contain harmful substances, its failure may expose people to unacceptable levels of hazard. Proven failures can give rise to a civil suit against the designers and operators by the individuals who have been affected. This would be in addition to the actions brought as a result of breaching the statutory requirements.
- 1.20 There is a statutory requirement to provide ventilation in all enclosed workspaces. It may be provided by either natural or mechanical means. The following are some of the factors that determine the ventilation requirements of a workspace:
- human habitation (minimum fresh air requirement);
  - the activities of the department, that is, extraction of odours, aerosols, gases, vapours, fumes and dust – some of which may be toxic, infectious, corrosive, flammable, or otherwise hazardous (see Control of Substances Hazardous to Health (COSHH) regulations);
  - dilution and control of airborne pathogenic material;
  - thermal comfort;
  - the removal of heat generated by equipment (e.g. catering, wash-up, sterilising areas, electrical switch rooms, Uninterruptible Power Supply (UPS) cupboards and some laboratory areas);
  - the reduction of the effects of solar heat gains where other forms of reducing the solar effect is not available or practical, i.e. solar blinds;
  - the reduction of excessive moisture levels to prevent condensation (for example Hydrotherapy pools);

- combustion requirements for fuel burning appliances (see BS5376, BS5410 and BS5440);
- 'make-up' supply air where local exhaust ventilation (LEV) etc., is installed.

Mechanical ventilation systems are expensive in terms of capital and running costs, and planning solutions should be sought which take advantage of natural ventilation either where the use of the area in question is not critical to airflow patterns or pressures, or where backup systems are available when natural ventilation cannot be achieved.

- 1.21 When new ventilation systems are accepted for use, full information as to their designed mode of operation together with recommended maintenance procedures should be provided as part of the handover procedure.

Requirement	Reason	Application
Statutory	Health and Safety at Work etc Act	Operating department Laboratories Pharmacy
	COSHH regulations	Areas containing identified biological or chemical hazards Areas containing oxygen displacing gases
	Local Exhaust Ventilation (LEV)	Enclosed work-spaces Workshops
Functional	Comfort	Situations where the quality of the environment for staff and patients is critical to their general performance and well-being
Clinical	Post-operative infection reduction	Operating suites used for general surgery, casualty, obstetrics/gynaecological and maternity procedures
	Reduction of deep wound sepsis	Ultra-clean operating suites for transplant, deep wound surgery, hip replacement, bone grafting and bone marrow transplant procedures
	Isolation from contact with bio hazards	Isolation units for patients who present a biological, chemical or radiation hazard to others. Isolation units for patients with a reduced immune system

Table 1: Reasons for providing ventilation

### Functional overview – Terms in use

- 1.22 The terms 'ventilation' and 'air-conditioning' are often incorrectly used to describe the same equipment. A general explanation of the terms is given below:



## Ventilation

- 1.23 Ventilation is a means of removing and replacing the air in a space. In its simplest form this may be achieved by opening windows and doors. Mechanical ventilation systems provide a more controllable method. Basic systems consist of a fan and either collection, (extraction) or distribution (supply) ductwork. More complex systems may include the ability to heat and filter the air passing through them. Ventilating equipment may be required in order to remove smells, dilute contaminants and ensure that a supply of 'fresh' air enters a space.

## Air-conditioning and mechanical cooling

- 1.24 Air-conditioning is the ability to heat, cool, dehumidify and filter air. For full air-conditioning, humidification may also be provided. This means that the climate within a space being supplied by an air-conditioning plant can be maintained at a specific level regardless of changes in the outside air conditions or the activities within the space. Mechanical cooling may be provided where close control of 'comfort conditions' within a space is required but humidity control is not needed.

## Special ventilation

- 1.25 In healthcare premises, certain activities will necessitate the provision of ventilation equipment with additional special features in order to achieve and maintain specific conditions. These may be needed in order to assist with the treatment of patients or maintain the health and safety of staff. The precise reason for providing special ventilation will depend upon the intended application. The list below indicates some of the more typical reasons:
- to remove, contain or dilute specific contaminants and fumes;
  - to ensure the isolation of one space from another;
  - to preserve a desired air flow path from a 'clean' to a 'less clean' area;
  - to provide control of the cleanliness of a space;
  - to provide 'close' control of temperature;
  - to provide 'close' control of humidity.
- 1.26 The following departments will usually have specialised ventilation requirements, either for a single room or throughout a suite of rooms:
- operating department;
  - laser surgery unit;
  - intensive treatment unit;
  - infectious diseases isolation unit;
  - manufacturing pharmacy;
  - specialised imaging, X-ray and scanning unit;

- pathology containment laboratories;
- mortuary and dissection suite;
- research laboratory;
- sterilising and disinfecting unit (SDU);
- endoscopy unit;
- renal dialysis suite;
- ultrasound facilities;
- audiology room.

1.27 Ventilation may be provided in a wide variety of ways. These will include:

- extensive purpose-built air-conditioning units housed in their own plant rooms;
- proprietary 'packaged' systems often sited outside on a roof or;
- wall-mounted electric fans located at the point of use.

1.28 A fixed volume of air may be supplied, often expressed in terms of the resulting number of air changes per hour (ac/h) within the space being ventilated. It may also be expressed in terms of litres/second/person. Alternatively the volume of air supplied may be varied in order to maintain a specific pressure relationship between the area supplied and other surrounding areas. In some situations a combination of both methods may be adopted.

1.29 Modern plants are fitted with the means to recover energy from the extract air where this can be justified without causing contamination of the incoming supply air.

1.30 Ultra-clean systems use the same basic plant and equipment as standard air-conditioning but are in addition fitted with a terminal device that supplies the air in a unidirectional manner to the working area. Their standard of filtration will be capable of delivering air with a very low particle count to the space that they serve.

### Local exhaust ventilation

1.31 Local exhaust ventilation (LEV) is a term used to describe systems installed to prevent hazardous substances from entering the general atmosphere of the room in which they are being used. Their primary function is to protect staff from the effects of their work activity.

1.32 Simple LEV systems comprise a capture hood, extract ductwork and fan. These are used to contain industrial types of hazard such as fumes from welding processes, gas discharges from standby battery banks and dust from woodworking machinery. The vapour given off when large quantities of chemicals are decanted into ready-use containers and fumes from X-ray film processing units are further examples of chemical hazards often controlled by LEV systems.



- 1.33 In laboratories, pharmaceutical manufacturing facilities and operating suites, LEV systems usually take the form of semi-open fronted cabinets within which the hazardous substance is manipulated. These cabinets either have their own filtered air supply or are fed with air from the room. The air extracted from the cabinet is passed through a high-efficiency filter before being discharged either to the atmosphere or back into the room. Microbiological safety cabinets, laboratory fume cupboards, cytotoxic drug cabinets and fixed or mobile disinfection enclosures are all examples of this type of facility.
- 1.34 Mortuaries and dissection suites may have LEV systems incorporated within the dissection table, specimen bench and bone saw.

### Management action

- 1.35 The guidance contained in this SHTM should be applied in full to new installations and major refurbishments of existing installations.
- 1.36 Ventilation will need to be provided:
- as a requirement for patient care;
  - in order to fulfil a statutory duty.
- 1.37 In assessing the need for more specialised ventilation and the standards desired for patient care, managers will need to be guided by their medical colleagues and by information published by Health Facilities Scotland.
- 1.38 The statutory need for ventilation falls into two categories:
- in the first, the need for specialised ventilation and the standards to be adopted are clearly set out in specific pieces of legislation. An excellent example of this is the current legislation surrounding the manufacture of medicinal products in the European Community. The managers of the departments affected by this type of legislative requirement should be aware of their needs and be able to advise on the standards to be achieved;
  - the second type of statutory requirement arises due to the interpretation of both the Health and Safety at Work etc Act and the Control of Substances Hazardous to Health (COSHH) regulations. The person tasked with conducting COSHH assessments will be able to advise as to the need for, and standard of, ventilation in each particular case.

### Design and validation process

- 1.39 It is essential when undertaking the design of a specialised ventilation system that the project be considered as a whole. The process model set out below should ensure that all relevant factors are considered.

Step	Question	Design statement and information required	Comment
1	Why is the system required?	Healthcare applications Statutory elements Non-healthcare applications	
2	What is the required system performance?	Room air flow pattern Air change rate Differential pressures Air quality Room air condition Noise limits	
3	What are the constraints on the distribution system?	Location, Size, Materials Dampers, Access, Insulation Fire considerations Room terminals	
4	What are the minimum requirements for the AHU(s)?	Intake / Discharge positions <i>Legionella</i> , Health and Safety Access, Fire, Electrical safety Leaks, Insulation, Cleanliness Filtration, Drainage	
5	What control functions are required?	User control requirements Estates control functions Energy management Environmental conditions Control sequence logic Run, Set back, Off philosophy	
6	How will the system performance be validated?	Validation methodology Instruments used Design information required <i>[Design air flow rates Design air velocities Pressure differentials Noise levels Air quality Installation standard]</i>	
7	The system will only be acceptable to the client if at the time of validation it is considered fit for purpose and will only require routine maintenance in order to remain so for its projected life.		
8	Handover to client	Basic design information Commissioning results Validation report	

Table 2: Design and Validation process model



## Use and function of typical equipment used in ventilation plant

- 1.40 Typical equipment used in ventilation systems is listed below together with a brief description of both function and use.

### General

- 1.41 The equipment built into the ventilation system and its ductwork should be of a type that will neither cause nor sustain combustion. No materials that could sustain biological activity should be used in the construction or assembly of the system.

### Air Intake

- 1.42 An uncontaminated air supply to the system is essential. In order to achieve this, the air intake will be positioned so that air discharged from extract systems or other dubious sources cannot be drawn in. Exhaust fumes from vehicles can present particular problems. The area surrounding the intake will need to be kept clean and free of vegetation and waste material in order to reduce the possibility of biohazards or fire. The intake itself will be protected by a louvre and mesh screen to prevent rainwater, vermin and insects etc from entering the system.

### Damper

- 1.43 Several types may be fitted:
- automatic dampers fitted immediately behind the air intake and extract louvres. They will automatically close when the system is shut down in order to prevent an uncontrolled circulation of air;
  - balancing dampers are fitted into each branch of the air distribution ductwork system so that the design air flow rate can be set during the commissioning process;
  - where ductwork passes through a fire compartment wall, ceiling or floor a fire and/or smoke damper may be required;
  - plant isolating dampers are fitted so that the main plant can be isolated from its air distribution duct system. They are manually operated and enable cleaning and maintenance of the air-conditioning equipment to be carried out.

### Ducting

- 1.44 The means by which air is conveyed from the intake to its point of use. Ducting is usually constructed of galvanised steel and will normally be insulated to reduce noise and conserve energy. Ducts can also be formed in concrete, brickwork, stainless steel or plastic and may be rigid or flexible.



## Fan

- 1.45 A series of rotating blades that move the air in the direction required. Fans are usually powered by electric motors either directly connected to them or driven through belts and pulleys. A fan may be arranged either to force air into or draw air from a ductwork system.

## Attenuator / silencer

- 1.46 A device that will contain and absorb the noise emitted by a fan. They may be required to reduce disturbance caused by noise breaking out through the air intake and also noise transmitted along the ductwork to the conditioned space.

## Filter

- 1.47 A filter consists of a labyrinth of fibrous material contained in a frame. It is designed to capture and hold particles being carried in the airstream. Because of the size range and number of particles that exist in air no filter can remove them all. The purpose of filtration is to reduce their number and size range to an acceptable level. Filters of progressively higher grades are fitted through the ventilation system:

- primary filters (coarse) are designed to collect the larger particles and are intended to keep the air-conditioning plant clean;
- secondary filters (fine) will remove the staining particles from air and keep the conditioned space visibly clean;
- high efficiency particulate air filters (HEPA/absolute) will remove virtually all particles from air. These may be required in order to reduce contamination in the working area either biologically or in terms of particle count.

Filters may be fitted to extract systems to protect energy recovery devices. They may also be fitted to remove biological, radiation or chemical hazards and if so, are often contained in a 'safe change' facility in order to protect those carrying out maintenance.

Activated carbon filters will reduce odours in extracted or recirculated air.

## Heater battery / heater coils

- 1.48 A series of heater batteries or heating coils with or without fins through which steam or hot water is circulated. Heat is given up to the air passing over the battery thus increasing its temperature. Heating is usually carried out in stages, the final battery being controlled by the end user. Small batteries may be electric.

## Humidifier

- 1.49 A device for increasing the humidity of air by adding moisture. For ventilation in healthcare premises this is normally achieved by releasing 'clean' steam into an

air supply duct. The steam will be completely absorbed into the air, increasing its humidity. The level of humidity may be preset or controlled by the end user.

#### Cooler battery / cooling coil

- 1.50 A series of finned coils mounted in the air supply duct. Either chilled water or refrigerant is circulated through the coils causing heat to be removed from the air. This will reduce its temperature and may also condense moisture out of the air. As free moisture in a duct can be a source of contamination the coil will be fitted with an eliminator and drainage system.

#### Eliminator

- 1.51 A device for catching and removing water droplets from an air stream. It may form part of a cooling coil or be a separate device.

#### Drainage system

- 1.52 A means of removing water from ductwork and disposing of it safely. Typically it will consist of a tray mounted in the duct to catch moisture, a glass water seal trap, continuously falling drainage pipework and an air break in the drain run to prevent waste water returning and contaminating the duct.

#### Access doors and observation ports

- 1.53 Doors and removable panels providing access for routine maintenance and cleaning. The doors should be fitted with glazed ports and suitable lighting provided so that the correct operation of devices such as cooling coils, humidifiers and filters can be easily observed without needing to switch off the plant.

#### Energy recovery

- 1.54 Many plants are fitted with the means to recover energy from the extract air without causing contamination of the incoming supply air. These devices will be fitted with a drainage system and may incorporate an eliminator. Several types of energy recovery systems are available.
- 1.55 Precise definitions of ventilation and air-conditioning terms are given in the CIBSE Guide B.

#### Typical plant

- 1.56 The layout of a typical plant that conforms to the requirements for healthcare applications is shown in Figure 3 below. It contains most of the equipment described above.



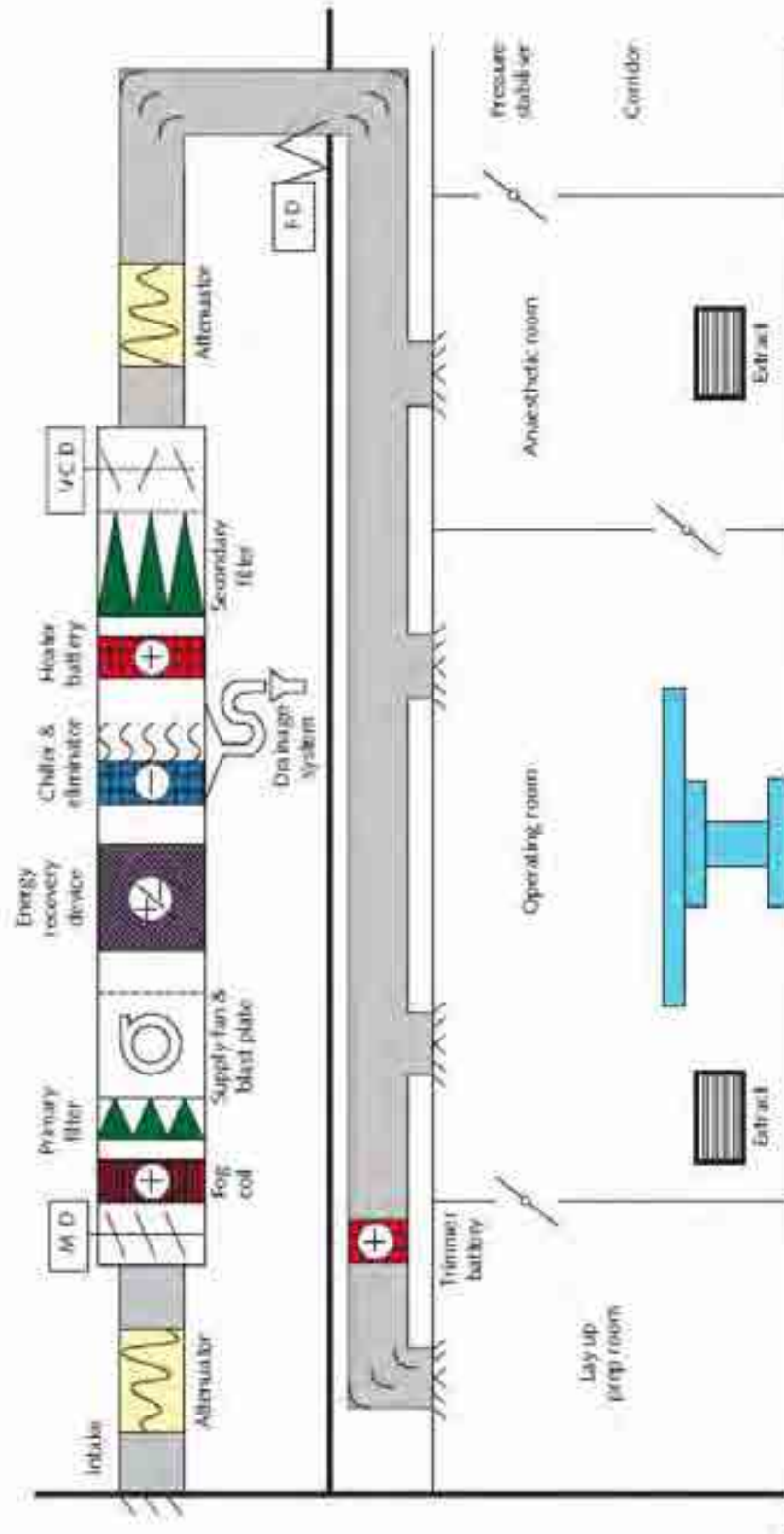


Figure 3: Design and Validation process model

## 2. Provision of ventilation in healthcare buildings

- 2.1 It is acknowledged that planning constraints imposed by the building shape and/or functional relationships of specific areas will invariably result in some measure of deep planning thus reducing the opportunity for natural ventilation. However, ventilation costs can be minimised by ensuring that where practicable, core areas are reserved for rooms that have a functional requirement for mechanical ventilation. Examples are sanitary facilities, dirty utilities and those rooms where clinical or functional requirements have specific environmental needs; and where for reasons of privacy, absence of solar gain etc., windowless accommodation is acceptable. Other spaces appropriate to core areas are those that have only transient occupation and therefore require little or no mechanical ventilation, for example circulation and storage areas.

### Natural ventilation

- 2.2 Natural ventilation is usually created by the effects of wind pressure. It will also occur if there is a temperature difference between the inside and the outside of the building. The thermo-convective effect frequently predominates when the wind speed is low and will be enhanced if there is a difference in height between inlet and outlet openings. Ventilation induced by wind pressures can induce high air change rates through a building provided air is allowed to move freely within the space from the windward to the leeward side.
- 2.3 As the motivating influences of natural ventilation are variable, it is almost impossible to maintain consistent flow rates and ensure that minimum ventilation rates will be achieved at all times. This variability is normally acceptable for general areas including office accommodation, general wards, staff areas, libraries rooms, dining rooms and similar areas which should, where possible, be provided with opening windows of a design that facilitates natural ventilation.
- 2.4 Current guidance restricts the amount windows can be opened for safety reasons and as many designs are top-hung, their ability to permit natural ventilation is limited. It may therefore be necessary to provide dedicated ventilation openings in the fabric of the building to allow a sufficient natural flow of air into and out of the space. Paragraph 2.20 also refers.
- 2.5 In all cases, excessive heat gain, indoor air quality requirements or external noise may limit or preclude the use of natural ventilation.

### Extract ventilation systems

- 2.6 Separate extract ventilation will be required for sanitary facilities, lavage areas, dirty utilities and in rooms where odorous, but non-toxic fumes are likely, in order to ensure air movement into the space. 10 air changes per hour have been found necessary, particularly in geriatric and psycho geriatric



accommodation. This will assist with control of infection procedures. A single fan/motor unit can be suitable for individual rooms, but multi-room systems should be provided with duty and standby fans or motors to meet this need.

- 2.7 Toilets should have an extract rate as set out in the building regulations. Where WC's are located in shower and bathroom spaces, the ventilation required for the WC will normally be adequate for the whole space.

### Supply only ventilation

- 2.8 Mechanical supply ventilation will be required in areas where it is important to maintain a positive pressure in order to prevent the ingress of less clean air, e.g. in pharmacy aseptic suites, sterile supply packing rooms, operating theatres and their preparation rooms (air change rates are given in Table A1 within Appendix 1).

### Supply and extract ventilation

- 2.9 Mechanical supply and extract ventilation should be provided in rooms where there is a need to control room pressure in relation to adjacent spaces. ICU, isolation suites and treatment areas are typical applications.

### Mechanical or comfort cooling

- 2.10 Cooling is very expensive in terms of energy costs and should be provided only where necessary to maintain a comfortable environment for staff and patient, or to ensure satisfactory operation of equipment. The imaging department in particular may require cooling to offset the equipment load.
- 2.11 Calculations and thermal modelling should be undertaken to ensure that during the summertime, internal temperatures in patient areas do not exceed 28°C (dry bulb) for more than 50 hours per year taking into account the level of design risk for the application.
- 2.12 Certain non-patient areas may also require cooling and will typically include some laboratories, central wash-up and other areas that are subject to high equipment heat gains.
- 2.13 Where deep planning of other continuously occupied spaces, for example offices, is unavoidable, there will also be occasions when acceptable levels of comfort can only be maintained by cooling. Planning solutions of this type however will be exceptional.
- 2.14 Refrigeration plant should be of sufficient capacity to offset heat gains and maintain areas at a temperature that does not exceed the external design shade temperatures by more than about 3°C taking into account the level of design risk for the application.



## Air-conditioning

- 2.15 Full air-conditioning is only required in a very small number of areas within healthcare buildings and due to the capital and running cost its inclusion should be kept to a minimum. Paragraphs 3.14, 3.15 and 4.91-4.93 also refer.
- 2.16 Areas whose functions may warrant the installation of air-conditioning include operating departments, intensive therapy units, manufacturing pharmacies and areas with particularly sensitive equipment.

## Specialised ventilation

- 2.17 Due to the nature and extent of activities carried out in healthcare buildings, there will be a need for a wide range of specialised ventilation systems. The types of system which are generally required in individual departments and typical arrangements are given in Section 7.
- 2.18 The activities within some departments will require the provision of local exhaust ventilation (LEV). This is a statutory requirement under COSHH wherever the escape of chemicals, toxic fumes, biological material or quantities of dust into the general area would present a hazard to the occupants.

## Ventilation for general areas

- 2.19 Table A1 in Appendix 1 provides recommended air change rates, temperatures and pressures for general areas that require mechanical ventilation in healthcare buildings.

## Use of natural ventilation

- 2.20 The air tightness of new buildings has improved to the point that infiltration through building leakage can no longer be relied upon to provide sufficient air-flow. Attention must therefore be given to the provision of purpose made ventilation openings to achieve the necessary flow rates. The air entering the openings may need to be controlled by motorised dampers linked to temperature and / or occupancy sensors in the ventilated space.
- 2.21 Internal partitions, fire compartment walls and closed doorways can often impede the flow path, and when this happens, the process will be more dependent on single-sided ventilation. Nevertheless, even with this degree of compartmentation, acceptable ventilation may still be achieved without window openings that would prejudice safety, security or comfort.
- 2.22 Some types of window, for example, vertical sliding, can enhance single sided air change by temperature difference, and these will improve the overall rate of natural ventilation in protected or sheltered areas where the effect of wind pressure is likely to be minimal.

- 2.23 It is generally considered that natural cross-flow ventilation is able to give reasonable air distribution for a distance of up to 6 metres inwards from the external facade, provided that reasonably clear air paths are maintained. Beyond this distance in areas where clear air paths cannot be maintained and in areas where high minimum air change rates are specified, mechanical ventilation should be provided.
- 2.24 Further information can be found in SHTM 55 'Windows', BS5925 'Code of practice for ventilation principles and designing for natural ventilation' and CIBSE Applications Manual AM10: 'Natural ventilation in non-domestic buildings'.

### Mixed mode ventilation

- 2.25 This comprises an assisted form of natural ventilation. Fans are fitted in the purpose made damper-controlled ventilation openings. Alternatively a separate ventilation unit may be installed. In both cases the dampers and fans are controlled under the dictates of temperature and occupancy sensors to ensure a minimum air flow rate while taking advantage of natural ventilation effects when present.
- 2.26 Where natural or mixed mode ventilation is adopted with complex air paths, the designer should produce an air flow diagram in order to ensure correct provision of air transfer devices. CIBSE Applications Manual AM13: 'Mixed mode ventilation in non-domestic buildings' gives guidance.

### Mechanical extract ventilation

- 2.27 General extract systems can vary in complexity from a single wall-mounted fan to a ducted air system with dual extract fans.
- 2.28 Replacement air is generally provided by a central supply system (as described below). Unless special precautions are taken, the latter may result in an unacceptable level of draughts occurring in winter, and possible risk of unacceptable levels of noise transmission.
- 2.29 If individual systems are used, the ventilation can be operated intermittently, provided it continues to run for at least 15 minutes after the room is vacated, as with light switch-operated fans in individual toilets.
- 2.30 If general exhaust systems are used; it is recommended that filtered and tempered replacement air is provided via a central supply plant to adjoining lobbies or corridors, to prevent the risk of discomfort caused by the ingress of cold air. Fire compartmentation requirements must be maintained.
- 2.31 Information on specialised extract systems is given in Section 7.



## Mechanical supply systems

- 2.32 Where mechanical supply systems are required, the fresh air should be tempered and filtered before being delivered to the space, to avoid discomfort.
- 2.33 The air should be heated using a constant or variable temperature source, but generally only to the space air temperature. In most instances, the low-pressure hot water heating (LPHW) should offset any fabric loss, so that setback room temperatures can be maintained during unoccupied periods without the need for the ventilation system to operate.

## Balanced ventilation

- 2.34 Balanced ventilation systems are merely a combination of a supply and extract systems of equal volume; and either a single space or a whole building may be considered to be balanced. A balanced system is necessary in instances where it is essential to maintain consistent air movement within an area, for example, treatment rooms.

## Cascade ventilation

- 2.35 In operating departments it is normal practice to supply air to the operating room, and allow it to pass through less clean areas – corridors, utility rooms etc. (from where it is eventually extracted).

## Recirculation systems

- 2.36 Due to the nature of the use of mechanical ventilation systems within healthcare buildings, there are few opportunities for the application of recirculation air systems. They are however normally used for HEPA filtered clean room applications where the extract air is significantly cleaner than the outside supply. Recirculation is also routinely used in the canopy section of Ultra Clean Operating theatre ventilation systems.
- 2.37 Where the designer is considering the installation of a recirculation air system, due account must be taken of:
- minimum fresh air supply volume required by the Building Regulations (currently 20%);
  - prevention of contamination of supply air from vitiated air in extract systems;
  - prevention of stratification occurring within plenum chambers and mixing boxes which may result in freezing of downstream coils;
  - ensuring sufficient velocities through control dampers (ideally 5-6 m/s) to provide suitable authority; and good shut-off;
  - modulating control of mixing to provide optimum on-plant conditions;

- use of 'free cooling' by cycling the dampers to minimum fresh air when the enthalpy of the outside air is above that of the extract air under conditions when cooling is required.

### Chilled beams

- 2.38 The use of chilled beams for the provision of heating, cooling and ventilation is increasingly common in healthcare premises. The use of Active Chilled Beams providing tempered filtered air to a heating / cooling device within the room can provide effective local control of environmental conditions.
- 2.39 Care should be taken in positioning chilled beams to ensure the avoidance of cold draughts particularly when used in the cooling mode. The control settings should ensure that the external elements of the beam are always above dewpoint.
- 2.40 Consideration should be given to the ease with which specific types of chilled beam units can be accessed for cleaning having regard to the need to control the infection risk. The impact of maintenance requirements on room availability should also be considered.

### Split comfort air-conditioners

- 2.41 Split comfort air-conditioners, room conditioners or cassette units are used increasingly where there is a small local requirement for cooling for operational purposes. They can provide an effective economic solution to cooling needs, where a central refrigeration system is not practicable.
- 2.42 The units re-circulate room air so provision for a fresh air make up, either by natural or mechanical means, to the standard required by the Building Regulations must be provided.
- 2.43 The recirculation of room air presents problems with indoor air quality (IAQ) and may increase the risk of healthcare associated infection (HAI). Split units should not therefore be used in critical patient areas.
- 2.44 Split units may be used for single room applications or as multiple linked units that can independently provide either heating or cooling, all served by a single outdoor unit. These systems enable good temperature control of a number of rooms with maximum energy efficiency.
- 2.45 Whether single or multiple systems are used, it is essential that the designer gives due consideration to the source of electrical supply, location of the heat rejection unit, environmental effects to the refrigerant used and drainage provision for the cooling coil condensate.
- 2.46 The units will require routine maintenance for filter change and cleaning; they should therefore be installed in an accessible position.



## Dilution ventilation and clean air flow paths

- 2.47 Dilution ventilation has in the past been used to control levels of hazardous substances in a space. This approach is no longer considered acceptable. The COSHH Regulations require that known hazardous substances should be substituted by safe alternatives. If this is not possible then they should be controlled at source by the use of closed systems such as anaesthetic gas scavenging units or exhaust protective enclosures such as fume cupboards.
- 2.48 The exposure of staff to casual spillages of substances such as medical gases in anaesthetic rooms should in the first instance be dealt with by establishing a clean airflow path. Air should be supplied at high level and extracted at low level directly behind the anaesthetic equipment position. The philosophy of establishing a clean air-flow path from the supply point, to the staff; on to the patient and out via a low level extract would also apply in recovery rooms and maternity delivery rooms including labour, delivery, recovery & post partum (LDRP) Rooms. A suitable air change rate will provide dilution ventilation as an additional safeguard; see Table A1 in Appendix 1 and Table A2 in Appendix 2, Note c.
- 2.49 In operating theatres the patient will be on a closed breathing circuit in a room with a high air change rate. Under these circumstances the dilution effect would be considered sufficient to control any casual exposure to anaesthetic gases.

## Mechanical ventilation systems

### System selection

- 2.50 Natural ventilation is always the preferred solution for a space, provided that the quantity and quality of air required, and the consistency of control of ventilation to suit the requirements of the space, are achievable with this method. If this is not the case, a mechanical ventilation system will be required.

### Choice of central/local plant

- 2.51 Mechanical ventilation is expensive to operate, and as such, should be controlled to operate when the space being served requires to be ventilated. In addition, loads on refrigeration plant are rarely constant owing to changes in solar gain, occupancy and use of heat-generating equipment and lights, therefore control of temperature is critical.
- 2.53 If the ventilation loads throughout a department or building are in phase, or are not significant, a central plant with single zone control can be adopted. However, this is rarely the case, and elsewhere, the condition or quantity of supply air to different areas or zones of the building must be varied accordingly. This can be done by providing either individual plants to each zone, or separate zone terminal control. Where there is a high density of rooms with similar ventilation requirements in an area of a building or department, it is usually economical to combine them into a central system.



- 2.54 In large buildings, a choice between a single distribution system and multiple smaller systems may arise. Large distribution systems and their plant can have the advantage of lower operating costs, but require more space for vertical shafts. In general, very long runs of ducting should be avoided to prevent undue heat losses or gains, excessive leakage, and difficulties in balancing during commissioning. As the pressure losses in the long runs will be greater and a higher initial static pressure will be required, this will lead to a more expensive class of ductwork. Multiple smaller distribution systems may be more expensive in capital and operating costs but they avoid long runs, large ducts and vertical shafts, and this may reduce overall building costs. They also provide a more robust service as the failure of an individual system does not prevent the use of the rest of the building.

### Zoning of the building

- 2.55 The efficiency and effectiveness of any ventilation or air-conditioning installation depends largely on the zoning and control of the installation. The factors to consider when determining the zoning of a ventilation system for a building or department are:
- periods of occupancy;
  - fresh air/ventilation requirements;
  - smoke control.
- 2.56 Where the ventilation system is not merely tempering the air, but also providing the heating and/or cooling requirements, the following additional factors will need to be considered:
- internal or peripheral location;
  - orientation of windows;
  - variation in internal loads;
  - level of control required.
- 2.57 For single zone plant in staff areas, local control (with a run-on timer if required) is recommended, as this can be turned off when the space is not in use, thus saving both thermal and electrical energy. Most supply and extract systems, conversely, are required to operate continuously while the department is occupied, thus some form of time or use control is necessary.
- 2.58 The control of individual plant items is covered in Section 4, with examples of typical control strategies in Section 6. For control of particular specialised ventilation and air-conditioning systems refer to Section 7 of this document.
- 2.59 On very rare occasions a duplicate standby air handling plant may be justified. If installed it must be provided with a gas-tight damper at its junction with the supply distribution duct, so that no back-flow can occur. Standby plants can become sources of contamination if warm moist air is allowed to dwell within them. Their design and control system must ensure that this cannot happen.

## Specific requirements for hospital departments

- 2.60 Specific requirements for individual spaces and departments are included in the Health Building Notes (HBNs) and Activity Database (ADB) A-Sheets, or Scottish Health Planning Notes (SHPNs).

Draft for consultation



## 3. Assessment of service requirement

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### Selection of design criteria

#### External design conditions

- 3.1 The most accurate data that is available for the summer and winter conditions at the site should be used. The Metrological office can supply data for the United Kingdom.
- 3.2 Healthcare mechanical ventilation systems will normally be 'full fresh air'.
- 3.3 Local adjustments such as for height above sea level, exposure factor, or other climate peculiarities, should be made as appropriate.

#### Internal design conditions

- 3.4 The design conditions selected within patient areas must strike a balance between the comfort requirements of staff and patients, who often have very different levels of clothing and activity.
- 3.5 Recommendations for the dry resultant temperature and humidity of individual spaces are shown on Activity Database (ADB) A-Sheets. Appendix 1 Table A1 gives a summary.

#### Minimum fresh air requirements

- 3.6 For most applications involving human occupancy, the dilution of body odours is the critical factor in determining ventilation requirements. Where natural ventilation or mechanical full fresh-air systems are used, all ventilation air will be fresh.
- 3.7 Where odour dilution is the overriding factor, it is recommended that 10 litres/second/person should be taken as the minimum ventilation rate.
- 3.8 Smoking is not permitted in healthcare premises. If permitted for example in residential care, it will be confined to designated areas. It therefore follows that these areas will contain a high percentage of smokers so the ventilation rate would be at least 36 litres/second/person for these applications (CIBSE Guide A; Table 1.10 refers).
- 3.9 In non-standard applications such as laboratories, aseptic suites, operating departments, etc., the particular requirements for each area should be considered independently in order to determine the overriding minimum requirement for ventilation.

### Limiting supply air conditions

- 3.10 For most applications in healthcare buildings, it is the temperature differential between the supply and room air, rather than the actual temperature of the supply air which is the critical factor. The maximum recommended supply-to-room air temperature differential is:

summer cooling: - 7K

winter heating: + 10K

- 3.11 It is also necessary to keep supply air humidity below 70% during winter in order to minimise risks associated with condensation.

### Air purity

- 3.12 In healthcare premises, the standard of filtration will depend on the activities within the occupied spaces. With the exception of special areas, (for example manufacturing pharmacies), the requirement for aerobiological needs is not stringent and filtration is only required to:

- maintain hygienic conditions for the health and welfare of occupants, or for processes such as food preparation;
- protect finishes, fabrics and furnishings; to reduce redecoration costs;
- protect equipment either within the supply air system, that is, to prevent blocking of coils, or in the space itself to prevent dust collection.

- 3.13 Given that almost all viable particles will originate from the occupants of a space and not from the incoming air, dilution is the more important factor aerobiologically. Therefore, for general areas a G4 filter will be suitable. More critical areas will require a F7 filter. HEPA filters will only be required in Ultra Clean systems.

### Humidity control requirements

- 3.14 Providing humidification is expensive in terms of plant, running costs and maintenance, and therefore its use should be restricted to where it is necessary for physiological or operational reasons.
- 3.15 Humidification was originally required for some healthcare applications e.g. operating theatres, in order to control the risk associated with the use of flammable anaesthetic gases. The use of such gases has now ceased. Humidification is therefore no longer required unless there is a very specific application requirement.



### Maximum noise levels

- 3.16 Noise will be generated in an air distribution system by the fan, ductwork fittings, dampers and grilles. The specified maximum noise level will depend on the activities within the occupied spaces.
- 3.17 The overall noise levels should not exceed the values given in Scottish Health Technical Memorandum 08-01 – 'Acoustics', although general requirements are given in Table 3.
- 3.18 Attenuation should be incorporated into the ductwork system or plant arrangement as necessary to reduce noise from fans and plant items in order to achieve the acceptable limits within the rooms at the design air flows.
- 3.19 Plant noise should not be greater than 80dB(A) within the plant room from the fans, coolers, heaters, humidifiers etc. when starting up or running, and should be reduced to lower noise levels where the plant is near to departments sensitive to noise.
- 3.20 Attention must be given to the reduction of tonal components. High tonal components from air diffusers etc. can seriously disturb concentration over longer periods even when the overall noise level is low. Broadband noise causes less annoyance. Reference should be made to SHTM 08-01 - 'Acoustics'.
- 3.21 The designer requires knowledge of the total hospital layout and operational policies, to assign acceptance magnitudes to all the possible noise sources, in order to arrive at the correct rating.

Room	Overall noise level - NR	Ventilation plant commissioning - NR	Ventilation plant design - NR
Operating department	50 (55)	45	40
Ward areas	33	30	30
Sanitary facilities	45	40	35
Industrial areas	50	45	40
Circulation areas	50	45	40

Table 3: Interior noise level

- 3.22 In Table 3 the overall noise level takes account of all internal and external noise sources. The commissioning noise level is the level measured with a sound level meter in the unoccupied room, taking account of the external noise together with the noise generated by the ventilation system. When occupied and in use, this commissioning level will constitute a continuous background noise which will allow the overall noise level to be achieved. The ventilation plant design noise level is that generated by the plant alone with no other noise source being considered. The levels suggested make recognised allowance for the ingress of environmental noise that must be considered in the overall design, that is, in specifying the attenuation of walls, partitions, ceilings, etc.



- 3.23 The recommended criterion is measured as the "A" weighted sound pressure level expressed in decibels, which should not be exceeded for more than 10% of the time.
- 3.24 The designer must also consider noise escaping to the external environment and this must not be unacceptable to occupants of adjacent buildings.

## Calculation of building loads

### Air infiltration

- 3.25 Air infiltration occurs due to a complex combination of wind pressure, thermal effects, location relative to other features and the construction standard of the building. The infiltration rate is governed by the size and number of openings in the building envelope and the complexity of internal air paths.
- 3.26 CIBSE Guide A (2006) Section 4 provides information and formulae for the calculation of air infiltration and natural ventilation of buildings. In all cases the requirements of the appropriate section of the Scottish Building Regulations must be met.

### Summertime temperatures

- 3.27 The calculation method for determining the summertime temperature is described CIBSE Guide A (2006) Section 5. However, it is very important to select the time of day and time of year of peak loadings for the calculations. These will be dependent on the orientation and proportion of solar to total heat gain. In establishing outside design values, the design risk having regard to the function and occupancy of the building should be considered.
- 3.28 Where calculations indicate that internal temperatures will frequently exceed the selected design external shade temperature by more than 3K for a period that exceeds the building design risk, methods of reducing temperature rise should be implemented. Options include: - reducing solar and casual gains, the use of chilled beams or ceilings, increasing ventilation rates or providing mechanical cooling. In some situations it may be possible to alter the thermal mass of the structure to 'move' the peak temperature event time so that it occurs outside of the occupancy period. Calculations and thermal modelling should be undertaken to ensure that during the summertime internal temperatures in patient areas do not exceed 28°C dry bulb for more than 50 hours per year. It has been found that there is a relationship between preferred indoor temperatures and mean outside temperature. Fig A2 in CIBSE Guide A indicates this relationship.

### Peak heating load

- 3.29 Peak heating local calculations are necessary on all mechanical supply systems to establish the size of heater batteries and subsequently the central plant.

- 3.30 Where ventilation systems provide tempered air to spaces that have supplementary LPHW to offset the building fabric losses, the plant heating load should be calculated based on the external winter design temperature, the design internal air temperature, and the calculated total air volume (including a suitable allowance for leakage).
- 3.31 Where the ventilation system is the only means of heating a space, an increase in load equivalent to the calculated fabric heat losses from the space should be added to the ventilation load. A check of supply temperature difference should be made. If it exceeds 10K the ventilation supply volume should be increased to suit.

#### Condensation risk

- 3.32 A check should be made to ensure that the selected air condition will not lead to surface condensation on low-temperature elements of the ventilated space.
- 3.33 Where there are local sources of moisture that would require excessive levels of ventilation to avoid condensation, the designer should consider the capture and removal of moisture at the source of the evaporation via an exhaust hood or similar device.
- 3.34 In intermittently heated buildings, it is necessary to consider the condensation risk at night setback conditions as well as during normal operation. Calculation methods for this assessment are given in CIBSE Guide A.

#### Peak cooling load

- 3.35 In addition to the base data of airflow rates and temperatures, when calculating cooling loads, the designer must take into account:
- solar cooling loads;
  - surface conduction cooling loads;
  - internal gain cooling loads;
  - cooling loads due to high-level humidity control;
  - method of control of internal conditions;
  - fluctuations in internal temperatures.
- 3.36 When the peak internal loads have been assessed and a suitable allowance made for non-coincidence, the supply temperature can be calculated.
- 3.37 Once the lowest required supply temperature of the air handling unit has been established, and an allowance made for temperature rise through the fan and ductwork (usually 1K for low pressure systems), the off-plant enthalpy can be established from a psychrometric chart or table.
- 3.38 The cooling loads for all plants on the chilled water system should be calculated at each of the individual peak times in order to establish accurately the required (diversified) capacity of the chiller.



## Annual energy consumption

- 3.39 Annual energy consumptions of heating-only ventilation systems are simple to calculate based on supply-to-external air temperature rise, and frequency of occurrence of external temperatures as given in CIBSE Guide A.
- 3.40 Minimum air volumes are usually fixed by the room loads or fresh air requirements. However, the designer may increase airflow to some rooms or zones in order to balance loads, as detailed in the following paragraphs on "Calculation of plant requirements."
- 3.41 The method of zoning and control can significantly influence energy consumption.
- 3.42 The nature of air-conditioning operation, comprising cooling and reheating for humidity or zonal temperature control, makes prediction of energy consumption very complex. It is imperative that these calculations are performed to ensure optimum energy efficiency.
- 3.43 The concept of load and plant operation charts is outlined in the CIBSE Guide A. The method requires the designer to establish the minimum and maximum loads on all zones across the range of external temperatures between winter and summer design conditions. Once the load chart is complete, the plant chart converts the loads to supply temperatures, which are then superimposed on external air temperatures.
- 3.44 When all temperatures for all zones are plotted on the plant operation chart, set points and resetting schedules can be established. From this information, the outputs of individual heaters, coolers and humidifiers can be established at any given external temperature. When those loads are computed against annual frequency of occurrence of external temperatures as given in CIBSE Guide A, the annual energy consumption of individual elements, and thus the air-conditioning system, can be established.
- 3.45 In order to prevent surface condensation occurring, it is necessary to provide sufficient ventilation to maintain the maximum and ambient dew-point temperature below the lowest surface temperature, the coldest usually being the glazing. Paragraphs 3.33 and 3.34 also refer.

## Calculation of plant requirements

### Air supply volumes

- 3.46 The minimum air supply volume for a room is determined by the greatest of these three criteria:
- the minimum fresh-air requirement;
  - the minimum supply volume for the room load as determined by the maximum heating or cooling supply temperature differential;
  - the desired/required air change rate.

## Plant sizing

- 3.47 Once the design airflow has been established the cross-sectional area of the air-handling unit can be calculated based on a maximum coil face velocity of 2.0 m/s.
- 3.48 In order to establish the length of the air-handling unit, it will be necessary to refer to manufacturers' literature, ensuring all necessary access panels and components are included as detailed in Chapter 4.
- 3.49 The fan duty should be calculated by adding the resistances of all elements that contribute to the pressure drop of the index circuit.
- 3.50 The main elements that must be considered are:
- inlet or discharge louvres;
  - plant entry and discharge;
  - attenuators;
  - components within the air-handling unit;
  - duct-mounted heaters and filters (including a dust allowance);
  - ductwork distribution;
  - ductwork fittings, including: fire dampers, volume control dampers, bends and sets, tees, changes of section;
  - air terminal device;
  - discharge velocity.
- 3.51 Where packaged air-handling units are installed, the fan pressure drop is usually quoted as external plant resistance, and thus the designer does not need to calculate the resistances of individual plant items. The designer should, however, ensure that an allowance has been made for filter clogging; and confirm whether the fan pressure quoted is fan total or static pressure.
- 3.52 Resistances of ductwork and fittings may be obtained from the CIBSE Guide A. However, the designer should exercise some care when using tabulated pressure loss information for fittings that are relatively close together.
- 3.53 Upon completion of the resistance calculation exercise, the designer should make allowances for calculation and construction tolerances as indicated in Table 4.



Criteria	Low pressure systems	Medium/high pressure systems
Volume flow rate margin for leaking and balancing requirements	+5%	+5%
Total pressure loss margin		
A. for increase in volume flow rate (above)	+5%	+5%
B. for uncertainties in calculation	+5%	+10%
Combined total pressure loss margin	+10%	+15%

Table 4: Typical fan volume and pressure margins

### Plantroom size and location

- 3.54 The ventilation plant and associated equipment should be positioned to give maximum reduction of noise and vibration transmitted to sensitive departments; while at the same time, achieve an economic solution for the distribution of services.
- 3.55 It is not recommended that noise and vibration generating plant be housed either directly above or below sensitive areas (for example, operating or anaesthetic rooms) unless there is no alternative, in which case, additional care and attention must be given to the control measures.
- 3.56 The plant must also be located so that it is remote from possible sources of contamination, heat gains and adverse weather conditions. The design should ensure that wind speed and direction have a minimal effect on plant throughput.
- 3.57 Safe access to and around plant is essential to facilitate inspection, routine maintenance, repair and plant replacement.

### Provision of primary services

- 3.58 Where more than one air-handling plant requires cooling, remote central cooling plants with piped chilled water are preferred. In the case of a single plant, a multi-stage direct-expansion cooling coil with refrigerant piped from an adjacent compressor/condensing plant could be considered. If this option is selected, a refrigerant gas detector mounted in the base of the duct and an alarm system audible to the end-user will also need to be provided (as dictated by COSHH Regulations).
- 3.59 Clean dry steam is preferred for humidification, provided that the boiler water treatment does not render the steam unusable for direct humidification.
- 3.60 If a suitable supply of steam cannot be obtained from the steam main, a steam generator should be provided locally, or a self-generating humidifier installed. Electric humidifiers require considerable electrical loads and if a gas supply can



be derived, this would be preferable. The location of a local steam generator is critical if condensate is to drain back into it.

### Inlet and discharge sizing and location

- 3.61 Air intakes and discharge points should preferably be located at high level, to minimise the risks of noise nuisance to surrounding buildings, contamination and vandalism.
- 3.62 Intakes and discharges should be designed and located so that wind speed and direction have a minimal effect on the plant throughput.
- 3.63 Helicopter landing pads in the vicinity of ventilation intakes and discharges can result in large short-term pressure changes. This can cause pressure surges in supply systems and reverse airflows in extracts. Exhaust fumes from the helicopter may also be drawn into intakes.
- 3.64 Intake points should be situated away from cooling towers, boiler flues, vents from oil storage tanks, fume cupboards and other discharges of contaminated air, vapours and gases, and places where vehicle exhaust gases may be drawn in.
- 3.65 Where intakes have necessarily to be sited at or near ground level, the area around them should be paved or concreted to prevent soil or vegetation being drawn in. They should also be caged or located within a compound to prevent rubbish being left in the vicinity. The likely proximity of vehicle exhausts should also be taken into account when determining the protected area around the intake.
- 3.66 The discharge from an extract system must be located so that vitiated air cannot be drawn back into the supply air intake or any other fresh-air inlet. Ideally, the extract discharge will be located on a different face of the building from the supply intake(s). In any event, there must be a minimum separation of 4 metres between them, with the discharge mounted at a higher level than the intake.
- 3.67 Discharges from LEV systems should preferably be vertical and usually not less than 3m above roof level. They should not be fitted with a cowl that could cause the discharge to be deflected downwards.
- 3.68 Each intake and discharge point should be fitted with corrosion-resistant weatherproof louvres or cowls to protect the system from driving rain. Louvres should be sized based on a maximum face velocity of 2 m/s in order to prevent excessive noise generation and pressure loss.
- 3.69 The inside of the louvres should be fitted with a mesh of not less than 6 mm and not more than 12 mm to prevent leaves being drawn in and infestation by vermin.
- 3.70 The duct behind louvres should be self-draining. If this is not practicable, it should be tanked and provided with a drainage system.

- 3.71 Cleaning access must be provided either from the outside via hinged louvres or by access doors in the plenum behind the louvre. Where a common plenum is provided, cleaning access should be via a walk-in door.

### Heat rejection devices

- 3.72 The design conditions given in Chapter 2 make no allowance for the elevated temperatures that can occur on the roof of buildings. Refrigeration condensers and cooling towers should, if practicable, be shaded from direct solar radiation, or the design adjusted to take account of the gain.
- 3.73 Air-cooled condensers must always be the first choice for heat rejection from any refrigeration plant. Evaporative cooling systems must not be used in healthcare premises unless limitations of space mean that they are the only way that the cooling load can be met. If they are used, national guidance on preventing and controlling *legionella* must be closely followed.
- 3.74 Reference should be made to Scottish Health Technical Memorandum 04-01: 'The Control of *Legionella*, hygiene, 'Safe' hot water, cold water and drinking water systems, Part A: Design, Installation and Testing, and Part B: Operational Management, published by Health Facilities Scotland, 2010.



## 4. Air handling unit design and specification guidance

### General requirements

#### Location and access

- 4.1 Air-handling units should be located in an accessible area secured from unauthorised entry. Siting units in ceiling voids above occupied spaces is not appropriate.
- 4.2 Units located on roofs must have a safe means of access together with suitable precautions to prevent personnel or equipment falling or being blown off during maintenance activities.
- 4.3 Units located at ground level should be secured within a locked compound to prevent unauthorised access. Measures should be taken to exclude vehicles from the vicinity to ensure that exhaust fumes will not be drawn into intakes.
- 4.4 Units may have a working life of approximately 20 years. It can be anticipated that over this period there will be a need to access every element within the unit for deep cleaning. It is also quite possible that the main fan and individual heater and chiller batteries will need replacement. Suitably positioned service connection joints and adequate spacing should permit these items to be withdrawn without the need to dismantle other installed plant or equipment. Batteries that are significantly wider than 1metre should be split to permit withdrawal from both sides.
- 4.5 It is essential that air-handling units are positioned so that all parts are easily and safely accessible for routine inspection and service. If a unit is located against a wall or backs onto another unit then access to all parts must be available from the front. Units greater than 1 metre wide should preferably have access from both sides or access doors large enough to permit the full and safe entry of maintenance personnel.
- 4.6 Water may be used during routine cleaning or spilt when maintenance is being undertaken. The area around the unit should be tanked to prevent water penetration to adjacent areas and adequately drained.
- 4.7 Fire precautions should be incorporated in accordance with Firecode. Guidance is available in BS5588: Part 9 and Sections 5 & 6 of this document.
- 4.8 Combustion equipment must not be located in a fire compartment that houses air-handling equipment.

## Technical requirements

- 4.9 The basic technical requirements of the whole of the ventilation system should meet the relevant clauses of the Health Technical Specification. It should be noted that the Specification contains a menu of clauses that cover a wide range of applications, so it is important to select only those that are relevant to the specific application.

**Note 1:** At the time of writing, Health Technical Specification C04 was due for revision in order to bring it into line with the revised standards as set out in this Scottish Health Technical Memorandum. Where conflicts in specification arise, the Scottish Health Technical Memorandum takes precedence.

- 4.10 It is essential that the main plant/ductwork is located far enough above the floor to permit the correct installation of drainage systems for cooling coils, humidifiers and heat recovery systems. Easy access for maintenance of drainage systems and their associated pipework must be provided.
- 4.11 Organic materials or substances that can support the growth of microorganisms must not be used in the construction of the plant or its distribution system. The water fittings and materials directory lists suitable materials for sealants and gaskets.
- 4.12 The plant and its distribution system must not contain any material or substance that could cause or support combustion.
- 4.13 Plants should have a high standard of air-tightness. The double-skin method of construction with insulation sandwiched between two metal faces is recommended. The panels may be available in a variety of colours at no additional cost. This can aid identification by colour coding of units in a plant room (for example green for general ventilation; blue for theatres; red for laboratories and isolation facilities; grey for extract etc).
- 4.14 The inside of the plant should be as smooth as possible. Channels, rolled angles or formed sections that could trap or hold moisture should be kept to a minimum. If stiffeners are required, they should be fitted externally. If internal bracing has to be fitted it must be of a design that will not trap or hold moisture.
- 4.15 Airflow across air treatment components such as filters, heat exchangers and humidifiers will be influenced by the pattern of the approaching airstream. If unsatisfactory conditions are created, the performance of the component will be reduced.
- 4.16 Access to items that require routine service such as filters, frost batteries and chiller batteries should be via hinged doors. The doors should be large enough (for example 500 mm minimum) to allow easy access. Items requiring infrequent access such as attenuators may be via bolted-on, lift-off panels. All doors and panels should be close-fitting and without leaks.



- 4.17 Care should be taken during installation to ensure that electrical and mechanical services are not installed in positions that will reduce or impede access.
- 4.18 It can be difficult to turn off AHUs in order to inspect filters and drainage trays. Viewing ports and internal illumination will therefore facilitate routine inspection of such items. Viewing ports should be at a convenient height so that temporary ladders are not required. Internal illumination should be provided by fittings to at least IP55 rating. Fittings should be positioned so that they provide both illumination for inspection and task lighting. All of the lights in a unit should be operated by a single switch.
- 4.19 Access to AHUs and items in the distribution system such as filters or heater / chiller batteries should be via fixed ladders and platforms or pulpit-style moveable steps. The installation of distribution ductwork and other electrical or mechanical services should provide sufficient clearance to allow the pulpit steps to be easily wheeled into position.

#### AHU drainage system

- 4.20 All items of plant that could produce moisture must be provided with a drainage system. The system will comprise a drip tray, glass trap, air break and associated drainage pipework.
- 4.21 The drip-tray should be constructed of a corrosion-resistant material (stainless steel is preferred) and be so arranged that it will completely drain. To prevent 'pooling', it is essential that the drain connection should not have an upstand; and that a slope of approximately 1 in 20 in all directions should be incorporated to the drain outlet position. The tray must be completely accessible or, for smaller units, easily removable for inspection and cleaning.
- 4.22 Each drip tray should be provided with its own drain trap. The drain trap should be of the clear (borosilicate) glass type. This permits the colour of the water seal to be observed thus giving an early indication of corrosion, biological activity or contamination within the duct. The trap should have a means for filling and incorporate couplings to facilitate removal for cleaning. It should be located in an easily visible position where it will not be subject to casual knocks. The pipework connecting it to the drainage tray should have a continuous fall of not less than 1 in 20.
- 4.23 Traps fitted to plant located outside or in unheated plant rooms may need to be trace-heated in winter. The trace-heating must not raise the temperature of water in the trap above 5°C.
- 4.24 Water from each trap must discharge via a clear air gap of at least 15mm above the unrestricted spill-over level of either an open tundish connected to a foul drainage stack via a second trap, or a floor gully (or channel). A support should be provided to ensure that the air gap cannot be reduced. More than one drain trap may discharge into the tundish providing each has its own air break.



- 4.25 Drainage pipework may be thermoplastic, copper or stainless steel. Glass should not be used. The pipework should be a minimum diameter of 22 mm and a fall of at least 1 in 60 in the direction of flow. It should be well supported and located so as not to inhibit access to the AHU.

#### Layout of air handling unit

- 4.26 The AHU should be arranged so that the majority of items are under positive pressure. Any item of plant requiring a drain should be on the positive pressure side of the fan. A recommended layout is given in schematic form in Figure 3.
- 4.27 A separate extract unit will generally be required for the area served by each supply unit.
- 4.28 An energy recovery system will normally be fitted between the supply and extract units.

#### Provision of dampers

- 4.29 Fire- or smoke-actuated dampers shall be provided at the locations required by Firecode. (See paragraphs 5.17 to 5.21).
- 4.30 Motorised low-leakage shut-off dampers should be located immediately behind the intake and discharge of each supply and extract system respectively. They should be of the opposed-blade type, opening through a full 90° and must close automatically in the event of power failure or plant shutdown to prevent any reversal of the system airflow.
- 4.31 The quality of motorised dampers is critical. They should be rigid, with square connections fitted with end and edge seals of a flexible material and with minimal play in linkages. The leakage on shut-off should be less than 2%.
- 4.32 A manually operated isolating damper should be installed between the main AHU and its distribution system to enable the unit to be isolated when cleaning is in progress.
- 4.33 Good practice will require the fitting of a main volume control damper so that the design airflow rate can be set at commissioning. The damper should be lockable in any position. If it will also be used for plant isolation, it should be capable of being reset to give the design airflow without the need for re-measurement.
- 4.34 Internal plant isolating dampers or provision for the fitting of shut-off plates between items within a unit are not required.

#### Vibration

- 4.35 Vibration from a remote plantroom can be transmitted by the structure of the building, may be regenerated and may sometimes be magnified many times. Units should be selected to have the minimum vibration generation and installed on suitable anti-vibration mounts. Pipe and ductwork should incorporate anti-

vibration couplings, preferably in two planes at right angles, as close to the vibration source as possible. Consideration should be given to the use of anti-vibration pipe hangers and supports.

### Sequence of components

4.36 The following arrangement of plant components is typical although in many instances not all elements will be required:

- fresh air intake;
- motorised isolation damper;
- frost / fog coil;
- pre-filter;
- energy-recovery device;
- attenuator;
- fan;
- blast plate;
- attenuator;
- chiller battery;
- eliminator;
- heater battery;
- humidifier;
- final filter;
- isolation / volume control damper.

**Note 2:** Attenuators may be located in the intake and discharge duct if they are of a suitable type (See clause paragraphs 4.159 to 4.162)

There may be instances where the above arrangement is not appropriate and the plant arrangement should be planned accordingly.

## Fans

### General requirements

4.37 The fan should be selected for good efficiency and minimum noise level, but the overriding factor should be the selection of a fan characteristic such that the air quantity is not greatly affected by system pressure changes due to filters becoming dirty or external wind effects.



### Acceptable types

- 4.38 Fans can be of the axial, centrifugal, cross-flow, mixed-flow or propeller type, depending upon the requirements of the system.
- 4.39 Where used, centrifugal fans should preferably be of the backward-blade type. Alternatively, where noise levels are more critical and pressure requirements are lower, forward-curved blade fans are acceptable. For high-power applications, aerofoil-blade fans may be appropriate.

### Selection

- 4.40 Generally, large ventilation systems will use centrifugal fans due to their efficiency, non-overloading characteristics, and developed pressures.
- 4.41 Forward curved centrifugal fans can overload if allowed to handle more air than they are designed for.
- 4.42 Alternatively, it may be appropriate to use mixed flow fans in high-pressure systems.
- 4.43 Axial flow or propeller fans are generally only used in local through-the-wall systems, or systems with very low pressure requirements.
- 4.44 Cross-flow fans have very low operating efficiencies, and thus their use is restricted to applications such as fan coil units.

### Location and connection

- 4.45 Fans are normally positioned to 'blow through' the central plant so that the cooling coil and humidifier drains will be under positive pressure.
- 4.46 The fan performance figures given by manufacturers in their catalogue data are based on tests carried out under ideal conditions, which include long uniform ducts on the fan inlet/outlet. These standard test connections are unlikely to occur in practice, the designer should therefore ensure as far as is practical that the fan performance will not be significantly de-rated by the system. This objective can be approached by ensuring that the fan inlet flow conditions comprise uniform axial flow velocities with low levels of turbulence.
- 4.47 Where the outlet duct is larger than the fan discharge connections, there should be a gradual transition, with a following section of straight duct, having a length equivalent to three duct diameters.
- 4.48 The design of the fan intake connection must be carefully considered to avoid swirl in the airstream. When the air spins in the same direction as the impeller, the performance and power consumption of the fan are reduced. When the air spins in the opposite direction to the impeller the power consumption and noise will increase with hardly any pressure increase. Airstream swirl is usually induced by large variations across the fan intake caused by the air passing round a tight bend immediately before the intake.

- 4.49 Where a centrifugal fan is located with an open intake, the clear distance between the suction opening and the nearest wall should be not less than half the diameter of the inlet. If two fans with free inlets are positioned within the same chamber, their adjacent suction openings should be at least 1 diameter apart.
- 4.50 Airtight flexible joints should be provided at fan inlet and outlet connections. They should be equal in cross-section to the points of connection and be neither longer than 200 mm nor shorter than 100 mm.
- 4.51 For centrifugal fans, a diffuser screen / blast plate should be fitted immediately downstream of their discharge.

#### Supply fan drive arrangements

- 4.52 Where the fan drive is via a motor-driven belt and pulley, it should be external to the air stream. This arrangement has the following advantages:
- the fire risk is reduced;
  - the drive is visible so it is simple to check that the belt is still there;
  - particles shed from the drive belt are outside of the air stream;
  - if the belt slips, the “burning rubber smell” is not transmitted down into occupied areas of the premises;
  - noise generated by the motor and drive will not be transmitted along the ductwork;
  - waste heat is excluded from the system;
  - the drive may be through a vee or toothed belt and pulley. The latter have the advantage of eliminating belt squeal on start up and have a longer service life. They are particularly suitable where the fan drive motor is fitted with a soft start and should be located external to the air stream.
- 4.53 The drive train should be easily visible without the need to remove access covers. Protecting the drive train with a mesh guard is the preferred option. For weatherproof units designed to be located outside, the fan drive will be external to the duct but enclosed. It should be easily visible through a viewing port with internal illumination and access via a lockable hinged door.
- 4.54 For direct-coupled fan and motor units, the motor should be out of the air stream.
- 4.55 For induction drive ‘plug’ motor arrangements (where the motor is fitted within the fan and is integral to it) and in line axial fans with a pod motor; the fan / motor combination may be within the air stream provided the motor windings are protected from over temperature by a thermister and lockout relay.



### Extract fan drive arrangements

- 4.56 The preferred method where the fan drive is via a motor driven belt and pulley arrangement will be to locate it external to the air stream.
- 4.57 The fan drive and motor may be located inside the duct within the air stream provided the motor windings are protected from over-temperature by a thermister and lockout. The drive train should be easily visible through a viewing port, have internal illumination and access via a lockable hinged door.
- 4.58 Where the system air is explosive, aggressive or has high moisture content, the extract fan motor must be located outside the air stream. This is generally achieved with axial fans by using a bifurcated unit.

### Control

- 4.59 Fans in healthcare applications are normally either single or two-speed. Where there is a requirement for two-speed operation, this is generally via a local user control (for example, in a hood extract system to provide a boost facility) or via a time schedule for energy saving during unoccupied periods.
- 4.60 Normally only a single motor is required with a standby motor available for fitting as necessary or fitted but not belted. Twin, run and standby motors - with the standby being jockeyed around - are not required.
- 4.61 Where there is a specified requirement for standby fans, the system should incorporate an automatic changeover facility activated via an airflow sensor. Fault indication should be provided.
- 4.62 The control of fans in terms of start-up and run is increasingly being vested in computer software. Inverter-drive, variable-speed, soft-start systems are becoming a standard approach. It should be remembered that most healthcare applications require known amounts of air to be delivered while the system is in use. Constant volume systems that deliver specified air-change rates are therefore the norm. Duct- or room-pressure-controlled, variable-speed systems have a very limited application in healthcare.
- 4.63 It is necessary to ensure that - should the computer control system or its software develop a fault - then the fan can be switched to a direct-start, fixed-speed, manual operation. This is particularly important for critical care systems serving operating suites, high-dependency care units of any type, patient isolation facilities, laboratories and pharmaceutical production suites. Off-site software support is no substitute for the ability of on site staff to override the automatic control and keep the system operating in an emergency. Under these circumstances actions that may shorten the life of the plant are considered of secondary importance to that of preserving the health and safety of patients and staff.



## Heater batteries / heater coils

### General requirements

- 4.64 Frost batteries are installed to protect the downstream filters from low-temperature, high-humidity intake air conditions. As they handle unfiltered air they should be constructed of plain tubing without fins and be as near to the outside as possible to minimise condensation during cold weather. Access for cleaning will need to be provided to both sides of the coil.
- 4.65 Where steam coils are used for a frost battery, they may be constructed using spiral-finned copper tube. As they will be prone to fouling the tube layout and spacing should permit easy access for regular cleaning.
- 4.66 Main and branch heater-batteries should be constructed of solid-drawn copper-tube coils with copper fins, generally connected in parallel.
- 4.67 Where there is a wet heating system in the areas served, the main heater-battery should be sized for the ventilation requirements only, and not for the fabric loss.
- 4.68 Access for cleaning must be provided to both sides of all frost batteries and heater-batteries.

### Acceptable types

- 4.69 Electric, water or steam heater-batteries may be considered. However, electric heater-batteries are expensive to operate and where there are alternatives, their use should be restricted to low-power use (for example trimming control).
- 4.70 Where steam-supplied heater-batteries are used, their control, venting and trapping systems should be designed so that a vacuum cannot occur within the coil. The condensate drainage arrangements should not allow pressure to build in the main resulting in a back-up of condensate in the coil.

### Location

- 4.71 Where possible, wet-trimmer heater-batteries should be located in plant areas.
- 4.72 Where it is necessary to locate heater-batteries in false ceilings etc, consideration should be given to the use of electric heaters. If this is not practicable, drip-trays should be installed under both the battery and the control valve assembly to protect the ceiling. A moisture sensor and alarm should be fitted in the tray. In any event, to facilitate maintenance access, they should be located above corridors or other non-critical areas and never above patient occupied spaces.
- 4.73 Auxiliary fan coil units should not be installed in the ceiling above an occupied space. They should be accessible for routine maintenance and cleaning without the need to cause significant disruption to the operation of the department that they serve.

## Control

- 4.74 LPHW frost coils should be controlled by an off-coil temperature sensor operating a motorised valve to provide a minimum plant “on temperature” of between 2°C and 5°C. The off-coil temperature of the frost coil is generally sensed by a serpentine thermostat downstream of the coil or upstream of the next plant item. This thermostat will shut the fan down if any part of the air stream is below the minimum set-point.
- 4.75 Steam-supplied frost coils should be fitted with an on/off control operated by a temperature sensor mounted upstream of the battery. These are normally set to open the control valve fully when the outside temperature drops to +1°C. This will ensure that there is no standing condensate in the base of the coil.
- 4.76 The main heater-battery should be controlled in the same manner under the dictates of either an off-coil temperature sensor, or a room temperature sensor, depending on the plant configuration and method of control. Trimmer heater-batteries are generally controlled by one or more averaging temperature sensors within the room or rooms in the zone.
- 4.77 Heater-battery control valves should drive closed on system shutdown or fan failure. The control system should then automatically set to provide frost protection.

## Cooling coils

### General requirements

- 4.78 Cooling coils will need to be decontaminated periodically. They must have good access both up and downstream. Hinged access doors with viewing ports and illumination inside the duct should be provided both sides of the coil.
- 4.79 An eliminator will be required downstream of all cooling coils. The eliminator may take the form of an extension of the coil fins or be a separate device. If a separate device it should be removable as a unit to permit cleaning of the coil face.
- 4.80 All cooling coils must be fitted with their own independent drainage system as specified above. A baffle or similar device must be provided in the drip tray to prevent air bypassing the coil. The tray should be large enough to capture the moisture from the eliminator, bends and headers.
- 4.81 Where coils are greater than 1m high, intermediate drip-trays will be required.

### Selection

- 4.82 Cooling coils supplied with chilled water are the preferred option. For small loads or where chilled water is not available, direct expansion coils may be used.



- 4.83 Care must be taken in selection to minimise electrolytic action resulting from condensation on the airside. Coils constructed from copper tubes with copper fins extended on the downstream side in the form of an eliminator, and electro-tinned after manufacture are preferred. Aluminium fins should only be used if vinyl-coated.
- 4.84 All parts of the coil and its associated ductwork in contact with moisture must be manufactured from corrosion-resistant materials. Pressed steel coil headers, even if treated, have been shown to be prone to corrosion over time and should not be used. Steel mounting frames and casings present similar problems so stainless steel is preferred.

### Location

- 4.85 Micro-organisms that multiply in moisture cannot be avoided when the coil is dehumidifying. However, locating the final filter downstream of the coils will reduce the risk of infection.
- 4.86 Cooling coils in AHUs should be located upstream of the final filter.
- 4.87 Where any cooling coil has to be located above a ceiling, drip-trays should be installed under both the coil and the control valve assembly to protect the ceiling. A moisture sensor and alarm should be fitted in the tray. To facilitate maintenance access, they should be located above corridors or other non-critical areas and never above patient occupied spaces.

### Control

- 4.88 There are two basic methods of control for cooling coils:
- off-coil control – used in multi-zone systems or single-zone systems where close humidity control is required, to provide a constant maximum off-plant condition which satisfies the temperature and high humidity requirements of the zone with the highest load;
  - sequential control – used in single-zone systems, or multi-zone systems with averaging sensors where close control is not required. A room or duct temperature sensor controls the cooling coil and heater battery in sequence to maintain constant room conditions.
- 4.89 The advantage of off-coil control is that accurate humidity control can be provided without relying on humidity sensors, which are prone to inaccuracy and drift. Off-coil control is however, expensive to operate in terms of energy consumption, due to the fact that there is no feedback of room loads, and thus at low loads and in systems where there are large zonal variations, significant over-cooling and reheating will occur.
- 4.90 On systems with two-speed operating, it is usual to isolate the cooling coil upon selection of low speed. In addition, on system shutdown, low airflow or fan failure, the cooling coil must be isolated.

## Humidifiers

### Design need

- 4.91 Humidification was originally required for some healthcare applications in order to control the risk associated with the use of flammable anaesthetic gases. The use of such gases has now ceased. Humidification is therefore no longer required unless there is a very specific application requirement.
- 4.92 Operating-theatre AHUs do not generally require humidifiers but provision for their retrofitting in terms of space provision and a capped drainage system should be provided.
- 4.93 Where humidification is required, it will be subject to the specific requirements set out below. These are intended to ensure that the unit will operate safely and not become a source of contamination.

### General requirements

- 4.94 The most important requirement for a humidifier is to create complete mixing of the steam with the air. The manufacturers' instructions should be followed regarding minimum distances which should be allowed before bends or other components. This is particularly important with respect to a filter mounted downstream. If it becomes saturated by the humidifier, organisms can grow through the filter and be released into the duct. These may then be carried on the airstream into an occupied space.
- 4.95 The section of ductwork containing the humidifier may need to be periodically decontaminated. Hinged access doors with viewing ports and internal illumination should be provided. A label warning that the device emits live steam and should be isolated prior to opening should be affixed to the access door.
- 4.96 All parts of the humidifier and its associated ductwork in contact with moisture must be manufactured from corrosion-resistant materials. Stainless steel is preferred.
- 4.97 The electrodes of self-generating electrode-boiler type humidifiers should be stainless steel.
- 4.98 All humidifiers must be fitted with their own independent drainage systems as detailed in paragraphs 4.72 and 4.87 or 4.20 to 4.25.
- 4.99 For self- and locally-generated steam humidifiers, the cleanliness of the water supply is essential for their safe operation. Provision should be made for draining down supply pipework and break tanks for periodic disinfection and cleaning during periods when they are not required in service.
- 4.100 The addition of treatment chemicals for continuous control of water quality for humidifier/air handling units should be avoided. Consideration could be given to installing a UV system to control microbiological growth. Given the limitations of



UV systems, however, this will require filtration to high quality to ensure the effectiveness of exposure of organisms to the UV irradiation. As with all water treatment systems the unit should be of proven efficacy and incorporate UV monitors so that any loss of transmission can be detected.

### Acceptable types

- 4.101 Only steam-injection manifold-type humidifiers are considered suitable for use in health building air-conditioning systems. Water humidifiers of any type should not be used.
- 4.102 Steam may be derived from the central steam supply provided that it does not contain any treatment carry-over, or generated locally either within or adjacent to the humidifier.
- 4.103 The introduction of steam should be by an appliance specially designed to discharge dry steam into the air-conditioning system without objectionable noise or carry-over of moisture.
- 4.104 During the design stage, consideration should be given to the proposed methods for the regular cleansing of the humidifier(s) and their components.

### Selection

- 4.105 The number and length of steam-injection manifolds to be used is dependent on various factors such as duct cross-sectional area, air velocity, dry-bulb temperature and manifold design. Guidance from the manufacturer should be followed closely.
- 4.106 A mains steam humidifier can be noisy and will be difficult to control if it is operated at an excessive steam pressure. It should be sized for an operating pressure of approximately 1 bar. The pipework supplying it should be provided with a dirt pocket, pressure reducing valve and steam trap installed as close as practicable to the humidifier, so that the steam condition at entry is as dry as possible. A temperature switch on the condensate line (or equivalent design provision by the humidifier manufacturer) should be incorporated to prevent 'spitting' on start-up.
- 4.107 Most operational problems with mains steam humidifiers arise because of back-pressure in the condensate discharge line which will result in flooding into the duct. Unless the condensate from the device can be discharged and collected at atmospheric pressure, it should be discharged directly to drain.
- 4.108 A local steam generator, where used, must be fed with potable quality water. Additional water treatment to the standard set out above may be required. If the humidifier is unused for a period exceeding 48 hours, it must automatically drain its water content, including that contained in the supply pipework, right back to the running main and leave itself empty.
- 4.109 Some steam generators are of a type that requires regular cleaning and descaling. The design must allow for them to be installed such that they can be



physically isolated from the air duct in order to prevent contamination of the supply by cleaning agents while this is taking place.

### Location

- 4.110 Careful siting of the humidifier injection manifold is required to prevent the steam impinging onto the side(s) of the duct, condensing and generating excess moisture.

### Control

- 4.111 Accurate humidity control can only be provided on single-zone systems, or multi-zone systems with zonal humidifiers. In the above systems, humidity sensors control the humidifier for low-level humidity control, and override the temperature controls to open the cooling coil valve for high-limit humidity control.
- 4.112 Multi-zone systems are more usually controlled by a minimum humidity sensor located in the supply duct(s) following the last heater-battery.
- 4.113 Overriding controls separate from the normal plant humidistat should be installed. Their purpose is to prevent excessive condensation in the conditioned space when starting up. A time delay should be incorporated into the humidifier control system such that the humidifier does not start until 30 minutes after the ventilation/plant start-up. In addition, a high-limit humidistat should be installed to limit the output of the humidifier so that the saturation in the duct does not exceed 70%. This humidistat is to control the added moisture. It is not necessary to install a de-humidifier to reduce the humidity of the incoming air if it already exceeds 70%. The humidifier control system should ensure that the humidifier is switched off when the fan is not running.
- 4.114 On systems with two-speed operating, it is usual to isolate the humidifier upon selection of low speed. In addition, on system shutdown, low airflow or fan failure, the humidifier should be isolated.

## Filtration

### General requirements

- 4.115 The purpose of filtration is to reduce the level of airborne contamination in an air stream. It is generally carried out in stages.
- 4.116 Filters must be securely housed and sealed in well-fitting frames that minimise air by pass. Air by pass significantly reduces filter efficiency, the higher the filter grade the greater the effect. Mounting frames should be designed so that the air flow pushes the filter into its housing to help minimise air bypass. Mounting frames that withdraw so that the filter can be changed without having to reach into the unit are preferred.

- 4.117 Neither the filter media, nor any material used in the construction of the filters, should be capable of sustaining combustion. The filter media should be such that particles of it do not detach and become carried away by the airflow.
- 4.118 Filters need to be readily accessible for replacement so a hinged access door should be provided. The upstream side of the filter should be visible for inspection through a viewing port with internal illumination.
- 4.119 All filters should be provided with a means of visually checking the differential pressure across them. Direct-reading dial-type gauges marked with clean and dirty sectors are preferred.
- 4.120 A complete spare set of filters must be provided at handover.

**Definition of filter terms**

- 4.121 Particulate air filters are divided into four categories:
  - general ventilation filters grades G1 to G4;
  - fine filters grades F5 to F9;
  - high efficiency particulate filters (HEPA) graded H10 to H14;
  - ultra-low particulate air filters (ULPA) graded U15 to U17.
- 4.122 General filters are graded in terms of their 'Synthetic dust weight 'Arrestance'. This represents the percentage of a test dust captured by a filter. 'Arrestance' provides a good indication of a filter's ability to remove the larger, heavier particles found in outdoor air. These are of a size to block finned batteries and large enough to settle out in the air distribution system.

BSEN 779 grade (Eurovent grade)	% Arrestance	Notes and typical healthcare application
G1 - (EU1)	< 65	Metal mesh grease filter
G2 - (EU2)	65 to < 80	Coarse primary filter
G3 - (EU3)	80 to < 90	Primary air intake; return air; energy recovery device protection
G4 - (EU4)	> 90	General purpose tempered air supply

**Table 4a: General Filters**

- 4.123 Fine filters are graded in terms of their 'Atmospheric dust spot Efficiency'. This is a measure of the filter's ability to remove the very fine staining particles found in outdoor air. It will indicate how 'visibly' clean a filter will keep a ventilated space. The staining particles are approximately the same size as most common bacteria so it is also a rough measure of the filter's ability to remove microorganisms.



BSEN 779 grade (Eurovent grade)	% Efficiency	Notes and typical healthcare applications
F5 - (EU5)	40 to 60	General purpose panel / bag filter
F6 - (EU6)	60 to < 80	Basic grade bag filter
F7 - (EU7)	80 to < 90	Medium grade bag or pleated paper Conventional operating theatre supply air
F8 - (EU8)	90 to < 95	High grade bag or pleated paper
F9 - (EU9)	> 95	Basic HEPA filter – Level 8 clean rooms

Table 5: Fine Filters

- 4.124 High efficiency filters (HEPA and ULPA) are graded in terms of their ability to capture their 'Most Penetrating Particle Size' (MPPS). High-efficiency filters self-select the particle that they are least able to trap, hence the MPPS. They are then tested against that size of particle. These filters are designed to provide very high-efficiency filtration of particles in the sub-micron size range.

BSEN 1822 grade (Eurovent grade)	% Efficiency @ MPPS	Notes and typical healthcare application
H10 - (EU10)	85	Ultra-clean theatre terminal
H11 - (EU11)	95	
H12 - (EU12)	99.5	
H13 - (EU13)	99.95	
H14 - (EU14)	99.995	Pharmacy aseptic suite Category 3 room extract
U15 – U17	-	Not generally used in healthcare

Table 6: High Efficiency (HEPA) Particulate Filters

#### Selection primary filters

- 4.125 All filters should be of the dry type. Panel filters are cheap and disposable with relatively low dust-holding capacity. They are generally used as pre-filters to eliminate large particles that would otherwise clog or cause damage to the fan and finned heating and cooling batteries. Stainless steel frames that hold disposable pre-cut filter pads are preferred.
- 4.126 General ventilation supply plant should incorporate primary air filters of grade G3, sized for a maximum face velocity of 2.0 m/s. Additional coarse pre-filters may be justified where the intake air is exceptionally polluted. They are sometimes fitted as a temporary measure when building work is being carried out in the vicinity of the air intake.

#### Secondary filters

- 4.127 Where a higher standard of filtration is required, secondary bag or pleated paper panel filters would be used. Rigid frame filters incorporating pleated paper elements are preferred over bag filters for critical care applications such as operating theatres.

- 4.128 In urban or other areas of high atmospheric pollution, a higher standard of filtration may be justified to reduce the level of staining to internal finishes.

#### Extract air filters

- 4.129 Extract filtration will generally only be required where heat-recovery devices are installed. There are a very limited number of specialised applications (microbiological safety cabinets and similar LEV systems) where contaminated air is required to be filtered prior to discharge to atmosphere. If it is safe for staff to work in a room without wearing respiratory protective equipment, it is safe to discharge the room air to atmosphere without filtration.

#### Return-air filters

- 4.130 They are used to reduce the load on HEPA filters in recirculating applications such as Ultra Clean operating suite ventilation canopies and pharmacy aseptic suites.

#### High-efficiency filters – HEPA and ULPA

- 4.131 HEPA filters are expensive so their use should be kept to a minimum. Applications requiring HEPA filters include the air supply to aseptic suites in manufacturing pharmacies, the discharges from microbiological safety cabinets and isolation facilities.
- 4.132 If used, HEPA filters should be of the replaceable panel type with leak-proof seals. They should be installed in a manner that permits on-site validation of the filter and its housing. This may involve the release of a Dispersed Oil Particle (DOP) challenge smoke through an injection point upstream of the filter and a measurement of the DOP penetration across the downstream face. Alternatively a particle-counting method may be used.
- 4.133 HEPA filters are sometimes fitted in extract systems to capture hazardous substances or organisms. Design provision must be made for the subsequent safe handling of contaminated filters by maintenance staff. This may be achieved by:
- sealing the hazardous substance into the filter before it is removed;
  - providing a system to fumigate the filter to kill any organisms;
  - housing it in a "safe change" unit that permits the filter to be ejected into a bag and sealed without staff having to come into direct contact with it.
- 4.134 In view of the costs and problems associated with placing HEPA filters in extracts, it is recommended that a full risk assessment be carried out at the design stage. This should include defining the true need for HEPA filters in an extract; validation of its performance at installation; the method of safely changing a contaminated filter; and its subsequent disposal.



- 4.135 ULPA filters are very expensive and are designed to remove particles below a size that are either surgically or aerobiologically significant. There would have to be exceptional circumstances in order to justify their use in healthcare ventilation systems.

#### Activated carbon filters

- 4.136 Activated carbon filters are able to remove gases and vapours from an air stream and are graded according to the range of substances they can remove. They are not normally fitted in air-conditioning supply systems.
- 4.137 They are occasionally fitted retrospectively because the main air intake has been poorly sited and is drawing in traffic fumes. Where used they must be protected by a particulate air filter.
- 4.138 Activated carbon filters are more commonly used in specialised fume extraction systems when the location of the discharge means that dilution cannot be relied upon to disperse noxious fumes.

#### Location

- 4.139 The primary filter should be positioned on the inlet side of the supply fan, downstream of the frost coil. The secondary filter, when fitted, should be on the positive-pressure side of the fan. This will prevent air being drawn into the system after the filter and capture any particles shed by items of equipment within the AHU.
- 4.140 The filter installation must be arranged to provide easy access to filter media for cleaning, removal or replacement, with side or front withdrawal as required.

#### Control

- 4.141 Differential-pressure transducers should be provided to monitor and alarm remotely on excessive filter pressure drop. In critical areas dirty-filter indication lights should be provided at the point of use.

### Energy-recovery

#### General requirements

- 4.142 Energy recovery will normally be fitted to all healthcare ventilation systems. It may be omitted only where it would clearly be uneconomic. Where the economic case is marginal, space should be allowed for the retrofitting of an energy recovery system.
- 4.143 For systems in healthcare premises, a plate heat exchanger or 'run-around coil' system is suitable. Thermal wheels may be used providing they are fitted with a purge sector. The small amounts of air leakage across those devices are not considered significant. Other systems such as heat pumps or heat pipes are also suitable. Selection should be based on relative locations of the supply and



extract units, ease of maintenance and practicality. Cleaning access will be required to both sides of any energy-recovery device.

- 4.144 The following are the minimum energy transfer efficiencies required for devices handling equal air volumes:
- run-around coil – 45%;
  - plate heat exchanger – 50%;
  - thermal wheel – 65%;
  - any other energy-recovery device – 50%.
- 4.145 If a plate heat exchanger is chosen, the plates should be constructed of metal. Plastic should not be used for internal bypass dampers and drive gears.
- 4.146 Whichever energy-recovery device is chosen the extract side will need to be protected by a G3 filter and provided with a drainage system as described in Section 4; Paragraphs 4.20 to 4.25, to remove condensate.

#### Location

- 4.147 Energy-recovery devices should be located downstream of the frost battery and pre-filter, prior to the cooling coil or main heater battery on the supply side.

#### Control

- 4.148 It is essential to consider the control of both the energy recovery device and the frost battery when assessing the economics of recovery, as all energy provided by the frost battery will directly reduce the heat exchange of the recovery device. To this end, the off-coil setting of the frost coil should be the minimum possible to protect the primary filter (for example +2°C).
- 4.149 The energy-recovery device should be controlled in sequence with the main heater battery, and should incorporate a control to prevent the transfer of unwanted heat when the air-on condition rises above the required plant set point.
- 4.150 In instances where the plant is cooling the air, it may be possible to remove heat from the supply air at high ambient conditions, under the dictates of enthalpy sensors in the intake and extract ducts.

### Attenuation

#### General requirements

- 4.151 Noise will be generated in an air distribution system by the fan, plant items and airflow. The ductwork is a very effective transmitter of this noise hence there is generally a need to limit the noise transmission to meet the requirements of the

building. This normally involves the provision of sound attenuation treatment as part of the overall ductwork system design.

- 4.152 A thorough assessment of the design should be made to assess the noise impact. This should take into account the following primary factors:
- fan- and plant-noise generation;
  - air-flow generated noise in ductwork fittings and dampers;
  - noise generated at grilles, diffusers and other terminals;
  - noise break-in and break-out of ductwork;
  - cross-talk and similar interference;
  - the noise limitations for the building and surrounding areas;
  - external noise generation.
- 4.153 A method of assessment of these factors and the sound attenuation requirements of ductwork systems is given in CIBSE Guide B.
- 4.154 The fan is usually the main source of system noise. The sound power that it generates varies as the square of the fan pressure, and thus to limit the fan noise level the system resistance should be kept as low as economically possible. As a general rule the selected fan should operate close to its point of maximum efficiency to minimise its noise generation. Where there is disturbance to the airflow at the fan inlet, the manufacturer's stated fan noise levels should be increased by up to 5 dB(A). More precise guidance on this aspect may be available from the manufacturers.
- 4.155 Fans radiate noise through both the inlet and outlet connections and it may be necessary to provide attenuation to limit the noise from both of these connections. It is always preferable and more economic to control noise and vibration at source, or as close to source as possible. It should be noted that attenuators offer a resistance to airflow. The resistance must be included in the fan and ductwork calculations.
- 4.156 Provided care is taken in the design and construction of low-pressure systems to avoid significant noise generation in the ductwork, attenuation should only be needed to absorb fan noise.
- 4.157 Noise breakout from all equipment housed in the plantroom must be taken into consideration if control is to be satisfactory. Any ductwork within the plantroom after the silencer should be acoustically insulated to prevent noise break-in or the silencer relocated at the point of entry or exit of ductwork to and from the plant room.
- 4.158 There is no complete means of control over external noise generation from such as road traffic, aircraft, factory and community noise. Consideration must be given to this at the design and planning stage.



### Acceptable types and location

- 4.159 The noise levels produced by ventilation and other plant should be reduced by either lining the inside of the duct with sound-absorbing material or fitting bespoke attenuator units.
- 4.160 In supply systems, sound-absorbing material should not be applied to the inside surface of a duct system downstream of the final filter, owing to the risk of mechanical damage and the subsequent dispersal of the media into the ventilation system.
- 4.161 In supply and extract systems, sound-absorbing material must not be applied to the inside of a duct within 1 metre of a fire damper. The material should be non-particle-shedding and fire-resistant (further guidance can be found in SHTM Firecode suite of documents). Where sound-absorbing material is applied in a section of duct that will be routinely exposed during maintenance activities it should be protected from mechanical damage.
- 4.162 Bespoke attenuator units with a sound-absorbing infill suitable for the quality of air being handled and protected by a perforated sheet metal casing are the preferred option for critical systems. Absorption of moisture, dirt and corrosive substances into the 'in-fill' and the release of fibrous particles into the airstream should be prevented by the use of a membrane. The membrane material should have a declared service life of at least 25 years. If these conditions can be met then the attenuator may be located in the supply ductwork downstream of the final filter. When so located cleaning access should be provided at both ends of the attenuator unit.

## 5. Air distribution system

### Air distribution arrangements

#### Ductwork distribution systems

- 5.1 Ductwork systems for ventilating and air-conditioning applications are referred to by their velocity or pressure category, that is, as low, medium or high velocity (or pressure) systems. Heating & Ventilating Contractors Association (HVCA) limits are up to 10 m/s or 1,000 Pa; 20 m/s or 1,750 Pa; and 40 m/s or 3,250 Pa in the case of conventional low, medium and high pressure systems respectively. High-pressure systems are disappearing because of the constraints of the Building Regulations but existing systems may sometimes need to be altered or extended.
- 5.2 For normal applications in healthcare buildings, low velocity systems are recommended; and the use of higher velocities than those recommended is not likely to be economical. Future trends are likely to be towards even lower optimum duct velocities; however, velocities below 2 m/s are unlikely to be justified.
- 5.3 The site will often dictate the main routing of ductwork systems, but in general, the design should seek to make the layout as symmetrical as possible; that is, the pressure loss in each branch should be as nearly equal as possible. This will aid regulation and may reduce the number and variety of duct fittings that are needed.
- 5.4 Main distribution ductwork should not be routed above sleeping areas. Where there is no alternative route, additional acoustic insulation will be required.
- 5.5 Where auxiliary cooling units, fans, filters or trimming devices are installed in the distribution system, they must be independently supported and fitted with a suitable drainage system where appropriate. If they are a source of vibration they should be linked to the distribution ductwork via flexible connections.
- 5.6 The fan of a Local Exhaust Ventilation (LEV) system provided under the COSHH Regulations should be located outside of the building so that all of the ductwork within the building is under negative pressure. Where the fan has to be within the building it should be located as close as practicable to the outside with an absolute minimum run of discharge ductwork within the building. The discharge ductwork within the building will be under positive pressure so it must not be penetrated by test holes or inspection hatches.

#### Ductwork materials and construction

- 5.7 The choice of duct material should take account of the nature of the air or gas being conveyed and the environment in which the duct will be placed.



- 5.8 Galvanised-sheet-steel is generally suitable and most economical for normal ventilating and air-conditioning applications. Its inherent mechanical strength renders it resistant to casual damage both during the construction phase and throughout its service life when mechanical and electrical services around it are altered. It also readily withstands the impacts sustained when rotary equipment is used to clean it internally.
- 5.9 In instances where moisture levels and/or corrosive elements in the air being conveyed are very high, aluminium, stainless steel, PVC or GRP (glass-reinforced plastic) ducts should be used. Stainless or black steel are the only suitable materials for high-temperature ductwork.
- 5.10 In inherently wet areas, such as the base of fresh air inlet ducts and some extract systems, the ductwork may require draining to prevent a build-up of standing water. The layout of the drains should be as specified in Section 4 Clauses 4.20 to 4.25.
- 5.11 Where builderwork plenum chambers or ducts are used, these may be constructed of various materials. However all such ducts must be rendered and sealed to prevent dust shedding. A greater allowance may need to be made for leakage.
- 5.12 Galvanised, black and stainless steel ductwork should be manufactured and installed to the current HVCA specification for sheet metal ductwork DW144, but excluding the use of bolt-through supports.
- 5.13 GRP and PVC ductwork should be manufactured and installed to the current HVCA specification for plastic ductwork DW154.
- 5.14 Where phenolic-board ductwork is considered, care should be taken to ensure that it is fabricated to a quality standard and installed strictly in accordance with the manufacturers' instructions. Its pressure rating and degree of support should be suitable for the application and ducts should be fitted with mechanical protection where required. Installers should be experienced having received training in the techniques required and certified to this effect by the manufacturers. Due consideration should be given to the impact on ductwork pressures created by the closing of dampers. Phenolic-board ducting should not be installed in plant rooms where it could be vulnerable to impact damage.
- 5.15 Flexible ductwork is unsuitable for air distribution in healthcare applications. It should only be used to make the final connection to a terminal (See clauses 5.54 and 5.55).
- 5.16 The inside of the ductwork should be free from structural projections and as smooth as possible. Flanged, gasketed joints are preferred.

### Fire aspects, damper types and locations

- 5.17 It is essential that all relevant fire aspects of ducting systems are agreed with the fire officer before the design is finalised.



- 5.18 Ductwork must be fire-stopped where it penetrates fire compartment walls, floors and enclosures, cavity barriers and sub-compartment walls or enclosures, and provided with weatherproof collars where roofs or external walls are penetrated.
- 5.19 Fire/smoke dampers shall be provided at the locations required by Firecode. The fire-damper mounting frame must be securely attached to the building fabric. Where a fire-damper is not mounted directly in a fire compartment wall, it must be correctly supported and the ductwork between it and the firewall must possess the same fire rating as the firewall that it penetrates. The fire-rated portion of ductwork must not be penetrated by test holes or inspection hatches. All fire/smoke dampers shall be capable of remote re-setting via the Building and Energy Management System or equivalent, after periodic testing procedures.
- 5.20 An access hatch shall be provided adjacent to each fire damper so that its correct operation can be directly observed.
- 5.21 Smoke-diverting dampers must be provided on recirculation air systems to divert automatically any smoke-contaminated return air to the outside of the building in the event of a fire; and arranged so that the normal open smoke-diverting damper on the return-air branch to the input unit closes and all the return air is exhausted through the extract fan. Guidance is available in SHTM 81 and BS5588: Part 9.

### Duct sections

- 5.22 Ducting is generally available in rectangular, circular and flat oval sections, although other sections may be made for special situations.
- 5.23 Rectangular ducting is most common on low-pressure systems, for the following reasons:
- it can readily be adapted to fit into the space available;
  - fittings are cheaper than those for circular or flat oval ductwork;
  - it can readily be joined to such component items as heating and cooling coils, and filters.
- 5.24 When sizing ductwork, the designer should take into account:
- both installation and operating costs;
  - space limitations imposed by the structure and other services;
  - operating noise levels;
  - requirements of regulation at the commissioning stage.
- 5.25 For overall economy and performance, the aspect ratio should be close to 1:1, since high aspect ratios increase the pressure loss, heat gains or losses and overall cost (for example, changing the aspect ratio from 1:1 to 1:4 can typically

increase the installed cost of the ductwork by 40% and add 25% to the heat gains or losses).

- 5.26 Rectangular ducting should not be the first choice for high pressure systems, and should be avoided in systems operating at high negative pressures, because the strengthening of the flat sides and the sealing requirements necessary to make rectangular ducts suitable for these high pressures are costly.
- 5.27 Circular ducting is preferable for high-pressure systems, and for systems operating at high negative pressures. In the case of the latter, additional stiffening rings may be necessary. Machine-formed spirally-wound ducting and a standard range of pressed and fabricated fittings can sometimes make circular ducting more economical, particularly in low pressure systems having a relatively low proportion of fittings.
- 5.28 Flat oval ducting provides an alternative to circular ducting, principally where there is a limitation on one of the dimensions in the space available for the duct run.
- 5.29 Other sections may be used, such as triangular sections to pass through roof trusses. Such sections present difficulties in the provision of fittings, and connections to standard plant items, and are likely to be more expensive than traditional sections.

#### Standard ductwork fittings

- 5.30 All fittings should conform to current HVCA specification DW144. Wherever possible, long radius bends, large radius main branches, not more than 45° angle sub-branches and long-taper transformations should be used.
- 5.31 Fittings should be arranged with vanes in sub-branches connected directly to grilles and diffusers, and turning vanes in square bends (when used). When vanes are used, additional cleaning access will be required.
- 5.32 The number of duct fittings should be kept to a minimum and there should be a conscious attempt to achieve some standardisation of types and sizes. Increasing the number and variety of fittings in a system can markedly raise its overall cost.
- 5.33 Bad design in relation to air flow can lead to vibration of flat duct surfaces, increases duct-generated noise and pressure loss, unpredictable behaviour in branch fittings and terminals, and adverse effects on the performance of installed plant items (such as trimmer batteries).

#### Branches

- 5.34 There are many designs of branches and junctions in use. The important features are that the flow should be divided (or combined) with the minimum interference and disturbance. Changes in duct sizes should not be made at the branch but a short distance downstream (or upstream). A good dividing branch



design cannot be effective if the flow entering the branch is not uniform across the section.

### Changes of section

- 5.35 The expansion of a duct section should be formed with sides having a total included angle of no more than  $30^{\circ}$ , and preferably less than  $20^{\circ}$ . If the angle of expansion is greater, the flow is not likely to remain attached to the walls of the duct and large eddies will be formed with flow reversal at the walls. This leads not only to a high-pressure loss, but also to non-uniform velocity pattern at the outlet. Where there is insufficient space for a gentle expansion and a greater angle is necessary, internal splitters should be used.
- 5.36 A contraction in a duct section is less critical, but the total included angle of the taper should not exceed  $40^{\circ}$  (or  $20^{\circ}$  where the contraction is made on one side of the duct only)
- 5.37 The most economical way to change the section of a rectangular duct is to restrict the change of duct size to one side only. If the calculated reduction or increase to the side dimension is 50 mm or less, it is usually not economical to change the size at the position. The minimum size of a rectangular duct should usually be 150 mm x 100 mm.

### Other fittings

- 5.38 As a general rule, fittings should avoid abrupt changes in direction and also sharp edges that cause the flow to separate and form eddies, thus limiting pressure loss and causing noise generation. If the fitting leads to the flow preferentially attaching to one side of the outlet, then a significant length of straight downstream duct is necessary before the next branch or fitting; this length should be greater than five equivalent diameters.

### Thermal insulation

- 5.39 Thermal insulation is applied to ductwork to reduce heat exchange, and to prevent condensation.
- 5.40 In a duct system, the air temperature changes can be significant, especially when passing through untreated space, and these have the effect of reducing the heating or cooling capacity of the air and of increasing the energy input to the system. The heat transmission to and from the surrounding space can be reduced by effective insulation of the ducts.
- 5.41 Condensation can arise in ductwork systems conveying cooled air and, apart from creating conditions conducive to corrosion of ductwork, condensation affects the heat and vapour-resisting properties of insulating materials themselves which may induce further condensation.
- 5.42 In normal circumstances, the insulation thickness for heat resistance is sufficient to prevent surface condensation, but in extreme conditions the



insulation thickness for vapour resistance may be greater than that for heat resistance. When cold ducts pass through areas of high dew-point, carefully selected vapour barriers should be applied externally to the insulation.

### Noise generation within the ductwork

- 5.43 Noise is generated in ductwork at sharp edges, by tie rods, damper blades, duct obstructions and sharp bends etc. This air-flow-generated noise becomes an important factor if it is about the same or greater level than the upstream noise level. (Air-flow-generated noise is often referred to as “regenerated noise”).
- 5.44 The noise level generated by airflow in ductwork is very sensitive to the velocity. The sound power of this noise is approximately proportional to the sixth power of the velocity; that is, a doubling of the duct velocity will increase the sound power by a factor of 64. The duct velocities should therefore be kept as low as possible. In general, duct fittings that have lower pressure loss factors in similar flow conditions will generate less noise.
- 5.45 Ductwork serving quiet areas should not be routed through noisy areas where noise break-in can occur and increase the noise level in the ductwork.
- 5.46 Grille, register and louvre noise should be kept to the minimum by selecting types having low noise-producing characteristics, without high tonal noise, and should be fitted with acoustically treated external inlet and outlet louvres.
- 5.47 Cross-talk attenuators may be necessary where noise intrusion between adjacent spaces can arise and where individual room confidentiality is required. They will normally be of the ‘through-the-ceiling, ‘up-and-over’ type and may include a fire damper if required.

### Volume control damper locations

- 5.48 Manually operated balancing dampers are needed generally:
- in the main duct downstream of the fan;
  - in branches of zone ducts;
  - in sub-branch ducts serving four or more terminals;
  - at terminals not covered by the previous item.
- 5.49 Dampers integral with terminals should only be used for final trimming of air volumes, otherwise noise and air distribution problems may ensue.
- 5.50 Dampers in rectangular ducts should be single-bladed when the longer side is up to 450 mm but be of the opposed-blade multi-leaf type above this size. In circular ducts, iris-type dampers are recommended. Dampers must be accessible, incorporate a position indicator and means of locking in the commissioned position. Dampers should be located as far away as possible from adjacent branches or plant items.

### Cleaning and access door locations

- 5.51 Cleaning and access doors are required to facilitate access to plant items and ductwork components for inspection, maintenance, cleaning and replacement, and must be of sufficient size to permit safe access for the required functions. Consideration should also be given to the number of doors to be provided.
- 5.52 Recommended locations for access doors are given in the current HVCA specification DW144 and are generally provided to give access to:
- every regulating damper;
  - every fire and motorised damper;
  - filter (to facilitate filter withdrawal);
  - both sides of cooling/heating coils;
  - humidifiers;
  - fans and
  - motors and impellers.
- 5.53 Care should be taken when siting access doors to ensure that no other services to be installed will prevent reasonable access.

### Flexible ducting

- 5.54 Flexible ductwork may be used for final connections to grilles and diffusers provided it is constructed to meet the fire precautions recommended in BS8313. It must not pass through fire compartment walls, floors or enclosures of sub-compartment walls or enclosures, or through cavity barriers.
- 5.55 Flexible ducting will cause a significant frictional loss and may be difficult to clean and should never be used in lieu of a bend. Where installed it should take the most direct route and be as short as possible, never exceeding 1 metre in length.

### Diffuser and grille selection and sizing

- 5.56 The effectiveness of all ventilation and air-conditioning systems depends on the methods by which air is introduced to, and vitiated air is removed from, the space. The usual results of poor air-terminal selection and/or positioning are: - draughts, stagnation, poor air quality, large temperature gradients and excessive noise.
- 5.57 Air can be supplied to a space in a number of ways, although any device can be broadly placed into one of two categories: that producing a diffused supply, or that producing a perpendicular jet. Diffusers may be radial or linear, and normally utilise the Coanda effect (that is, adhesion of the air stream to an adjacent surface), to reduce the risk of excessive room-air movement. A



perpendicular jet is formed by discharging air through grilles, louvres or nozzles, which are generally adjustable.

- 5.58 Air-flow patterns produced by both types of terminal are dependent to a large extent on the presence of the Coanda effect.
- 5.59 Supply air terminals can be incorporated into any room surface, for example, floors, walls (high or low level), desktop etc.
- 5.60 As they operate on the jet principle, the use of sidewall and linear grilles is restricted to areas where air change rates are low, that is, less than 10 per hour. Perforated rectangular diffusers can provide acceptable conditions within the occupied zone at up to 15 air changes per hour. In areas where a higher air change rate is required, square or circular ceiling mounted diffusers should be used.
- 5.61 The performance of supply air terminal devices is provided, based on three criteria: throw, spread and drop. **Throw** is defined as perpendicular or parallel distance from the terminal to the point at which the air velocity is 0.5 m/s isovel. **Spread** is defined as the width of the 0.5 m/s isovel; and **drop** is defined as the vertical distance from the centre line of the terminal to the bottom edge of the 0.25 m/s isovel.
- 5.62 It is necessary to consider each of these parameters in both summer and winter conditions to ensure satisfactory operation of the air-terminal device, as warm jets behave very differently from cold jets.
- 5.63 A warm jet tends to rise until it attaches itself to a horizontal surface, while a cold jet falls. Care must be taken to ensure that this does not lead to unacceptable temperature gradients in winter or excessive air velocities in the occupied zone in summer.
- 5.64 In order to ensure satisfactory air movement within a space, it is necessary to consider interaction between air movement from adjacent terminals, and ceiling mounted fixtures (light fittings etc), as well as interaction between air movement and room surfaces.
- 5.65 If the supply and extract terminals are too close, short-circuiting may occur, while if they are too far apart, stagnant zones may be formed. Where two opposing air streams meet, the individual velocities must not be greater than 0.25 m/s.
- 5.66 Supply and extract grilles and diffusers should be fitted with opposed-blade dampers for fine balancing purposes.
- 5.67 Further guidance on the selection of grilles and diffusers is given in the CIBSE Guide B.
- 5.68 In operating theatres, the supply terminals must be able to produce a down-flow movement of air in the operating zone 1 metre above floor level. Ceiling mounted diffusers with fixed directional vanes that provide a downward turbulent airflow are the preferred option. Plenum boxes fitted with perforated



screens to produce a parallel downward flow are also acceptable. Nozzles or jets of any type are not acceptable. Sidewall-mounted linear diffusers that utilise the Coanda effect to send air across the ceiling and 'drop' it into the operating zone are also not suitable. However linear ceiling mounted diffusers that provide a direct downward airflow around the operating zone may be used.

### Transfer grille - size and location

- 5.69 Air-transfer grilles in walls, partitions or doors form an integral part of the building's air distribution system. Modern doorsets have very low leakage rates so cannot be relied upon to permit even quite small airflows. Failure to make adequate provision for air to move from room to room will result in excessive pressure differentials and 'door whistle'.
- 5.70 Transfer grilles are required in locations where there is a significant imbalance between the supply and extract rates in a room. They will relieve any pressure differentials that may affect the operation of the spaces and/or the ventilation system and permit airflow in a known direction. However, transfer grilles are vulnerable to damage and, in many instances, as long as the equivalent free area is provided, they can be substituted with undercut door.
- 5.71 Care needs to be taken to ensure that the positioning of transfer grilles does not interfere with the fire or smoke integrity of the building. In general, the air-transfer grilles should not be installed within fire-resisting boundaries, although if this is unavoidable, they should be fitted with fire- or smoke-dampers.
- 5.72 Where installed, transfer grilles should be of the non-vision type, sized for a maximum face velocity of 1.5 m/s.
- 5.73 In photographic dark rooms, lightproof transfer grilles will be required.
- 5.74 Cross-talk attenuators may be necessary where noise intrusion between adjacent spaces can arise and where individual room confidentiality is required. (See also paragraphs 5.43 to 5.47).

### Pressure stabilisers - size and location

- 5.75 Pressure stabilisers are required in lieu of air-transfer grilles in areas where it is necessary to maintain pressure differentials between adjacent rooms to prevent reversal of airflows for example, in operating suites, isolation facilities and clean rooms. (See also Section 7 paragraphs 7.24–7.28).
- 5.76 Fire precautions for pressure stabilisers are the same as for transfer grilles. For sizing criteria, refer to Section 7 paragraph 7.23
- 5.77 Pressure stabilisers should be of the balanced-blade type, with the facility to make fine adjustment of the pressure setting. They should be silent in operation and give a seal as tight as practicable when closed. The materials of construction and method of assembly should allow for cleaning and disinfection.

- 5.78 Pressure stabilisers should be installed in a visible location so that their operation can be readily observed.
- 5.79 Cross-talk attenuators may be necessary where noise intrusion between adjacent spaces can arise and where confidentiality is required. In these cases, the pressure stabiliser and cross-talk attenuator should be mounted in a short length of ductwork within the ceiling void.
- 5.80 Pressure stabilisers may need to be fitted with a stand-off baffle on their discharge side to prevent a sight line in situations where a laser will be used. Baffles may also be required to preserve privacy or prevent discharge air causing draughts or disturbing the air distribution pattern in the adjoining room. They are also useful in low-level locations to prevent the airflow path being obstructed by portable equipment.



## 6. Automatic controls

- 6.1 Various options for control of single and multi-zone air-conditioning systems are given in CIBSE Guide B.

### General requirements

- 6.2 The basic requirements for an automatic control system are as follows:

- facilities to start, set-back and stop the plant;
- facilities to control the volumetric air-flow;
- facilities to control the system or room pressure;
- temperature control and indication;
- humidity control and indication;
- devices to monitor and indicate the plant's operating state;
- alarms to indicate plant failure, low air-flow, and filter state.

The control functions actually provided will depend on the purpose of the ventilation system.

- 6.3 There will also be a need to determine the control strategy in the event of a fire either within the zone being served or within an adjoining zone.
- 6.4 The designer should consider whether it is necessary for the supply and extract fans to be interlocked, either so that the supply fan will not operate unless air-flow is established within the extract system, or vice-versa depending on the required pressures within the rooms being served.
- 6.5 The sequence switching of units in order to prevent transient reverse airflows will be particularly important in laboratory and pharmacy areas that also contain fume cupboards, safety cabinets and other LEV systems.
- 6.6 Alarms should be provided to show 'filter fault' and 'low air-flow'. The "filter fault" alarm should be initiated by a predetermined increase of pressure differentials across the filter. The 'low air-flow' alarm should be initiated when the supply air quantity falls to 80% of the design value.

### Objectives of control system

- 6.7 The primary objective of ventilation plant control system is to maintain the space served within the required environmental control limits, at the appropriate times, regardless of external conditions or internal loads and with the minimum energy consumption.

- 6.8 Often, it is not possible to predict accurately building load variation at the design stage, and thus optimum set points cannot be assessed. Information provided by monitoring the operation of the plant via a Building and Energy Management System (BEMS) will enable optimum set points to be established and energy consumption reduced. Control of most systems will be via a BEMS. This will enable the operating conditions and control tolerances to be set and monitored. The BEMS may also be set to log the actual energy consumed by the system together with that recovered by the energy-recovery device. This will provide a useful check on overall operating efficiency and provide evidence that energy targets are being achieved.
- 6.9 BEMS incorporating self-adaptive control algorithms that automatically adjust the set-point to the suit the usage and load are preferred. The provision of movement sensors within the controlled space in order to determine the actual occupancy will facilitate this process.
- 6.10 The failure of specialised ventilation systems can have grave consequences for the delivery of healthcare. Control systems should therefore be simple, robust and reliable.
- 6.11 Computer-software-driven control systems are becoming the norm in building services. However, it should be remembered that healthcare ventilation systems need to be available to operate outside of normal working periods when software support is not available. Should the software fail, it will be left to site staff, who may have little knowledge of the control algorithms to restart the ventilation system. It is therefore essential to ensure that a simple means of re-starting critical systems in the event of a software failure is provided (see also paragraphs 4.62 - 4.63)

### Location of controls

- 6.12 Whether within the plant, duct or room, sensors should be located to provide accurate measurement of the condition of the air being monitored.
- 6.13 Sensors and control items such as control valves should be located close to the element being sensed or plant item being controlled, in order to minimise time lags within the system which may create over-shoot of conditions beyond the design envelope and result in additional energy consumption.
- 6.14 There are practical advantages in locating all control valves for an air-handling unit in a bank (at a convenient height) at one end of the unit. (This will not normally result in an undue additional control lag.)
- 6.15 Some applications require intermittent mechanical ventilation, frequently at a high air-change rate, (for example, in bathrooms and treatment rooms.) Local controls to facilitate this mode of operation should be placed in a prominent position to encourage economical use.
- 6.16 Local controls that enable the user to select more than one mode of operation should be clearly labelled to identify the particular mode selected. Where the system allows different room pressures to be selected then a direct-reading



pressure gauge should be fitted within the eye line of the users to provide an independent confirmation of the resultant mode of operation. A clear description of the selectable modes of operation should be mounted adjacent to the control switch.

## Fire aspects

- 6.17 A fire control panel should be mounted at the entrance of the area that the ventilation serves. The panel should have restricted access for the fire officer and include independent on/off controls and indication of the supply and extract systems.
- 6.18 In certain critical care departments it is preferable to maintain the supply ventilation in case of a fire within the area. For example, in an operating department, while undergoing surgery the patient cannot always be easily moved without significant risk. In the event of a fire in a staff or support area of the department, or adjoining zone, the continued supply of air to a theatre will maintain it at a positive pressure and protect the patient and staff from the effects of smoke. This will allow time for the patient to be stabilised so that he/she can be safely evacuated if necessary. A similar situation occurs for patients in ITU and other critical care units. In all of these cases the ventilation to the critical area should continue to operate unless the AHU starts to draw in smoke. For these departments, a notice should be affixed to the fire control panel drawing attention for the need to liaise with departmental staff before switching off fan units.
- 6.19 All supply AHUs should have a smoke sensor mounted in the main supply duct immediately downstream of the AHU. In the event of a fire in the AHU or smoke being drawn into the system from an outside source, it should cause the supply air fire damper to close and shut down the AHU.

## Time switching

- 6.20 Facilities to start, set-back and stop the plant should be provided in the plantroom. Remote start and set-back control and indication, if required, should be provided at a manned staff location, for example, at the reception or staff base or, in theatres, within the Surgeon's Panel.
- 6.21 Many ventilation systems may be completely shut down when the area served is not in active use. Alternatively, where there is a need to maintain a background condition, the ventilation output can be reduced by "setting back" the system. This will significantly reduce energy consumption and extend the life of filters and other system components.

## Start-up control

- 6.22 The plant's start control should contain a control logic that will start the plant in the sequence set out in the following algorithms, Figures 4-7.

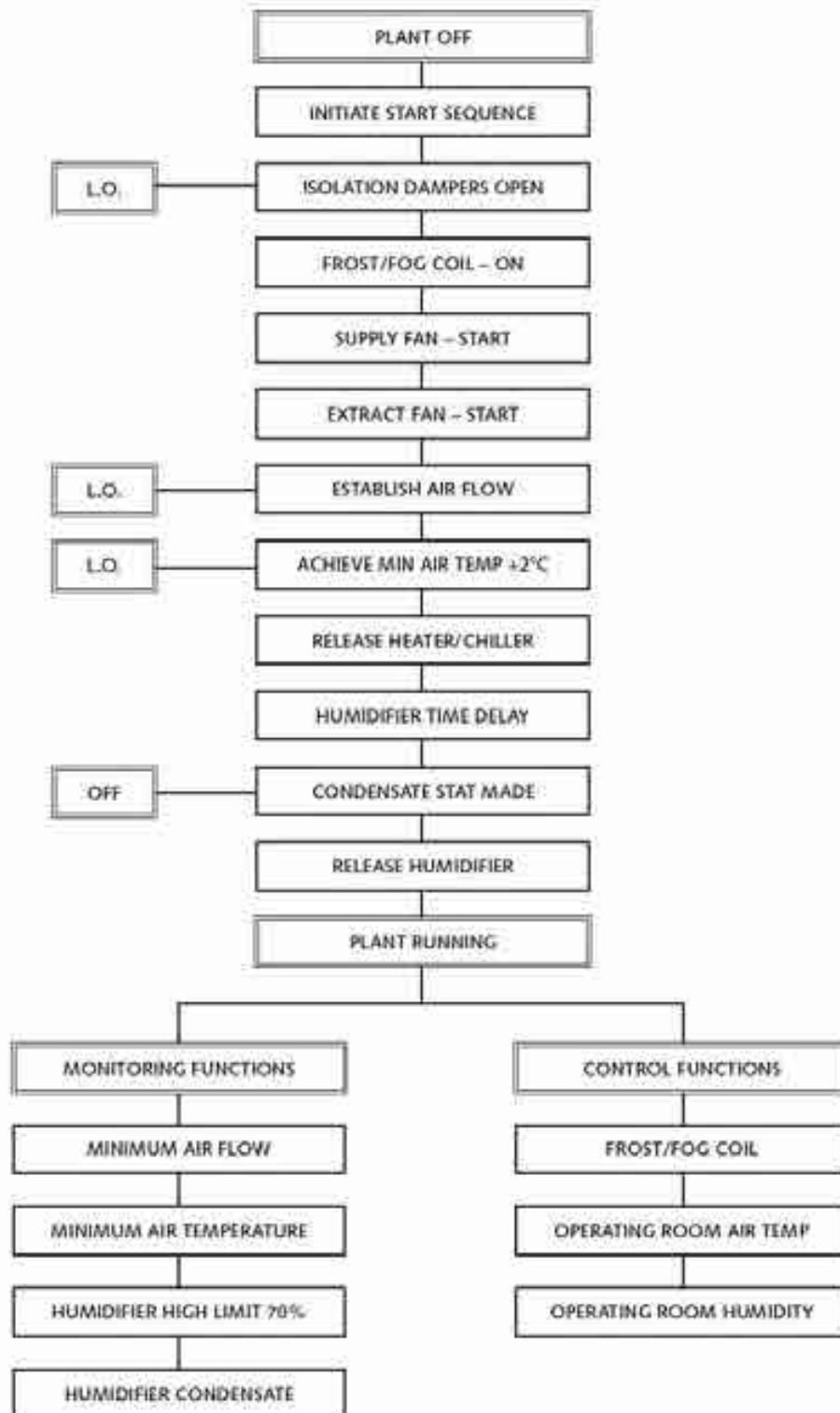


Figure 4: Typical plant control algorithm – normal start-up sequence

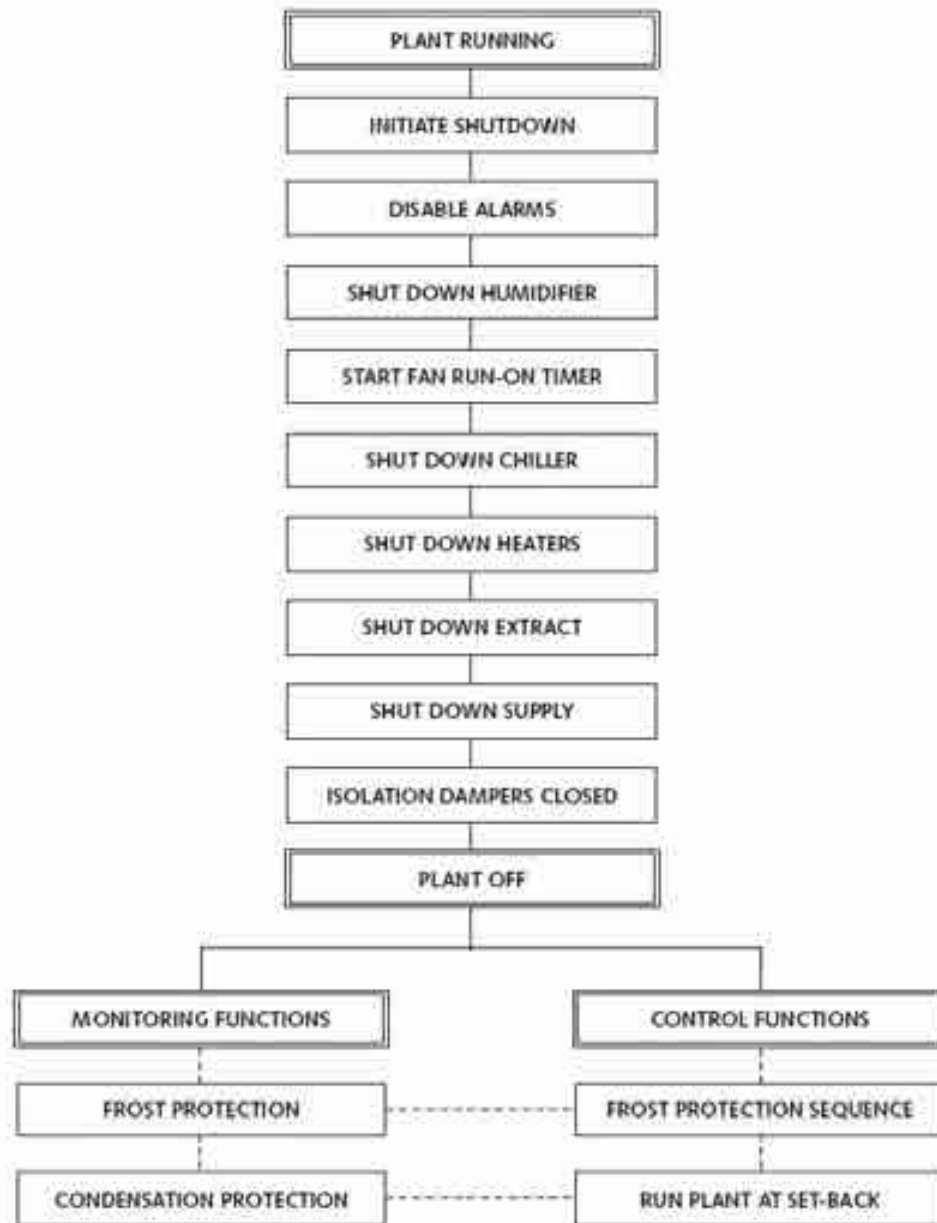


Figure 5: Plant control algorithm – normal shutdown sequence

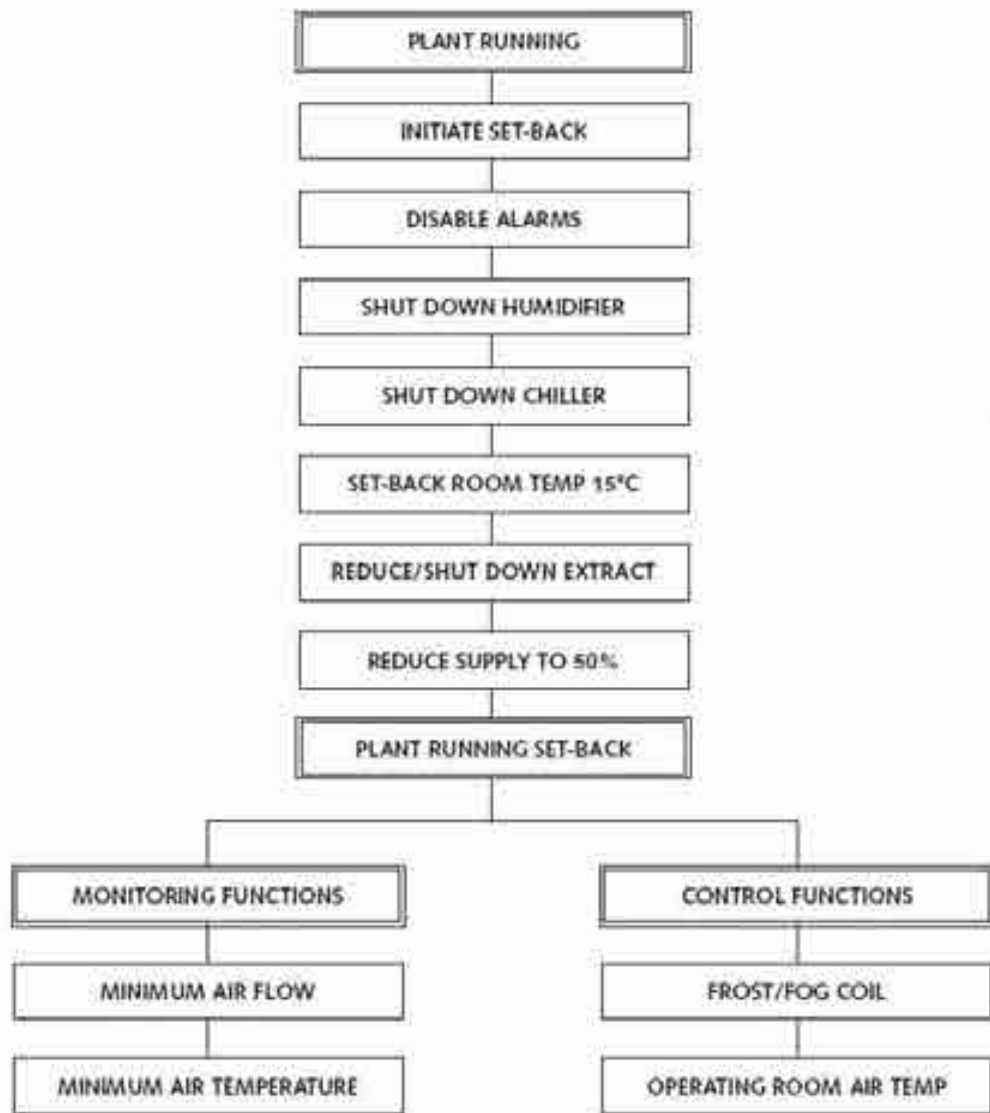


Figure 6: Plant control algorithm – set back sequence



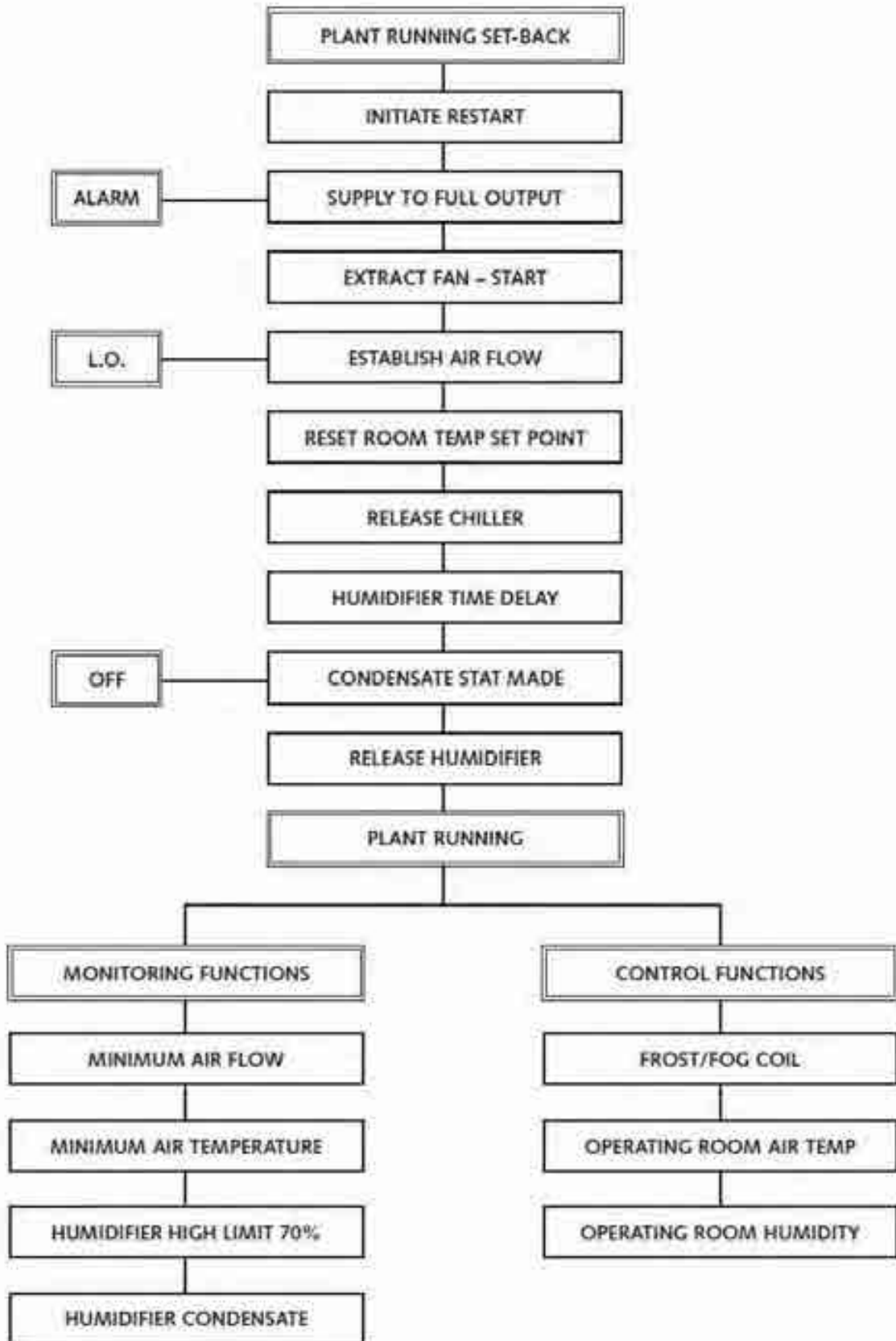


Figure 7: Plant control algorithm – restart from set-back



## Set-back control

- 6.23 Where variable speed controls are installed, the setback facility for each plant should depress the control temperature to around 15°C; exclude any humidification and cooling from the system; and reduce the supply and extract air volumes to around 50%. The extract fan can also be turned off as long as the desired direction of air movement from clean to less clean will be maintained (See also figures 4-7).

## Use control

- 6.24 The installation of movement detectors allows for "use control" of ventilation systems. A simple control logic that reduces the system to a "set-back" condition if there has been no movement detected in the space for, say, 30 minutes and that switches the system "off" if no movement is detected for one hour is recommended for many applications, including operating suites.
- 6.25 A variation on this can be provided by linking ventilation controls to lighting. For example, in an operating theatre, the system may be off outside of working hours, could run at set-back when the general lighting was switched on and increase to full speed when the operating lamp is switched on. As with movement detection, a 30-minute run-on should be provided at each stage when the lights are turned off.
- 6.26 Either of the above control strategies may be refined by linking to the BEMS to provide a control logic related to normal working hours and associated 'real-time' movement within the zone being controlled. This should result in significant energy savings.

## Environmental control

### Temperature control methods and application

#### General

- 6.27 All control valves must fail safe, that is, close in the event of power or air-flow failure, with the exception of the fog/frost battery control valve, which should open upon power or airflow failure.
- 6.28 Control valves should be located in an accessible position. Isolation valves should be provided to enable the control valve to be removed for service without the need to drain-down the system.
- 6.29 Care should be taken to ensure that the installation of control valves and their associated pipework do not obstruct access to the AHU inspection doors and hatches.

### Room temperature control

- 6.30 The limits for room temperature set point are generally between 16°C and 25°C depending on the particular application, and in some specialised instances (for example, operating departments) are adjustable within a predetermined range by the user.
- 6.31 The selection of temperature set point for each room or zone, may be by a control facility in the room / zone, or remotely at the control panel or BEMS. Where the control device is mounted within the room / zone and adjustable by the user, it should be marked either 'raise' and 'lower' or '+' and '-'. It should control within a specified temperature range to suit the user requirement with a control tolerance of  $\pm 1\text{K}$ . All other control set-points should be selectable either on the control panel or at the BEMS interface.
- 6.32 Where local control is provided, an indication of temperature will be required locally, or at a staff base (if appropriate), using an analogue or digital indicator. The indicator should be large enough to be read from the normal working position (for example, at the operating table in a theatre). This may be mounted in a supervisory or, "surgeon's" control panel, with the signal repeated on the main system control panel or BEMS. It is important that this indicator displays the actual measured temperature and not the selected temperature.
- 6.33 Where the supply and extraction systems are designed for ventilation only and there is a wet heating system to provide background heating, care must be taken to avoid one system trying to heat the space while the other system is trying to cool the area.

### Frost battery control

- 6.34 Steam-supplied frost batteries must be operated as on/off devices with their sensor mounted upstream of the battery. This will give 'open loop' control. A set point of  $+1^{\circ}\text{C}$  is recommended.
- 6.35 Low pressure hot water (LPHW)-supplied frost batteries should be controlled using the proportional mode. Their sensor should be located downstream of the battery to give 'closed loop' control. A set point of between  $2^{\circ}\text{C}$  and  $5^{\circ}\text{C}$  is recommended.
- 6.36 If the temperature downstream of the frost battery, as sensed by a serpentine thermostat, falls below the required set point over any part of the coil, the plant must automatically shut down in order to prevent damage to the other batteries. The serpentine thermostat must not be in direct contact with the coil.

### Off-plant control

- 6.37 The control logic must prevent the chiller and pre-heater being on at the same time.



### Humidity control methods and application

- 6.38 In order to prevent excessive condensation when starting up from a total plant shut-down, a time delay should be incorporated into the control system such that the humidifier does not start until 30 minutes after the ventilation plant starts up.
- 6.39 Irrespective of the method of control, a high-limit humidistat should be installed to ensure that when the humidifier operates, the condition of the air in the duct does not exceed 70% saturated, particularly during plant start-up.
- 6.40 With certain types of steam humidifiers, it may be necessary to install a thermostat in the condensate line from the humidifier's steam supply, to ensure that the steam at the control valve is as dry as possible before it is injected into the air supply.
- 6.41 The humidifier and cooling-coil control must be interlocked so that they cannot be on at the same time.
- 6.42 The humidifier control system should ensure that it is switched off with the fan. It is preferable to design the control system so that the humidifier is isolated for an adequate time before the fan is turned off so as to purge humid air from the system.
- 6.43 All control valves must fail safe (that is, close in the event of power failure) and the humidifier must be interlocked with the low airflow switch.

### Multi-zone control methods and application.

- 6.44 Close control of all air-conditioning parameters may be difficult to achieve with multi-zone systems, since each zone will in theory require a re-heater and humidifier to give total control of humidity if that is what is required. In reality such close control is rarely required in practice. It is therefore usual with multi-zone systems to provide control of zonal temperature only, with humidity control where fitted being based on average conditions within all zones, or minimum conditions within one zone.
- 6.45 Where there is a requirement for close control of air-conditioning parameters in a number of zones (e.g. an operating department) separate plants should be provided for each zone in order to avoid the need for expensive over-cooling and reheating of individual zones.
- 6.46 Most multi-zone systems within healthcare premises are controlled based on off-coil control within the central plant, with trimmer heater batteries on individual zones.

### Alarms and indication

- 6.47 Supply and extract systems should include indicator lamps on the control panels to confirm the operational status of each system. Where the usage is on

a regular daily pattern, time control with a user-operated timed manual over-ride should be provided.

- 6.48 Where a system is provided for a particular space, the indicator should be in, or immediately adjacent to, that space and local controls should be provided with labels clearly defining their function (eg. isolation suites.)
- 6.49 The 'plant failure' and 'low air-flow' alarms should be initiated by a paddle switch or other device located in the main air supply duct. This should operate when the air quantity fails to reach or falls to around 80% of the design value and will give indication of fan failure, damper closed, access door left open, or any other eventuality that could cause a reduction of air quantity. Monitoring the current drawn by the fan motor is not a substitute for a sensing device that is directly affected by the air-flow.
- 6.50 The 'filter fault alarm' should be initiated by a predetermined increase of pressure differential across the filters, thereby indicating a dirty filter.
- 6.51 Direct-reading gauges or manometers should be installed across filters to give maintenance staff an indication of their condition.
- 6.52 Visual indication should be provided at a manned staff location (for example, the reception or staff base) and on the main control panel and BEMS to show 'plant failure' and 'low air flow'.

### BEMS

- 6.53 Control of most systems will be via a Building Energy Management System. This will enable the operating conditions and control tolerances to be set and monitored. The BEMS may also be set to log the actual energy consumed by the system and recovered by the energy recovery system. This will provide a useful check on the overall operating efficiency and provide evidence that energy targets are being achieved.



## 7. Specialised ventilation systems

- 7.1 This section contains design information for a range of healthcare ventilation applications.
- 7.2 The following departments will require a degree of specialised ventilation:
- the Operating department;
    - treatment rooms;
    - endoscopy, day case and minimum invasive suites;
    - cardiology and operative imaging suites;
    - conventional operating theatres;
    - Ultra Clean Ventilation (UCV) operating theatres;
    - barn theatres;
    - recovery and ancillary areas.
  - Obstetrics;
    - maternity theatres;
    - birthing rooms;
    - LDRP Rooms;
    - SCBU.
  - critical areas and high-dependency units of any type;
  - Isolation facilities;
    - infectious diseases units;
    - bone marrow and other transplant units;
    - chemotherapy and oncology units.
  - Sterile Supply and Decontamination Units;
    - wash rooms;
    - inspection and packing rooms;
    - sterile pack stores.
  - the Pharmacy departments;
    - aseptic suites;
    - extemporaneous preparation areas;
    - radio pharmacies.
  - the Pathology department;
    - laboratories;



- cat 3 and 4 rooms.
- the Mortuary and Post mortem suite;
  - mortuaries;
  - post-mortem rooms;
  - specimen stores.
- Hydrotherapy units;
- Burns units;
  - burns theatres;
  - treatment rooms;
  - isolation rooms;
  - tissue banks.
- Emerging specialties;
  - gene therapy units;
  - stem-cell laboratories.
- Infrastructure;
  - plant rooms housing combustion equipment;
  - welding facilities;
  - wood working workshops;
  - electric vehicle charging areas.

7.3 Design information for many of these applications is given in Appendix 1 Table A1, Appendix 2 and in the following Chapters within this section.

7.4 It is not possible within this existing document to give definitive guidance for every healthcare specific ventilation application. Additional detailed guidance may be issued in due course in the form of supplements.

### General information

7.5 The section on operating theatres is the most extensive and contains much information that is common to other applications. Where no specific guidance is given then the principles set out below should be followed:

- the foregoing sections of the document contain general information on healthcare-specific aspects of ventilation system design and specification;
- a set of standard solutions for the design of general operating theatre suites to conform to past and new standards is given in new standard layouts Nos 1, 3, 5 and 7 and those for UCV theatres in new standard layouts Nos 2, 4, 6 and 8 within Appendix 3;
- the CIBSE Guides A & B contain basic information on ventilation design that can be applied to most applications;

- where a British or European standard exists that is specific to the application (for example, a clean room) it should be used as the basis of the design requirement;
- air should always move from clean to less clean areas. A hierarchy of room cleanliness is given in Appendix 2 Table A2;
- differential pressure will prevent contamination between areas when doors are closed. Information on air leakage through closed doors and hatches for a range of differential pressures is given in Appendix 2 Table A3;
- the flow of air will prevent contamination between areas when doors are open. Information on air leakage through open doors and hatches for a range of differential pressures is given in Appendix 2 Table A4;
- if anaesthetic gases are used, 15 air changes per hour will be required;
- a methodology for calculating a design solution for a non-standard suite of operating rooms is given in Appendix 4. This may be adapted as necessary to suit other less complex applications where air is required to cascade from clean to less clean areas.

7.6 The supply of air to a room has four main functions:

- to dilute airborne contamination;
- to control air movement within such that the transfer of airborne contaminants from less clean to cleaner areas is minimized;
- to control the temperature and if necessary the humidity of the space;
- to assist the removal of and dilute waste gases where used.

7.7 Because of the complexities of controlling air-movement patterns, much design effort will be required for this aspect. It is important that the design makes the best possible use of the air available, as excessive supply airflows for the control of air movement should not be used. The amount of air supplied will be determined by the number of doors and desired air-change rate.

7.8 There are four routes whereby airborne contaminants may appear in a room:-

- through the supply air;
- shed directly by the room occupants;
- arising as a result of the work activities;
- transferred from adjacent spaces.

7.9 Particles entering with the supply air can be controlled by the selection of suitable filter grades.

7.10 Particles shed directly by the room occupants can be controlled by:

- restricting access to essential persons only;
- the choice of the occupants' clothing;



- the room's air-change rate.

7.11 Particles arising as a result of the work activity can be controlled by:

- enclosing, semi-enclosing or otherwise controlling the work-based source;
- the room air-change rate.

7.12 The transfer of particles from adjacent spaces can be controlled by:

- differential pressure;
- air-flow paths.

7.13 Air change rates are given in Appendix 1 Table A1. These figures have been found to give sufficient dilution of airborne contaminants, provided the mixing of room air is reasonably uniform.

7.14 A downward-displacement turbulent air distribution is generally preferred. The supply and extract diffusers should be positioned to ensure that all parts of the room are actively ventilated and that where necessary the staff will be in a clean air-flow path. (See Section 5 for additional guidance on supply terminals).

7.15 Horizontal-flow room-air distribution with or without a Coanda effect can be a source of draughts and difficult to set up correctly. Its use should be confined to non-critical areas.

#### Air movement control

7.16 The design of the system should seek to minimise the movement of contaminated air from less clean to cleaner areas. Transfer grilles enable air to pass in either direction between rooms of equal class and pressure. Pressure stabilisers operate in one direction only; they allow excess air to be directed to the area desired and assist in maintaining room pressure differentials. When closed they prevent significant reverse air-flow.

7.17 The relative locations of supply and extract terminals and their design air-volume rates will determine the basic airflow between adjacent spaces. Transfer grilles and pressure stabilisers will permit and control the flow of air between spaces ensuring a flow from the clean to less clean areas. Failure to provide such devices will lead to uncontrolled air flows when personnel move between rooms. They may also result in doors being held partially open by air pressure.

#### Temperature and humidity control

7.18 To achieve the required room conditions, supply flow rates are calculated conventionally, taking account of all heat and moisture gains and losses, and of maximum permissible temperature differences between the room and supply air. In most applications the base heating load will be provided by a heating system. In critical systems the room or suite being considered will be within the

heated building envelope so the ventilation will be sized to suit the casual gains or losses.

- 7.19 Temperature differences of up to 10 K for winter heating and 7 K for summer cooling must not be exceeded.
- 7.20 It is acceptable for the humidity to swing uncontrolled between 35% and 70% saturation.

#### Removal and dilution of waste anaesthetic gases

- 7.21 Anaesthetic gases are subject to occupational exposure limits. Waste anaesthetic gas must be contained and removed by a suitable gas-scavenging system. Some leakage from the anaesthetic equipment and the patient's breathing circuit will occur with all systems, particularly during connection and disconnection; and from the interface with the patient. The air movement scheme should ensure that this leakage is diluted and removed from the room. Anaesthetic agents are heavier than air so placing the supply terminal at high level with an extract at low level, adjacent to the anaesthetic gas terminal units will ensure that staff are in a clean air-flow path.
- 7.22 In LDRP and delivery rooms the use of anaesthetic gas is controlled on demand by the patient. This may result in significant leakage which, in order to reduce staff exposure, will need to be controlled by establishing a clean airflow path. A supply at high level at the foot-end of the bed with extract at low level at the head-end will provide such a path.

#### Fire aspects

- 7.23 When considering the overall airflow movement, careful thought needs to be given to the operation of the ventilation system, to limit smoke spread in the event of a fire.

#### Door protection

- 7.24 Air should flow from the cleaner to the less clean areas as shown in Appendix 2 Table A2. There are several factors that affect the likelihood of a reverse air-flow through doorways:
  - when a person passes through a doorway, both the passage of the person and the movement of the door flap cause a transfer of air between the areas separated by the door;
  - when a door is left open there is a transfer of air between the two areas separated by the doorway. This is caused by air turbulence, but is greatly increased by any temperature differential between the areas (a 1.4 m wide doorway may allow the transfer of 0.19 m<sup>3</sup>/s of air in each direction when there is no temperature difference, but when the temperature differential increases to say 2 K, the volume transferred may increase to 0.24 m<sup>3</sup>/s).



- 7.25 Two methods of door protection are used in order to reduce the likelihood of contamination of clean area by a reverse air-flow from a less clean area:
- closed door protection – a pressure differential is created across a closed door so that any air leakage is from the clean to the less clean area. Appendix 2 Table A3 gives details of closed door leakage rates for a range of differential pressures;
  - open door protection – the pressure differential drops (See Appendix 2 Table A5) and is effectively replaced by a flow of air through the doorway from the clean to the less clean area. The flow of air needs to be sufficiently large to ensure that significant reverse airflow cannot occur and will be related to the relative cleanliness of the areas being considered. Appendix 2 Table A4 gives air-flow rates for open door protection related to door / opening size and classification of the adjoining areas.
- 7.26 Pressure stabilisers enable the room differential pressure to be set when the doors are shut, thus providing closed-door protection. When a door is opened the stabilisers will close, forcing air to be directed through the doorway thus providing open-door protection.
- 7.27 The recommended air-flow rates to achieve this are given in Appendix 2 Table A3. Provided that the dilution criteria in Appendix 1 Table A1 are met, the occasional small back-flows created (when two doors are opened simultaneously; or when there is a high temperature difference across an open door) will have little effect on the overall air cleanliness of the affected room.
- 7.28 In applications where it is critical to maintain a specific airflow and /or pressure regime (for example isolation rooms) all windows in the zone should be locked shut or sealed. Trickle vents, if fitted, will also need to be sealed.

### Systems design

- 7.29 The design of the ventilation system for an area depends on the overall configuration of the department. Where the department is served by more than one AHU, the control of the units may need to be interlocked so that reverse air-flow patterns do not occur.
- 7.30 Dual-duct high velocity systems have advantages, but are noisy, costly and may give rise to unacceptable values of humidity. Single-duct, low velocity/pressure systems are preferred.
- 7.31 Extract grilles should be sited and balanced to promote air movement in the desired direction.

## 7.0 (a) Operating department ventilation systems

- 7.32 The information given in this section relates to general operating suites. It will be applicable to other types of theatre suite such as maternity, burns, cardiac, etc. The standard values given may need to be adjusted to reflect non-standard room sizes, pressure regimes and air change rates.



- 7.33 A method of obtaining a design solution for non-standard theatres is given in Appendix 4.
- 7.34 Additional information for UCV theatres is given in Section 7.0 (b).

### General

- 7.35 The supply of air to an operating room has four main functions:
- to dilute airborne contamination;
  - to control air movement within the suite such that the transfer of airborne contaminants from less clean to cleaner areas is minimized;
  - to control the temperature and if necessary the humidity of the space;
  - to assist the removal of, and dilute, waste anaesthetic gases.
- 7.36 Because of the complexities of controlling air-movement patterns, much design effort will be required for this aspect. It is important that the design makes the best possible use of the air available, as excessive supply airflows for the control of air movement should not be used. The amount of air supplied to the operating room will be determined by the number of doors and desired air-change rate.
- 7.37 The detailed considerations upon which the supply air-flow rate is based are as follows.

### Dilution of airborne bacterial contaminants

- 7.38 There are four routes that airborne contaminants may appear in an operating room:
- through the supply air;
  - shed by operating staff;
  - produced by the surgical activities;
  - transferred from adjacent spaces.
- 7.39 Supply flow rates for the main rooms of the operating suite are given in Appendix 3. For the other areas where room sizes and activities vary from site to site, air-change rates are given in Appendix 1; Table A1. These figures have been found to give sufficient dilution of airborne bacterial contaminants, provided the mixing of room air is reasonably uniform.
- 7.40 A downward-displacement air distribution is preferred; it may be either turbulent or laminar flow. For turbulent flow the supply-air diffusers should be positioned either in the centre of each quadrant of the ceiling or along a line between the centres of each quadrant. This should ensure that all parts of the room are actively ventilated and that there will be adequate air movement at the operating table. Laminar flow would be provided by a perforated plenum terminal centred

above the operating table. (See Section 5 for additional guidance on supply terminals).

- 7.41 Suspended articulated equipment is usually fitted in theatres. These require significant structural steelwork in the ceiling void to cater for the loads imposed by the resulting bending moments. It is important to ensure that the void is deep enough to accommodate both the steelwork and the ventilation ducts. The location of the steelwork must not prevent a suitable layout of the ventilation ductwork and correct positioning of the supply air terminals. It needs to be recognised that the correct ventilation of an operating theatre plays a significant part in controlling healthcare acquired infections and is not subordinate to the desire to make equipment easy to move.
- 7.42 Horizontal flow distribution with or without a Coanda effect can be difficult to set up correctly and are unlikely to be as effective in Theatre applications. It should not be used in new installations. However space constraints may force its retention or replacement when refurbishing existing installations. Where fitted, the supply grilles will require a means of directional adjustment.
- 7.43 For general operating theatres, the air supply would be filtered in the AHU. Terminal HEPA filters are not generally required.

#### Control of air movement within the suite

- 7.44 The design of the system should seek to minimise the movement of contaminated air from less clean to cleaner areas. Transfer grilles enable air to pass in either direction between rooms of equal class and pressure. In older designs suitably dimensioned door undercuts were often used in lieu of transfer grilles. Pressure stabilisers operate in one direction only; they allow excess air to be directed to the area desired and assist in maintaining room-pressure differentials.
- 7.45 The relative locations of supply and extract terminals and their design air-volume rates will determine the basic air-flow between adjacent spaces. Transfer grilles and pressure stabilisers will permit and control the flow of air between spaces ensuring a flow from the clean to less clean areas of the suite. Failure to provide such devices will lead to uncontrolled airflows when personnel move between rooms and doors being held partially open by air pressure.

#### Temperature and humidity control

- 7.46 Supply flow rates to achieve the required room conditions, are calculated conventionally, taking account of all heat and moisture gains and losses, and of maximum permissible temperature differences between the room and supply air. In most applications the room being considered will be within the heated building envelope.
- 7.47 Temperature differences of up to 10 K for winter heating and 7 K for summer cooling must not be exceeded.



- 7.48 It is acceptable for the humidity to swing uncontrolled between 35% and 60% saturation.

### Removal and dilution of waste anaesthetic gases

- 7.49 Anaesthetic gases are subject to occupational exposure limits. The air-movement scheme should ensure that staff are in a clean air-flow path. (See Section 7 paragraph 7.21).
- 7.50 Air extracted from operating suites should not be re-circulated, as it may contain malodorous contaminants. However an energy recovery system should be fitted in the extract in order to reduce the plant energy consumption. (See Section 4 paragraphs 4.142 - 4.147).

### Fire aspects

- 7.51 When considering the overall air-flow movement, careful thought needs to be given to the operation of the ventilation system, to limit smoke spread in the event of a fire. However, this is a highly staffed department with a low fire risk/load status and these factors need to be recognised when developing the fire strategy. It is considered satisfactory to treat the complete operating department as a single fire compartment providing there are at least two exits from it. Over-compartmentalisation can lead to difficulties in establishing clean air-flow paths and room-air dilution rates. This will lead to an increased risk of healthcare-associated infections. Staff areas within the department should be treated as a sub-compartment. (See Section 6 paragraph 6.18).

### Door protection

- 7.52 Air should flow from the cleaner to the less clean areas as shown in Appendix 2 Table A2. The factors that affect the likelihood of a reverse airflow through doorways are discussed in Section 7 paragraphs 7.24 - 7.26.
- 7.53 It is not possible to design an air-movement scheme, within the restraints of the amount of air available that will protect the operating room when two doors are simultaneously opened. The design process that has been used considers that each door is opened in turn and ensures that the direction and rate of air-flow through any open doorway is sufficient to prevent any serious back-flow of air to a cleaner area.
- 7.54 Provided that the air-change rates in Appendix 1 Table A1 are met, dilution will be sufficient to ensure that the occasional small back-flows created (when two doors are opened simultaneously; or when there is a high temperature difference across an open door) will have little effect on the overall air cleanliness of the affected room.
- 7.55 The following general points should be taken into consideration during the design of operating suites:



- Number of exits – the fewer the number of rooms (and therefore doorways) leading from the operating room the better, as traffic is reduced and less complicated air-movement control schemes are required.
- Scrub and hand-wash facilities – these may be a part of the operating room, often in a bay. The bay would count as part of the operating room volume and should have a low-level active or passive extract to remove the moisture-laden air. Should a separate room be required for the scrub area, a door between the scrub-up room and the operating room is an inconvenience to scrubbed staff, and could be replaced by an opening. This opening should be larger than a normal single doorway, but the scrub would not, in these circumstances, be considered part of the operating room volume.
- If an alcohol scrub regime is employed, individual theatre scrubs may not be required and would be replaced by a common departmental pre-/post-operation scrub position in the corridor. This would require local extract to prevent a build-up of moisture.
- Preparation 'Sterile Pack Store' (SPS) – if it is intended to 'lay-up' instruments in the operating room, the preparation room is then used simply as a sterile pack store. The nominal room pressure can therefore be the same as that of the operating room and the airflow between the two rooms in either direction. Air supplied to the preparation room may be directed into the operating room either through a door mounted transfer grille or if no door is fitted, through the opening. Alternatively, stock ready-use sterile items can be located in a bay within the theatre. In this case, a portion of the total theatre supply air should be provided in the bay to ensure it is actively ventilated.
- Preparation room 'lay-up' – when the preparation room is used as an instrument 'lay-up' room, it should be regarded as being of greater cleanliness than the operating room, and the design should minimise the transfer of air from the operating room to the preparation room. Air supplied to the room may be directed to the operating room through a pressure stabiliser taking care not to compromise the airflow pattern in the operating room. The air may also be directed into a corridor;
- Service corridor – if materials to be disposed of are placed in impervious material for transportation, it is not necessary to have a separate corridor for this purpose. However, a service corridor has many operational advantages in terms of the flow of materials through the theatre suite. It also permits routine service and maintenance access without compromising the use of adjacent theatre suites.

### Standard air-movement control schemes

- 7.56 In the previous versions of this guidance standard air movement control schemes were given that provided a range of design solutions to typical operating suite layouts. These were satisfactory design solutions for 'standard' sized rooms within the suite but were never intended to be universal for any sized room or suite. Guidance on operating suites contained in HBN 26 (2004) has increased the recommended size of operating room from approximately



35m<sup>2</sup> to 55m<sup>2</sup>. Associated room sizes and air change rates have also increased. This means that the original standard solutions are no longer appropriate for new-build installations.

- 7.57 Because of the resulting increase in the volume of air supplied to the theatre, provision needs to be made either to actively remove it or allow it to escape passively through pressure stabilisers. The increase in room size has also made the number and position of air-supply terminals critical to the effective ventilation of the room.
- 7.58 Four new standard solutions have been developed to reflect the current guidance on theatre suite layout and room sizes given in HBN 26 (2004) as well as the general increase in air-change rates.
- 7.59 The most commonly used original standard solutions have been revised and updated. They have been retained in this guidance, as they will remain applicable to older theatre suites that are being refurbished to their original performance standards. They will also be applicable in existing departments where space constrains do not permit the upgrading of suites to the latest standard of performance or where a pre-built "shell" is being fitted out.
- 7.60 It is important to recognise that in any situation where a "non-standard" room size or theatre suite layout is being considered, the designer must return to first principles when developing a solution. Examples of non-standard configurations would be:
- cardiac theatres that typically have an operating room half as big again as normal, a perfusion laboratory and no anaesthetic room;
  - operating departments served by a central instrument lay-up preparation area rather than individual prep rooms;
  - balanced-flow theatres for infectious cases.

Appendix 4 contains a methodology for assisting the designer to arrive at a suitable solution.

- 7.61 The new and revised standard design solutions are as follows:
- No 1 – Typical Conventional theatre – room sizes as HBN 26;
- No 2 – Typical UCV theatre – room sizes as HBN 26;
- No 3 – HBN 26 illustrated Conventional theatre;
- No 4 – HBN 26 illustrated theatre with UCV terminal fitted;
- No 5 – Pre-2006 Conventional theatre, single corridor (SHTM 2025; 1b);
- No 6 – Pre-2006 UCV theatre, single corridor (SHTM 2025; 1a);
- No 7 – Pre-2006 Conventional theatre, two corridor (SHTM 2025; 5b);



No 8 – Pre-2006 UCV theatre, two corridor (SHTM 2025; 5a).

7.62 Details of these standard solutions are given in Appendix 3. They contain diagrams that show the relationship of rooms and the various doors and transfer devices between them, **but should not be regarded as architectural layouts**. The schemes have been developed using the calculation procedure described in Appendix 4. Important features of the solutions are:

- Zone trimmer heaters – a trimmer heater battery is advocated when calculations indicate that the temperature differential between rooms may be greater than 2 K. Generally this will only be the case in the preparation room when designated as a lay-up.
- The preparation room (sterile pack store)/operating room interface – these rooms are deemed to be of equal cleanliness, and thus a transfer grille is required between these rooms or the door can be replaced with an opening wider than a standard door.
- Preparation (lay-up)/disposal room interface – pressure relief dampers are recommended here to provide an air path when doors are closed, while preventing back-flow when a door is opened elsewhere.
- Operating room/anaesthetic room interface – pressure stabilisers, or in some cases, carefully sized transfer grilles are recommended here, and between the anaesthetic room and corridor, and between the operating room and corridor.
- Operating room/scrub room interface – an opening is provided between these rooms. The flow of air through the opening provides protection, and gives bacterial dilution within the scrub room; the air is then exhausted to the corridor via a pressure stabiliser.

7.63 No mechanical supply or extract ventilation is provided in the scrub room, and thus when a door is opened elsewhere in the suite, the stabiliser will close, allowing the air to be re-directed to help protect the doorway. If the scrub is a bay within the theatre then a suitably positioned pressure stabiliser and / or active extract should be provided to ensure air movement and prevent a local build-up of moisture.

7.64 Any other scheme may be used and the standard solutions applied, if the following conditions are met:

- room relationships in air network terms are as shown in the plans;
- door-gap measurements approximate to those given in Scottish Health Technical Memorandum 58 – ‘Internal doorsets’, (but see also Appendix 2 Table A3 and the comment below);
- casual heat gains are accounted for;
- a trimmer battery is installed in the air supply system to the preparation room;
- leakage through the structure is kept to a minimum.



**Note 3:** It should be noted that many doors are now fitted with cold smoke seals as standard. These will significantly reduce the door leakage rate when new and undamaged. It is therefore recommended that provision for the design door leakage is factored into the sizing of the appropriate transfer grille or pressure stabiliser. Failure to do this will result in air gap whistles and doors being held partially open by air pressure.

- 7.65 It is recommended that every effort should be made to adopt one of the schemes described above.

#### Air terminals and air distribution within rooms

- 7.66 The selection and sighting of air diffusers will be critical in establishing an efficient pattern of mixing. To this end the diffusers selected must be fit for purpose. Ceiling mounted circular 'air master' style, square 'four-way blow' or similar diffuser designs that provide a downward displacement, turbulent airflow are the preferred option. (See Section 5 paragraph 5.68).
- 7.67 Plenum-type 'laminar'-flow-style diffusers with a footprint that encompasses the operating site are acceptable but may be prone to buoyancy effects as a result of temperature difference. Manufacturers' type-test data should be consulted to ensure that the terminal will achieve the required performance envelope. Note that these are not true laminar-flow systems in the strict sense of the word but produce a downward-displacement parallel-flow style of air distribution.
- 7.68 The diffuser equipment chosen should not cause 'dumping' and it should provide a velocity 1 metre above floor level at the operating position of between 0.2 m/s and 0.3 m/s.
- 7.69 In the operating room, the supply air terminals must be at high level, and should all be adjustable for rate of flow as well as being easily cleaned and silent in operation.
- 7.70 In order to ensure that all parts of the operating room are actively ventilated, there should be an air-out path on each face or in each corner of the theatre. This may be provided by a pressure stabiliser, transfer grille, active or passive extract terminal. A minimum of three, but preferably four, air-out paths - approximately equally spaced - should be provided.

#### Automatic control

- 7.71 The automatic control of ventilation in operating suites needs to be simple and robust. Over-reliance on complex room pressure and flow relationships linked to automatic fan speed control are unnecessary and in the long term have been shown to be unreliable. Complex software algorithms that can only be accessed and interpreted by off-site specialists should not be used. Whichever control strategy is chosen it is important that on-site staff have the facility to override the control system and keep the ventilation operating at least until the surgical procedure is complete. (See also Section 6; paragraph 6.11)



- 7.72 Theatre air-conditioning control sensors should be actively ventilated. They would typically be located in a sampling extract duct mounted in the surgeon's panel, positioned at normal working height (1.8 m above finished floor level) and be accessible for cleaning and the removal of fluff and lint.
- 7.73 Wall-mounted passive-temperature and humidity sensors are not recommended.
- 7.74 Controls should be provided to enable operating department ventilation plants to be closed down when the operating suites are unoccupied. (See also Section 6 paragraphs 6.24 - 6.26)
- 7.75 When in the 'off' mode, the control system should ensure that the ventilation plant is automatically reinstated if the space temperature falls below 15°C.
- 7.76 The theatre control panel should include plant status indication; clearly-readable temperature and humidity indicating gauges; and means of adjusting the set point for temperature. Theatre ventilation plant status indication should be located at the staff control base.
- 7.77 Where it is considered necessary to fit a humidifier, it should be selected to humidify to 40% saturation at 20°C during the design winter outside conditions. The cooling coil should be able to remove sufficient moisture so that 60% saturation at 20°C is not exceeded during the design summer outside conditions.
- 7.78 Each operating suite should be served by an independent supply and extract plant.

## Ventilation of operating department ancillary areas

### General

- 7.79 There are advantages in providing mechanical ventilation to all areas of the department. Maintaining operating suite airflow patterns is simpler and grilles and diffusers can be sited to eliminate condensation on windows. Where radiators or embedded wall or ceiling panels are installed they should be confined to the corridors and staff-only areas of the department.

### Ventilation requirements

- 7.80 Appendix 2 Table A2 gives guidance on the operating department areas in descending order of cleanliness, and this should be considered in the overall design of the department ventilation systems. The specified flow rates of air through doors given in Appendix 2 Table A4 for the operating suite are not necessary for other areas of the department. However, the air-flow directions must be maintained from the clean to the less clean areas.
- 7.81 All windows in the department should be double-glazed and hermetically-sealed in order to ensure that the desired airflow pattern is maintained under all

external environmental conditions and to avoid infestation. Trickle vents if fitted will need to be sealed.

### Systems design

- 7.82 The design of the ventilation system for the ancillary rooms depends on the overall configuration of the department. The plant for the ancillary rooms may need to be interlocked to the theatre suite plants so that reverse air-flow patterns do not occur.
- 7.83 Extract grilles should be sited and balanced to promote air movement along the clean and access corridors towards the reception/transfer areas. This should not affect the air distribution in the operating suite(s).

### Reception

- 7.84 The aim in these areas is to provide comfortable conditions having regard to the movement control requirements of the department as a whole. The number of air changes will depend on the particular design.

### Sterile pack bulk store

- 7.85 The store needs to be maintained at a positive pressure in order to preserve the cleanliness of the outside of the packs; 6 air changes are recommended.

### Recovery

- 7.86 The air-change rate in the recovery room will be rather higher than that needed merely to provide clean, comfortable conditions, as it is necessary to control the level of anaesthetic gas pollution; 15 air changes are recommended, with a balanced air flow.
- 7.87 The supply air terminals should be ceiling mounted above the foot-end of the recovery bed positions. Extract should be at low (bed height or below) level behind the bed head positions or in the corners. This will establish a clean airflow path so that staff do not inhale anaesthetic gases exhaled by recovering patients.

## 7.0 (b) Ultra-clean ventilation systems

### General requirements

- 7.88 The design philosophy of a conventionally ventilated operating suite is based on the need to dilute contaminants and control both the condition and movement of air in an operating suite. Ultra-clean ventilation (UCV) is a means of significantly increasing the dilution effect by providing a large volume of clean filtered air to the zone in which an operation is performed and sterile items are exposed. Air is discharged above the operating zone and while not truly laminar, its downward displacement purges the clean zone of contaminants and



particles generated by the activities within it. The airflow in and around the clean zone also serves to prevent particles originating outside the zone from entering it. The resulting reduction in contaminants has been shown to reduce significantly post-operative sepsis following certain orthopaedic procedures.

- 7.89 The number of bacteria that are present in the air at the wound site and exposed surgical items is dependent on the operating team, their procedural discipline, choice of clothing and the type of UCV system. Ultra-Clean air is defined as that containing not more than 10 CFU/m<sup>3</sup>.
- 7.90 UCV systems are very successful in reducing contaminants at the wound site so it is often considered that there is no need for complex air movement control schemes in the rest of the suite. However when designing the ventilation scheme it should be noted that the users may switch the UCV terminal to "set-back" when non-orthopaedic surgery is taking place. This is because the high airflow rates can cause increased moisture evaporation of exposed tissue that may be detrimental to the surgical outcome. In recognition of this, the ventilation scheme should be capable of providing operating conditions to at least a "conventional" theatre standard throughout the suite with the UCV in set-back mode. It should also be remembered that suitable levels of ventilation will always be required in the peripheral rooms.
- 7.91 UCV systems can be designed and built from first principles or a range of bespoke modular units of varying shapes and sizes are available with each manufacturer having a slightly different approach to UCV design. Some systems are fitted with partial or full walls to delineate the clean zone and direct a laminar or exponential downflow of air within it. Other designs utilise slotted linear supply terminals to produce an air curtain around the clean zone together with laminar-flow diffusers to provide a downward-displacement supply within it. **Notwithstanding any variation in the design philosophy, all UCV systems will be required to achieve completely the performance standard set out in the "Validation" section of this document.** (Section 8)
- 7.92 As with conventional theatres, each UCV operating suite should have its own dedicated air handling unit (AHU) to the standard set out in Section 4 of this document. To ensure operational flexibility and permit routine maintenance, air handling units should not be shared between suites.
- 7.93 In retrofit installations, site conditions may preclude individual AHUs for each suite. In these circumstances an AHU may be shared between not more than two operating suites providing each suite has its own control of temperature. An accessible airflow measurement test point should be provided in the supply branch duct to each theatre so that the primary air volume to each UCV canopy can be determined. In addition the branch supply and extract should be capable of being physically isolated and the main air-flow rate reduced so that either suite can be taken out of use without detriment to operating conditions in the other.
- 7.94 An inherent feature of a UCV system is its large airflow so it is essential to re-circulate the air supplied to the operating theatre and/or to recover its energy in order to optimise operating costs.



- 7.95 The primary fresh-air volume supplied to a UCV suite will be the same as in a conventional suite and it should be dispersed to the rooms in the suite in the same manner. This is an important aspect of the design and requests by UCV suppliers for increased primary air-supply volumes should be resisted.
- 7.96 Laying-up in the clean zone is preferable for infection control reasons. Where a Sterile Pack Store (SPS) Preparation room is provided a transfer grille will be required in the preparation room / theatre door.
- 7.97 If the Preparation room is intended to be used for laying-up instruments, a pressure stabiliser will be required between the prep room and theatre. It should be fitted with a stand-off baffle to prevent air transfer interfering with the ultra-clean airflow distribution.
- 7.98 Separate scrub-up or disposal facilities are not necessary for air cleanliness although operational policy may prefer such a provision. A separate anaesthetic room should, however, be provided.
- 7.99 There is no aerobiological reason why two or more UCV systems should not be installed in a common area as long as adequate spacing is provided. These are known as "barn theatres" and require special design considerations and operational discipline. The relative positions of the UCV units, temperature control range and location of doors and openings to other areas will all significantly affect the airflow at the operating positions.

## Types of UCV system

### Remote plant systems

- 7.100 In a remote plant system, all the air-conditioning equipment is located outside of the operating room, except for the unidirectional air-flow terminal, terminal filter, air diffuser and the return-air grilles (see Figure 8).

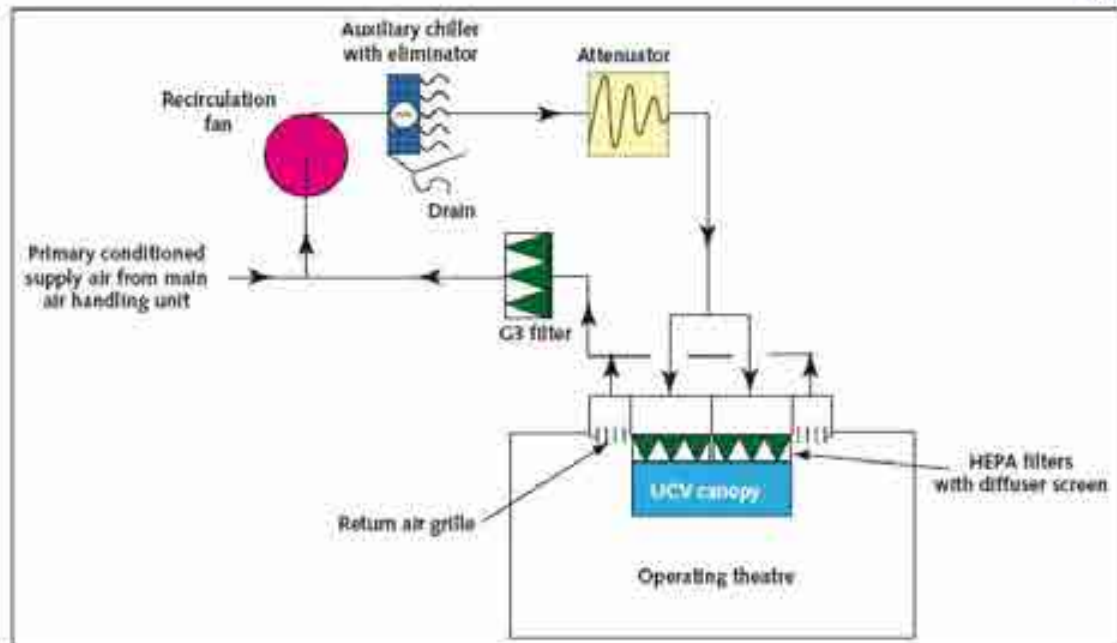


Figure 8: UCV theatre with remote air recirculation

7.101 This arrangement is the preferred option for new installations as it has the following advantages:

- the recirculation fans are out of the theatre thus reducing noise. Multiple recirculation fans can be replaced by a single fan unit with its drive out of the air stream;
- casual heat gains from recirculation fan(s), canopy lights, equipment and people within the theatre can be removed by a chiller battery in the return air stream. This will prevent heat build-up in the theatre;
- the return-air filters can be changed without needing access to the theatre making routine maintenance more feasible;
- the opportunity exists to locate the HEPA filter in the primary supply duct rather than the theatre terminal. This will reduce the number of filters required and allow them to be changed without entering the theatre.

### Modular systems

7.102 Modular systems are frequently used in retrofit applications. Vertical or horizontal units are available.

7.103 Vertical-flow modular units comprise a ceiling-mounted air-terminal module containing return-air filters, return-air fans, final filter and air diffuser. Primary air is supplied by a remote air-conditioning unit at the volume and to the standard required for a conventional operating suite. (see Figure 9)



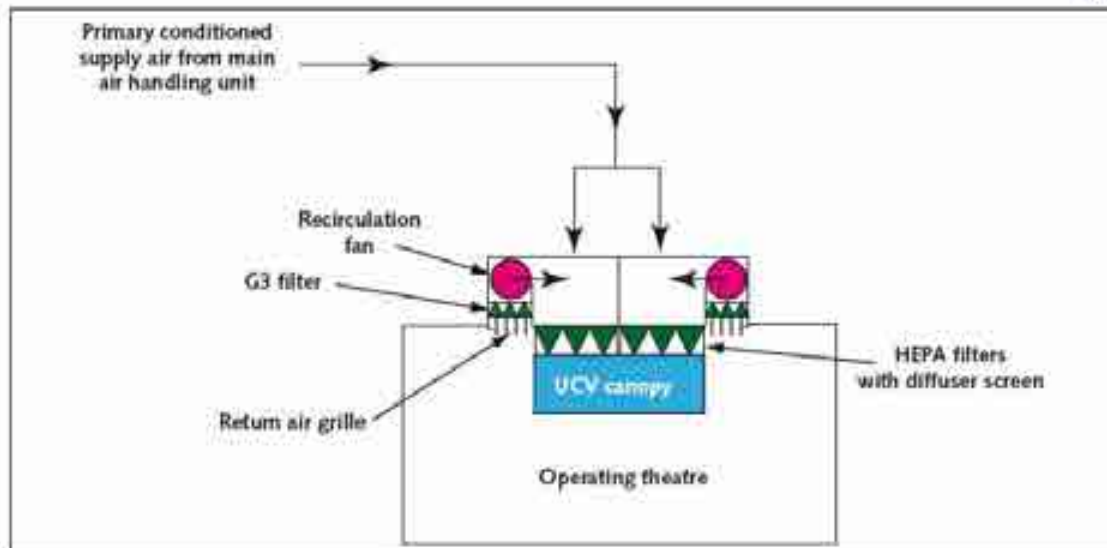


Figure 9: UCV theatre with modular system

- 7.104 Horizontal or cross-flow modular units comprise a wall-mounted air-terminal module standing vertically to produce a horizontal flow of air and containing final filter/diffuser, return-air filters and fans. The module may incorporate a cooling unit or be supplied with 'fresh air' from a separate primary cooling system.

#### Vertical flow UCV systems

- 7.105 Vertical-flow systems have a superior performance and are more effective at reducing infection risks. Air-curtain or partial-wall systems are acceptable, but are known to be more susceptible to problems arising from performance deterioration, poor operating-team discipline and high occupancy rates than is the case with full-wall systems. A full-wall is considered to be any wall terminating not more than one metre above the finished floor level.
- 7.106 Because of the large volume of air being moved in a relatively small space, the siting of the return-air grilles can cause short-circuiting of the air discharged through the UCV terminal. If the return-air grilles are positioned at high level, partial walls should be provided to control short-circuiting. The partial-walls shall be not less than 1m from the operating room walls and terminate at least 2m above floor level. The clearance should be increased proportionally for larger terminals (that is, 1.15m for 3.2m x 3.2m units and 1.25m for 3.5m x 3.5m units). In all cases, the sidewalls should terminate at 2m above floor level.
- 7.107 Siting the return-air grilles around the periphery of the theatre at low level will eliminate short-circuiting, remove the need for partial walls and give an improved airflow path. In any event there should be an air-out path on each face or in each corner of the theatre. These may be provided by combination of pressure stabilisers and passive or active low level extract grilles. Failure to provide air-out paths on all faces of the theatre may result in the surplus air causing entrainment into the clean zone.
- 7.108 Vertical systems should have a clean zone large enough to encompass the operating site and all of the instrument trays likely to be needed for the surgical



procedures to be undertaken. Ophthalmic and minor hand surgery would typically require a 1.4m circular or rectangular terminal. For major orthopaedic procedures a minimum size of 2.8m x 2.8m will be required. This is the area projected on the floor under the supply air terminal within the partial walls, full walls or air curtain. Any air outside this zone cannot be guaranteed to be ultra-clean although given the dilution factor the level of microbiological contamination will be much lower than the general level in a conventional operating room. The use of lines or a coloured area on the floor delineating the extent of the clean zone will assist staff and is therefore essential.

- 7.109 When upgrading an existing conventional theatre to an ultra-clean standard the only solution may be the installation of a modular system. In these units, the heat gains from the return-air fans and terminal lights may warrant the inclusion of supplementary cooling within the module although modern luminaries contribute substantially less unwanted heat. However issues of cooling coil drainage, condensate removal and maintenance access within the space constraints of the module may make this option impracticable. The additional cooling load should then be catered for by conditioning the primary air to compensate.
- 7.110 If an existing AHU is to be retained, it may require modification to ensure that it achieves the minimum standards set out in Section 4 of this document. The fan may need re-rating to accommodate the change in system resistance. The cooling coil may also need to be upgraded to cater for the increased load resulting from the return air fans and terminal lights. Failure to make adequate provision for this may make the theatre unusable during prolonged warm spells.
- 7.111 A factor affecting the air-flow pattern is the supply or room air temperature difference. When the supply-air temperature is significantly above room temperature, buoyancy effects will reduce the volume of air reaching the operating zone. If it is anticipated at design stage that this will be a regular occurrence, then a system incorporating full-walls should be used. Demountable extensions that convert a partial-wall to a full-wall unit are available.
- 7.112 Convection up-currents from the surgical team and operating lamp tend to counter the movement of clean air towards the operating site, hence the air velocity reaching the operating level is critical. The minimum velocity given below has been selected to take account of these factors and is greater than the theoretical minimum value.
- 7.113 For all vertical UCV systems the design discharge velocities will be as follows:
- Air velocity 2 metres above floor level:
- partial-wall system = 0.38 m/s average;
  - full-wall system = 0.30 m/s average.
- Air velocity 1 metre above floor level:
- all systems = 0.2m/s minimum within the operating zone.



The validation Section 8 paragraphs 8.75 – 8.86 gives details of the method of measurement.

- 7.114 Variable-speed recirculation fans with differential pressure control may be the most suitable solution for maintaining consistent performance and energy saving.

### Horizontal UCV systems

- 7.115 Horizontal UCV air-flow systems have been shown to be less effective than vertical systems and are not the preferred solution. There may be occasions, however, where architectural, engineering, economic or workload considerations prevent the installation of a vertical-flow system and only a horizontal-flow system can be installed.
- 7.116 Horizontal- or cross-flow modular units comprise a wall-mounted air terminal standing vertically to produce a horizontal flow of air across the operating field. The terminal module contains the final filters, air diffuser, return-air grilles, filters and fans. The module may incorporate a full air-conditioning unit or be supplied with 'fresh-air' from a separate primary air-conditioning system. In the latter case the return-air fan power may warrant the inclusion of a supplementary cooling coil within the module.
- 7.117 The system should have sidewall panels at least 2.4m apart. The panels may fold to facilitate cleaning of the theatre. The minimum height of the terminal should be 2.1m and a deflector at the top of the filter/diffuser will be acceptable as an alternative to a full roof. These dimensions reflect currently available equipment and may impose operational constraints in addition to a lower level of performance common to these systems.
- 7.118 In the horizontal flow systems, personnel working between the filter and surgical wound will disperse bacteria that are more likely to contaminate exposed surgical instruments and enter the wound. This may be minimised by the use of improved clothing and operating procedure to reduce dispersion of bacteria. The use of lines on the floor delineating the extent of the clean zone and hatching or colour coding the 'no-entry' zone between the air diffuser and patient will serve to prompt staff and are therefore essential.
- 7.119 The air discharge velocity as measured 1m from the diffuser face should have a mean value of 0.4 m/s. The validation Section 8 gives details of the method of measurement.

### Filters

- 7.120 The main plant primary and secondary filters should be to the standards and in the location set out in Section 4.
- 7.121 Terminal filters should be provided within the airflow terminal or in the air supply to it. High efficiency particulate air (HEPA) filters grade H10 as specified in BS EN 1822 will be required as a minimum. There is no aerobiological benefit in



fitting filters of a higher grade than this, although for practical reasons most UCV manufacturer recommend the fitting of H12-grade filters.

- 7.122 In some modular UCV units, the terminal filter is used as a pressure equaliser to balance airflow and filters of a higher grade with a greater pressure drop may be recommended by their manufacturer. The increased resistance may affect the velocity of air reaching the operating level and there will be penalties in terms of installed fan power and higher noise levels.
- 7.123 The final filters should be installed in a leak-proof housing in a manner that allows the terminal unit, filters and their seals to be validated. A challenge test will be carried out during commissioning to prove the effectiveness of the complete installation.
- 7.124 Where UCV units are constructed in sections, a means of measuring the pressure drop across the terminal filters in each section should be provided. The pressure test-points should be located outside of the partial wall, capped to prevent air leakage and accessible within the theatre without the need to open the unit inspection panels. Alternatively direct-reading pressure gauges should be fitted.
- 7.125 The UCV system will require a return-air filter to capture the relatively coarse particles that would otherwise significantly reduce the life of the final filter. This should be at least a G3 grade to BS EN 779. In remote recirculation systems there may be advantages in fitting a higher grade return air filter, as it will reduce the load on the terminal HEPA filters and extend their life.

#### Noise level

- 7.126 If sound-attenuating material is used to line any portion of the inside of the UCV unit it should be non-particle-shedding and fire-resistant. (Further guidance can be found in SHTM Firecode suite of documents).
- 7.127 The maximum noise level in an operating room fitted with a UCV terminal of any type shall not exceed 50 NR. The validation section gives details of the method of measurement.

#### Lighting and operating lights

- 7.128 CIBSE lighting guide LG2 and BS EN 12464-1 give detailed information of lighting requirements. Operating luminaires should comply with the photometric requirements detailed in relevant sections of BS EN 60601.
- 7.129 The position of the UCV light fittings and style of partial walls, where fitted, should neither adversely disturb the airflow nor result in significant spatial variations in illuminance levels.
- 7.130 In vertical units, specialised task lighting should be provided by toroidal, cruciform or small multiple dome-shaped luminaires as they have good aerodynamic properties. The ideal luminaire will have a minimal effect on the airflow regardless of where it is positioned. Large-diameter saucer-shaped



luminaires should not be used in vertical-flow systems as they will occlude the airflow in the critical central zone. It is important to consider the suitability of existing luminaires when retrofitting UCV systems.

- 7.131 In vertical UCV installations a minimum of 2.75 m from floor to underside of the diffuser is required to allow for supporting mechanisms and lamp articulation. When upgrading existing systems this dimension may not be achievable. However, when parked, the lowest point of the central light stem, luminaire and articulation arms should never be less than 2 m above floor level.
- 7.132 The traditional means of light support is a central column that passes through the UCV terminal and is rigidly fixed to the building structure. The position of the support therefore prevents air being supplied at the centre of the terminal. Separate supports displaced from the centre of the clean zone would lead to improved airflow. This approach was advocated in the 1994 version of HTM 2025 but at the time of writing no UK manufacturer has chosen to adopt this solution.
- 7.133 In horizontal units the size or shape of the specialised task luminaire has little effect on the air-flow pattern.

#### Controls and Instrumentation

- 7.134 The functions of the supply AHU and extract ventilation should be continuously monitored by a BEMS control unit. The controls and instrumentation for the main plant are set out in Section 6.
- 7.135 UCV systems will additionally require:
- a set-back facility that can reduce the air supplied through the UCV terminal to a volume that equates to not less than 25 air changes per hour of the operating room gross volume whilst still leaving the supply AHU operating at full speed;
  - a facility to turn the entire system, supply AHU and UCV terminal, off. (an emergency stop is not required);
  - a read-out sufficiently large to be clearly visible from the operating table that shows the temperature of the air being supplied by the UCV terminal;
  - a read-out sufficiently large to be clearly visible from the operating table that shows the relative humidity of the air being supplied by the UCV terminal;
  - a red indicator light that will illuminate when either the supply AHU or the UCV terminal fails, either or both are switched off or are at set-back;
  - an amber indicator light that will illuminate when the UCV terminal is at set-back and the supply AHU is running;
  - a green indicator light that will illuminate when both the supply AHU and UCV terminal are operating at full speed;
  - a blue indicator light that will illuminate when the UCV terminal air flow, as detected by a differential pressure sensor, falls below 80% of the design flow rate.

AHU	UVC terminal	Indicator light	Comment
Off or Fault	Off or Fault		
Off or Fault	On (set-back)		
Off or Fault	On (full speed)	Red	Ventilation not operating at a suitable level to commence surgical procedures
On (set-back)	Off or Fault		
On (full speed)	Off or Fault		
On (set-back)	On (set-back)		
On (full speed)	On (set-back)	Amber	Ventilation provided to at least conventional theatre standard
On (full speed)	On (full speed)	Green	Full UCV standard conditions
–	–	Blue	HEPA-filter resistance causing low air flow

Table 7: Indicator light logic table

- 7.136 The switching devices and indicators should be incorporated in the surgeon's panel and their functions clearly labelled. In retrofit installations an auxiliary panel for the UCV may be the most practical option. If fitted it should be mounted adjacent to the surgeon's panel and their control functions interlocked as necessary.
- 7.137 When a system is designed to have partial walls with full-wall extensions, a volume control facility may be incorporated to allow the system to be run with reduced velocity when the demountable full-walls are in place. It would be the responsibility of the user to ensure correct operation of the system. To assist the user an explanatory notice should be included on the theatre control panel.
- 7.138 A direct-reading gauge should be fitted in the theatre to show a representative pressure drop across the final filters. If the UCV control box is located out of the theatre and has a means of manually adjusting the return air-fan speed then it should also be fitted with a direct-reading differential pressure gauge. The means of adjusting the return-air fan speed should be lockable to prevent casual adjustment. The direct-reading gauges should be fitted with a means of indicating the correct operating pressure range.
- 7.139 The UCV-unit manufacturer's control box should be located in an accessible position preferably in the operating department adjacent to the operating theatre that it serves. A service corridor, if provided, is an ideal location. The control box should be clearly labelled with the identity of the operating theatre that it serves.

### 7.0 (c) Extract systems

- 7.140 Extracts may be provided for a variety of reasons including:
- simple odour control (for example in a WC or mortuary);
  - to receive and remove moisture-laden air (for example, in a kitchen);
  - as part of a combined supply/extract balanced system (for example, in an operating suite);
  - to capture a hazardous substance at source (for example a safety cabinet).



- 7.141 Devices that use an inflow of air to control exposure of staff to hazardous substances are classified as Local Exhaust Ventilation (LEV) systems under the COSHH Regulations.
- 7.142 An LEV system may comprise a self-contained unit incorporating its own carbon filter such as a simple bench-top fume cupboard. Alternatively it may be a complete “ventilation system” comprising a make-up air supply, multiple-exhaust-protected work stations, branch and central extract ductwork, duplex extract fans and a high-level discharge terminal. It may also incorporate a special filtration system appropriate to the hazardous substance being controlled. Such systems could be required for workshops containing woodworking machinery or large centralised pathology laboratories housing multiple safety cabinets, dissection benches, fume cupboards and specimen stores.
- 7.143 It is important to recognise at the design stage whether an extract is being provided for comfort or as an LEV system. Typical systems in healthcare include:
- microbiological safety cabinets and Category 3 containment rooms;
  - fume cupboards;
  - welding-fume extracts;
  - woodworking machinery duct collectors;
  - battery-charging bay extracts;
  - powered plaster and bone saws;
  - pharmaceutical preparation cabinets and tablet machines;
  - dissection benches, cut-up tables and some specimen stores;
  - medium- and high-risk infectious disease isolation facilities;
  - decontamination facilities;
  - dental furnaces, grinders and polishers.
- 7.144 General design information and guidance for LEV systems is produced by the Health and Safety Executive (HSE) as HS(G)37. Information on the design and installation of microbiological safety cabinets is given in BS5726 and that for fume cupboards is given in BS EN 14175. Their recommendations should be closely followed.
- 7.145 LEV systems are statutory items that will be subject to an independent inspection every 14 months.

## Hood extract systems

### Special requirements

- 7.146 Extract canopies will be required over steam-and-heat-emitting appliances, for example sterilisers, catering and washing equipment; and for the extraction of toxic fumes over benches used for mixing, sifting and blending procedures.
- 7.147 Perimeter-drain gulley and corrosion-proof grease eliminators should be provided on kitchen hoods.

### Typical arrangements

- 7.148 The air-flow rate must be sufficient to ensure an adequate capture velocity in the vicinity of the process; typical values are as follows:
- evaporation of steam and like vapours 0.25 m/s to 0.5 m/s;
  - chemical and solvent releases 1.0 m/s;
  - vapour of gases 5 m/s to 6 m/s;
  - light dusts 7 m/s to 10.0 m/s.

Excessive velocities will be wasteful of power and generate noise.

- 7.149 The lowest edge of the canopy should be 2m above finished floor level, with a minimum of 300mm overhang beyond the edge of the equipment on all sides.
- 7.150 A compact arrangement of equipment (but with access for maintenance) will minimise the canopy area, and hence reduce the air volume necessary to achieve the optimum capture velocity.
- 7.151 Hoods required for the control of heat gain and vapours may be connected to the general extract system when it is convenient to do so, but where non-corrosive ductwork materials are necessary, a separate discharge is preferred.
- 7.152 Lighting and internal divider plates are often required to be built into the perimeter of large canopies. However, built-in shelving systems are not recommended, as they interfere with the air-flow, and constitute a maintenance problem.

### Control of hood extracts

- 7.153 Provided that it does not interfere with the operation of the department when not in use, the ventilation system for the hood extract and any associated supply can be shut down. To this end, local control should be provided.



## Bench extract systems

### Special requirements

- 7.154 Bench extract ventilation is required in departments such as pathology and mortuary, where activities involve the release of malodorous or toxic fumes that should not be inhaled. Where hazardous substances are being controlled, the system should be designated an LEV.

### Typical arrangements

- 7.155 Each ventilated position will usually be accommodated in a continuous run of benching, which should not be more than 650 mm from front to rear and which should be provided with a continuous upstand at the rear. Each position should have a 1200mm x 150mm linear extract grille mounted on a purpose-designed plenum box (incorporating guide vanes as necessary), with its face flush with the upstand. The bottom of the grille should be as close as practicable to the level of the working surface (usually 75mm above, to allow for cleaning). The minimum velocity across any part of the grille should be 1 m/s. The grille should be readily demountable to allow for cleaning.

### Control of bench extract systems

- 7.156 Provided that it does not interfere with the operation of the department when not in use, the ventilation system for the bench extract and any associated make-up supply can be shut down. However, a run-on timer with a minimum setting of 30 minutes must be provided. To this end, local or automatic-use control should be provided.
- 7.157 Processes that produce hazardous vapours, fumes, dusts or noxious vapours should be enclosed or semi-enclosed in a suitable cabinet or exhaust protected workstation.

### Safety cabinet and fume-cupboard extract systems

- 7.158 Safety cabinets and fume cupboards are devices that use an inflow of air to control exposure of staff to hazardous substances. The units, their exhaust systems, filters, fans and discharge terminals are all classified as Local Exhaust Ventilation (LEV) systems under the COSHH Regulations. The make-up air system to a room that contains an LEV system should also be considered as an essential part of the system and be included in the LEV classification. Information on the design and installation of microbiological safety cabinets is given in BS 5726 and that for fume cupboards is given in BS EN 14175. Their recommendations should be closely followed.
- 7.159 The Advisory Committee on Dangerous Pathogens (ACDP) publishes 'The Management, Design and Operation of Microbiological Containment Laboratories' covering the general environment in which they are used and operational considerations.



### Special requirements

- 7.160 The supply-air system should not distort the unidirectional and stable air pattern required for fume cupboards and microbiological safety cabinets. In general, supply-air ceiling diffusers should not discharge directly towards fume cupboards or safety cabinets, unless the terminal velocity is such that the air-flow pattern of the cabinet is unaffected. The design should ensure that high air-change rates, and/or the opening and closing of doors do not have any adverse effect on the performance of safety cabinets or fume cupboards. A damped door-closure mechanism may help.
- 7.161 In order to safeguard the user, all safety cabinets and fume cupboards must be fitted with a clear indication that they are operating correctly. Direct-reading gauges or falling-ball indicators are preferred (in addition to electronic pressure indicators). The system should be set to alarm audibly if the face velocity falls below the minimum safe operating level.

### Arrangements for safety cabinet installations

- 7.162 The manufacture and installation of microbiological safety cabinets must be in accordance with the relevant national standards and guidance issued by the Advisory Committee on Dangerous Pathogens (ACDP).
- 7.163 A Class 1 microbiological safety cabinet must be specified for routine work involving Group 3 pathogens. It should be housed in a Category 3 containment room. Specific design information on containment rooms is issued by ACDP in conjunction with the Health and Safety Commission.
- 7.164 Siting and installation of microbiological safety cabinets are of particular importance because:
- the protection afforded to the operator by the cabinet depends on a specific and stable unidirectional air flow through the open front;
  - the protection to the environment by the cabinet depends on the high efficiency particulate air (HEPA) filters. The exhaust air should never be considered as totally free from microbiological hazard.
- 7.165 Microbiological safety cabinet is HEPA filtered prior to being discharged to outside. The extract ductwork should as far as practicable be kept under negative pressure while inside the building.
- 7.166 Current standards permit the installation of microbiological safety cabinets with integral fans, provided that the extract ductwork can be kept short (that is, less than 2m); such an installation however, is likely to be noisy and is not recommended for use in new buildings.
- 7.167 The discharge from the cabinet should be fitted with a back-draft damper. In multiple installations where several cabinets discharge into a common extract and discharge duct, it must be possible to isolate each cabinet from the system when not in use.



7.168 Roof-level discharge, wherever practicable, is preferred since it removes much of the uncertainty over air re-entering the building through ventilation inlets and/or windows. In such an installation, the extract fan should be situated separately from the cabinet and close to the discharge outlet, to maintain the duct within the building under negative pressure. The discharge point on a flat roof should be through a 3 metre high terminal. This is required to safeguard staff who may need to access the roof periodically for maintenance. This requirement will also be applicable to fume-cupboard discharges.

7.169 Where this is impracticable, discharge into the room via a double HEPA filter has been accepted. The preferred method, however, is to discharge 3 meters above the roofline in line with the similar standard for fume cupboard designs.

### Arrangements for fume cupboard installations

7.170 The manufacture and installation of fume cupboards must be in accordance with the relevant national standards and associated guidance.

7.171 The primary factors that contribute to the effective performance of fume cupboards include:

- an adequate volume of supply air;
- an effective exhaust system to promote the safe dispersal of waste products to atmosphere.

7.172 The air velocities through sash openings must be sufficient to prevent hazardous materials from entering the laboratory while avoiding excess flow rates that interfere with the investigation process. Average face velocities should be between 0.5 and 1.0 m/s, with a minimum at any point within 20% of the average, the upper end of the range being applicable to the containment of materials of high toxicity. The design velocity must be maintained irrespective of whether the sash opening is varied, or whether doors or windows are open or closed. Variable Air Volume (VAV) cupboards are available which offer a reduction in energy use.

7.173 The possibility of a fire or explosion that may not be contained by a fume cupboard must always be considered. A fume cupboard should not, therefore, be sited in a position where exit to an escape route will necessitate passing directly in front of it.

7.174 Fume-cupboard fans should be installed as near as possible to the termination of the duct, thus maintaining the maximum amount of ductwork at negative pressure.

7.175 Where there are adjacent buildings with opening windows, or where downdraughts occur, it may be necessary to increase the height of discharge ducts in order to achieve adequate dispersal. In complex locations, airflow modelling or wind tunnel tests may be required to determine the optimum height of the stack (see also paragraph 7.167).



- 7.176 Fume-cupboards for certain processes must have separate extract systems. However, where appropriate, individual fume-cupboard exhaust systems may discharge via non-returning dampers into a single collection duct rather than having a large number of separate stacks. The collection duct should have a large cross-sectional area to minimise its effect on the individual exhaust systems; be open to atmosphere upstream of the first connection; and be designed to discharge a total air volume at least equal to the combined individual extract systems.
- 7.177 Individual fume-cupboard extract systems, discharging either directly to atmosphere or into a collection duct, do not require duplex fans. However, a collection duct designed to provide dispersal of effluent from a number of individual extracts, should have duplex fans with automatic changeover.
- 7.178 Some fumes are particularly corrosive, so the choice of material for the ductwork, and type of extract fan fitted should reflect the nature of the fume being conveyed.

#### Control of extract systems

- 7.179 It is desirable to provide local control of safety cabinets in order to maximise the life of the HEPA filter, and to permit the sealing of the cabinet and room for fumigation if spillage occurs.
- 7.180 To cope with the risk of an accident or spillage outside safety cabinets, a 'panic button' should be provided to switch off the supply to that area; and discharge all extracted air to atmosphere.
- 7.181 In pathology departments, it will be necessary to have one or more microbiological safety cabinets and one or more fume cupboards available for use at all times, including weekends, therefore, local overriding controls for all these items and any associated ventilation plant will be necessary.

### 7.0(d) Plantroom ventilation

#### General requirements

- 7.182 Plant rooms are required to be ventilated in order to maintain acceptable temperatures for satisfactory operation of the plant and controls, and for maintenance activities. In the case of plant rooms housing combustion equipment, a secondary function of the ventilation is to provide make-up air for the combustion process.
- 7.183 The air required for these purposes should be introduced into the space through inlets positioned to minimise the discomfort to occupants; they should be unlikely to be blocked, closed deliberately (except in the case of fire shutters if required), or rendered inoperative by prevailing winds.

- 7.184 Plantroom ventilation air should not be used for any other purposes, such as make-up air for extract; and where the plantroom contains combustion equipment, the appliance pressure must not fall below the outside air pressure.
- 7.185 Specialised healthcare air handling equipment must not be located in a fire compartment that houses combustion equipment.
- 7.186 Statutory regulations for plantroom ventilation are contained in the Scottish Building Regulations, and further guidance is given in CIBSE Guides A & B.

#### Assessment of ventilation levels

- 7.187 Ventilation requirements must take into account all heat sources within a plantroom, and where there are large glazing areas, solar gains. The ventilation rate should limit the maximum temperature within the plantroom to 32°C.
- 7.188 As the level of equipment operating during mid-season and summer is often lower than the winter condition, and the cooling effect of the outside air is reduced, it is necessary to calculate the minimum volume for each season of operation, and the inlet and outlet grilles or fan sizes should be chosen to cater for the largest seasonal air volume.
- 7.189 Replacement air should not be drawn through pipe trenches or fuel service ducts. Where metal ducts penetrate walls and floors, effective sealing should be provided to confine the ventilation to the boiler room and to meet fire protection requirements. Penetration of fire barrier walls by ventilation ducts should be avoided if possible.
- 7.190 Fire dampers in plant room ventilation ducts should be electrically interlocked with the boiler plant.
- 7.191 Care must be taken to prevent any noise generated in the boiler room emerging from natural or mechanical ventilation openings to the detriment of the surrounding environment. Particular care is necessary with mechanical flue draughts and fan-diluted flue systems.
- 7.192 Information on required air volumes is contained in the CIBSE Guide A & B.
- 7.193 Where combustion plant is installed, the high-level (outlet) openings should be sized to cater for the total ventilating air quantity; and the low-level (supply) openings sized to cater for the total combined ventilating and combustion air quantity.

#### Choice of ventilation system

- 7.194 Ventilation air may be introduced and exhausted by either natural or mechanical means or a combination of both. However, where possible, natural systems are preferred.



- 7.195 Generally, small installations at or above ground level should have their combustion and ventilation air provided by natural means, employing both high- and low-level openings.
- 7.196 Basement, internal and large installations at or above ground level will usually require a combination of natural and mechanical ventilation. If the airflow rate is difficult, both supply and extract may require mechanical means.
- 7.197 Whether natural or mechanical, the system should be designed to avoid both horizontal and vertical temperature gradients. Both inlet and outlet openings should be placed on opposite or adjacent sites of the building to reduce the effect of wind forces.
- 7.198 Where mechanical air supply is employed, electrical interlocks with the boiler plant should be provided to prevent damage in the event of failure of the supply fan(s) once the air volume is established.
- 7.199 The necessary free opening areas for a naturally ventilated plantroom may be calculated using either the method in A4 of the CIBSE Guide A or the table in section B13 of CIBSE Guide B.
- 7.200 A combined natural and mechanical ventilation system should allow for natural extract at high level, to take advantage of convective forces in the room, with mechanical supply at low level. The high level natural ventilators should be sized to cope with the total quantity of ventilation air, as above.
- 7.201 To prevent leakage of flue gases and to ensure that the flue draught is not impeded at any time, the air pressure in the boiler room must not exceed the prevailing outside pressure. Therefore, the fan duty should exceed the calculated total combined combustion and ventilation air quantity by at least 25%. Fan-powered inlets should be arranged to flow outside air into the space at a point where cross-ventilation will ensure pick-up of heat without causing discomfort to occupiers.
- 7.202 Where it is impractical to provide sufficient natural ventilation to remove the heat emitted by the plant, both mechanical supply and extract will be required.
- 7.203 The high-level extract should be sized to cater for the total ventilating air quantity and the low-level supply should exceed the total combined combustion and ventilating air quantity by at least 25%, as above.

## 7.0(e) Ventilation of hydrotherapy suites

### General requirements

- 7.204 In a hydrotherapy suite heat recovery should be via heat pump.
- 7.205 The quantity of supply air should be calculated as 25 litres/sec/m<sup>2</sup> wetted surface, with the wetted surface taken as 110% of the pool water surface area.
- 7.206 A re-circulation plant is recommended, with a minimum of 20% fresh air.

- 7.207 As far as practicable, re-circulated pool air should be provided to the ancillary changing and recover accommodation, with the only extract from the toilets, laundry/utility room and pool hall.
- 7.208 Supply air to the pool hall should be introduced at high level and directed towards the perimeter to mitigate condensation, with extract air taken from directly over the pool. Dampers should not be located over the pool water.

#### Control of hydrotherapy pool installations

- 7.209 The supply and extract fans should be interlocked so that the supply fan does not operate until flow is established within the extract system.
- 7.210 Time-clock control should be provided, with a local override switch to extend the normal operating period as required.
- 7.211 Night setback temperature (in the range of 21-25°C) and high humidity control (in the range of 60-75% sat) should be provided to override the time clock in order to prevent condensation. The exact set points should be ascertained post-installation.
- 7.212 A remote indication panel should be provided in the pool hall, giving a visual display of the pool water and pool air temperature.



## 8. Validation of specialised ventilation systems

### Definitions

**Commissioning** - Commissioning is the process of advancing a system from physical completion to an operating condition. It will normally be carried out by specialist commissioning contractors working in conjunction with equipment suppliers. Commissioning will normally be the responsibility of the main or mechanical contractor.

**Validation** - A process of proving that the system is fit for purpose and achieves the operating performance originally specified. It will normally be a condition of contract that *"The system will be acceptable to the client if at the time of validation it is considered fit for purpose and will only require routine maintenance in order to remain so for its projected life."*

Commissioning is often sub divided into sections e.g. air handling unit, automatic controls, airside balance, building fabric and fittings. Each section may be commissioned by its specialist installer and they are often accepted in isolation. Validation differs from commissioning in that its purpose is to look at the complete installation from air intake to extract discharge and assess its fitness for purpose as a whole. This involves examining the fabric of the building being served by the system and inspecting the ventilation equipment fitted as well as measuring the actual ventilation performance.

It is unlikely that 'in house' staff will possess the knowledge or equipment necessary to validate critical ventilation systems such as those serving operating suites, pharmacy clean rooms and local exhaust ventilation systems. Validation of these systems should therefore be carried out by a suitably qualified independent Authorised Person appointed by the Health Board.

It is anticipated that training in the validation of specialised healthcare ventilation systems for independent Authorised Persons will become available during the life of this SHTM.

### Commissioning general

- 8.1 Commissioning is an essential process for ventilation systems. It is therefore important that adequate provision for the process be made at the design stage of the project. Procedures for commissioning air-handling systems are given in CIBSE Commissioning Codes and BSRIA Application Guide Set COMPAK 1.
- 8.2 The duct-sizing procedure should take into account the requirements of system balancing, and the position and number of regulating dampers included in the design should be sufficient for this purpose.

## Location of dampers and test holes

- 8.3 Balancing/commissioning dampers will be required in each branch of the distribution ductwork.
- 8.4 Test holes for the measurement of air-flow will be required at carefully selected points in main and all branch ducts. The number and spacing of holes are given in the BSRIA Application Guide Set COMPAK 1. Their positions must be identified at the design stage.
- 8.5 The test positions need to be accessible for commissioning to take place. They may also be required for subsequent annual verification of the system performance, so they should not be covered by permanent lagging.
- 8.6 The measurement point should be in a straight length of duct as far away as possible from any upstream bends, dampers or other elements that could cause disturbance to the airflow. The actual location should be:
- at least 1.5 duct diameters upstream of sources of turbulence such as dampers and bends;
  - if this is not possible, 10 diameters downstream of dampers, bends or tees, and 5 diameters downstream of eccentric reducers;
  - where there is enough space round the duct to insert the pitot tube and take readings;
  - where the duct has a constant cross-sectional area.
- 8.7 Test holes for measuring total airflow from a fan should be located either 4 diameters upstream or 10 diameters downstream of the fan. Provision should also be made for measuring the speed of rotation.

## Information to be provided

- 8.8 It is essential that the designer should pass on his intentions fully to the commissioning engineer by indicating which parts of the system are high, medium and low pressure, and by providing:
- relevant parts of the specification;
  - schematic drawings indicating performance data as indicated in Table 8;
  - equipment schedules;
  - controller and regulator schedule;
  - fan performance curves;
  - wiring diagrams for electrical equipment, including interlock details.



Items in system	Information to be provided
Fans	Fan total pressure Volume flow rate at high and low speed Maximum motor current
Plant items	Type and identification numbers from equipment schedules Fluid and air volume flow rates Fluid and air side pressure losses Dry bulb temperatures Wet bulb temperatures Humidity
Dampers, including motorised and fire dampers	Identification numbers from equipment schedules Location Identification number Volume flow rate
Main and branch ducts	Dimensions Volume flow rates and velocities Identification numbers from equipment schedules
Terminal	Location Identification number Grille or diffuser factor Volume flow rate and neck velocity Operating static pressure
Test holes and access panels	Location Identification number
Controllers	Set points

Table 8: Information to be provided on schematic drawings

**Notes:** For Table 8

1. Fan total pressure is the difference between the total pressure (static pressure + velocity pressure) at the fan outlet and the total pressure at the fan inlet.
2. Where volume flow rates are variable, maximum and minimum values should be provided.

### Commissioning personnel

8.9 As one individual is unlikely to possess all of the required commissioning skills, a commissioning team is therefore usually needed. The objective of commissioning is to ensure that the necessary performance and safety requirements are met.



- 8.10 During the commissioning process a great deal of information will be generated which will form an invaluable future source of reference about the plant. It is essential to ensure that it is collected together in the form of a commissioning manual and handed over to the client on completion of the contract together with the 'as fitted' drawings. This information should be both in hard copy and electronic format.
- 8.11 In order to be successful the commissioning process must start before achieving practical completion as many parts of the system will become progressively less accessible. The correct installation of those parts will need to be witnessed and leak -rate tests carried out as construction proceeds. Failure to establish responsibility for commissioning early enough will delay the completion of the project or lead to unsatisfactory plant performance.

### Commissioning brief

- 8.12 The commissioning team will require a detailed brief from the system designer. This should include:
- a 'user' brief comprising a description of the installation and its intended mode of operation;
  - the precise design requirements with regard to the scheme of air movement, room static pressures, supply and extract air-flow rates and acceptable tolerances;
  - full details of the design conditions both inside and out, for winter and summer together with the control strategy;
  - equipment manufacturer's type test data, commissioning, operation and maintenance recommendations;
  - drawings showing the layout of the system, positions of air-flow measurement test points, dampers, regulating devices and filters within the duct runs, together with sizes of ducts and terminal fittings. It will save time if these drawings are annotated with the design volumes and static pressures required at each branch and outlet point;
  - wiring diagrams for all electrical equipment associated with the air handling systems including motor control circuit details and any interlocking and safety devices such as emergency-stop buttons adjacent to the item of plant.
- 8.13 The CIBSE Commissioning Code, Series 'A' – "Air Distribution", provides full guidance on the information that will be required by the commissioning team.
- 8.14 The designer should include in the contract document instructions on verifying the accuracy of test instruments that should be supported by reference to relevant calibration certificates.
- 8.15 The system, on completion, should be operated by the contractor as a whole and subject to performance tests in accordance with the contract requirements.

For critical systems, these may include independent validation of the system performance on behalf of the client.

- 8.16 Prior to dynamic commissioning, it is essential that builders' work in the area served by the system is complete, all rubbish and dust is removed, concealed plumbing (IPS-type) panels are in position and ceiling tiles are in place and clipped. Floors should be mopped and visible dust removed from all other surfaces.
- 8.17 Once the system is shown to meet the design intent the handover documentation should be completed. In the event of performance not being acceptable, the matter should be dealt with in accordance with the contract arrangements.

### Pre-commissioning checks

- 8.18 The pre-commissioning checks consist of visual inspection, manual operation of equipment, static measurements and functional tests of individual components. They should be carried out prior to setting the system to work and undertaking the dynamic commissioning process set out in paragraph 8.29 onwards of this guidance.

### Standard of installation

- 8.19 During the installation of the system the following must be witnessed:
- that the plant and installations have been provided and installed in accordance with the design specification and drawings;
  - that only approved sealants have been used in the installation;
  - that all components function correctly;
  - that the satisfactory sealing of access doors and viewing ports have been carried out;
  - that air pressure tests and air-leakage tests on ventilation ducting have been carried out in accordance with the methods set out in the HVCA's DW/143: Ductwork Leakage Testing. It is usual to carry out these tests, a section at a time, as the ductwork is installed and before its insulation is applied. The results must be recorded in the commissioning manual;
  - that gaps around doors and hatches are as specified in the design;
  - that the correct operation of pressure stabilisers, control dampers, isolating and non-return dampers have been checked and installed in the correct orientation for air-flow;
  - that test holes have been provided in their specified locations and are sealed with suitable grommets;
  - that control dampers are secured and their quadrants fitted correctly;
  - that any interlocks are operative and in accordance with specification;



- that the electric circuits are completed, tested and energised;
- that electric motors have been checked for correct direction of rotation both at full speed and set-back;
- that cooling and heating media are available at correct temperatures and pressures and in specified quantities;
- that the air-conditioning plant components and controls function correctly;
- that the air-conditioning plant interlocks and safety controls function correctly;
- that the plant is physically complete, insulation is applied and all ducts and pipework are identified as specified;
- that the building housing the ventilation plant is generally in a fit condition for commissioning and performance tests to commence, that is, windows, doors, partitions etc are completed, surfaces sealed and their final finish applied;
- that the areas containing the ventilation plant and those being served by it are clean;
- that access to all parts of the system is safe and satisfactory.

### Cleanliness of installation

- 8.20 During installation it must be established that ductwork is being installed to the 'advanced level' as defined in the HVCA (2005) 'TR/19 – Guide to good practice: internal cleanliness of ventilation systems'. This specifically includes ensuring that ductwork sections arrive on site and are stored with their open ends sealed and that open ends remain sealed during installation to prevent the ingress of builders' dust.
- 8.21 Should any doubt exist whether the guidance has been observed, the ducts must be cleaned internally to restore them to this standard before being taken into use.
- 8.22 "Builders work" ducts of brick or concrete must be surface sealed to prevent the release of dust before being taken into use.
- 8.23 The area around the supply air intake must be free of vegetation, waste, rubbish, builders' debris or any other possible source of contamination.

### Certification of equipment

- 8.24 The following test certificates should be assembled by the commissioning team and be available for inspection at any time during the contract period. They will form part of the handover information and should be placed in the commissioning manual:
- type-test performance certificates for fans;
  - pressure-test certificates for:

- heater-batteries;
- cooling coils;
- humidifiers (if appropriate);
- type-test certificates for attenuators;
- type-test certificates for primary and secondary filters;
- individual test certificates for high efficiency particulate air (HEPA) filters.

## Equipment tests

- 8.25 Prior to setting the system to work, the checks in paragraphs 8.26-8.28 should be witnessed, and proving tests should be carried out as detailed.

## Filters

- 8.26 The quality of filter housing and in particular, the seals is a critical factor in maintaining the efficacy of the filtration system by ensuring that air does not bypass the filter panels. Therefore, the following checks should be made:
- filter seals should be fitted and in good condition;
  - filters should be installed correctly with respect to air flow;
  - bag filters should be installed so that the bags are vertical and their pockets free;
  - HEPA filters should be installed in a sealed housing and their seals tested to DIN 1946 if specified;
  - all filters should be checked to ensure they are free of visible damage;
  - the differential pressure indicators should be checked for accuracy and that they are marked with the initial and final filter resistance.

## Drainage arrangements

- 8.27 The drain should conform in all respects to the "Design considerations" of this SHTM. In addition the following must be proved:
- that the drain tray is easily removable;
  - that a clear trap is fitted and is easily removable;
  - that the drain has a clear air gap of at least 15mm;
  - that the pipework is supported so that the air break cannot be reduced;
  - that the drain system from each drain tray is independent up to the air break;
  - that the operation of the drainage system is proved by introducing water into the duct at the drain tray and observing that it completely drains out. This check is to be repeated both at normal speed and set back once the fans



have been commissioned. At this time the clear trap can be marked to indicate the normal water level with the fan running.

## Fire dampers

8.28 The following must be witnessed and proving tests should be carried out as detailed:

- the operation of all fire dampers;
- the access provided to enable the dampers' to be visually inspected and / or re-set should be sufficient for the purpose;
- indication should be provided of the dampers' position (open/tripped);
- indication of the fire dampers' location should be provided both on the ductwork and at a visible point on the building fabric if the ductwork is concealed.

## Dynamic commissioning

### Air-handling and distribution system

8.29 The fan drive, direction of rotation, speed and current drawn should be set in accordance with their manufacturer's instructions.

8.30 After the installation has been checked to ensure that it is in a satisfactory and safe condition for start-up, it should be set to work and regulated to enable the plant to meet its design specification. The proportional balancing method described in the CIBSE Commissioning Code "A" must be followed. The air-flow rates must be set within the tolerances laid down in the design brief. This will normally be the design airflow rate +10% -0%.

8.31 When combined supply and extract systems are to be balanced and the area that they serve is to be at or above atmospheric pressure then the supply should be balanced first with the extract fan switched off, and then the extract balanced with the supply fan(s) on.

8.32 For combined systems where the area that they serve is to be below atmospheric pressure then the extract should be balanced first with the supply fan switched off and then the supply balanced with the extract fan on.

8.33 On completion of the balance all volume air-flows in supply and extract ducts and from grilles and diffusers must be measured and recorded. The true air change rate can then be calculated from the data obtained.

8.34 The main supply and extract duct volume control dampers must be locked and their position marked.

8.35 All grille and diffuser volume control registers must be locked to prevent alteration and their final position marked.



### Room air distribution

- 8.36 The pressure-relief dampers and pressure stabilisers must be set to achieve the specified room static pressures and locked. The grille direction control vanes and diffuser cones must be set to give the specified air-movement pattern. Visualisation techniques may need to be employed in order to prove that the required air-flow pattern is being achieved. This may be a potential requirement when commissioning LEV systems or rooms that contain them.

### Air-conditioning plant

- 8.37 The specified flow rate and/or pressure drops must be set for all heater batteries, cooling coils and humidifiers. The methods described in the CIBSE Commissioning Codes "W" and "R" should be followed. On completion their regulating devices must be locked to prevent alteration.

### Control system

- 8.38 The control system should not be commissioned until both the air distribution system and air-conditioning equipment have been commissioned.
- 8.39 Because of the specialised nature of control systems and the fact that each manufacturer's system will contain its own specialist components and settings, the commissioning should be completed by the supplier and witnessed by a representative of the user.
- 8.40 The location of all control and monitoring sensors should be checked and their accuracy proved.
- 8.41 The control system's ability to carry out its specified functions must be proved.
- 8.42 If the plant is provided with a "user's" control panel in addition to the one located in the plantroom then the operation of both must be proved. This will typically apply to operating departments and laboratory systems.

## Specific performance standards

### Air movement

- 8.43 The performance of the system should be measured and compared with information provided by the designer.

### Plant capacity and control

- 8.44 When setting to work and proving the design, both the manufacturer of the air-handling plant and the control specialist should attend site together and jointly commission the system.
- 8.45 If any doubt exists as to the capacity of the installed system, then its ability to achieve the specified inside design conditions with the plant operating at winter

and summer outside design conditions must be proved. Artificial loads will be required in order to simulate the internal gains/losses and the outside design conditions.

- 8.46 On completion of the plant performance test, recording thermo-hygrographs should be placed in each room/area served by the plant and also the supply air duct upstream of the frost battery. The plant should be run for 24 hours with all doors closed. During this period the inside conditions must stay within the tolerances specified. The BEMS should be used to obtain the information required wherever possible. Periodic tests will be required during the defects liability period.

### Noise levels - general

- 8.47 The commissioning noise level is the level measured with a sound-level meter in the unoccupied room and taking account of the external noise together with the noise generated by the ventilation system. When occupied and in use this commissioning level will constitute a continuous background noise that will allow the overall noise level to be achieved. The ventilation plant design noise level is that generated by the plant alone with no other noise source being considered. The levels suggested make recognised allowance for the ingress of environmental noise.
- 8.48 The noise levels apply at the maximum velocity for which the system is designed to operate. Acoustic commissioning tests should be carried out with all plant and machinery running normally and achieving the design conditions of airflow, temperature and humidity.
- 8.49 An industrial-grade sound-level meter to BS3489 or IEC 651 Type 2 will normally be sufficient to check the noise level.
- 8.50 The noise level readings are to be taken at typical normal listening position 1.5m above floor level and at least 1m from any surface and not on any line of symmetry. In critical rooms the noise should be measured at the centre of the room and at the centre of each quarter. The mean of the 5 readings should then be calculated.
- 8.51 In the event of a contractual deficiency, a Type 1 precision-grade sound-level meter should be used and the noise level determined by the procedure given in Scottish Health Technical Memorandum 08-01 (forthcoming).

### Filter challenge

#### General ventilation filters

- 8.52 In-situ performance tests will not normally be required for primary and secondary filters and their housings. However the filters should be visually inspected for grade, tears, orientation and fit within their housing. Filters should be clean and a replacement set available. Bag filters should be installed so that



their bags are vertical and spaced so that air can move through them freely. Any filter found to be wet should be replaced and the cause investigated.

### HEPA filters (for exhaust protective enclosures and laboratories)

- 8.53 Pathogenic material may be discharged through damaged or badly installed HEPA terminal filters. The complete installation must be tested using the method set out in BSEN: 14644 'Method of Testing for the Determination of Filter Installation Leaks'.
- 8.54 The challenge tests may be carried out using either of the following techniques:
- use DOP (Dispersed Oil Generator) to provide the challenge and a photometer to detect leaks;
  - use a Discrete Particle Counter (DPC) to detect leaks. (In order to obtain a sufficient challenge it may be necessary to remove temporarily the supply AHU secondary filters).
- 8.55 In both cases the upstream challenge should be measured. A measurement of particle penetration through a representative section of the HEPA filter media is then taken and used as the reference background level. These two readings enable the range of the detecting instrument to be set.
- 8.56 A challenge aerosol of inert particles of the type produced by a DOP generator should be introduced into the air, upstream of the HEPA filter. The downstream face of the filter, its mounting seal and housing would then be scanned for leakage using a photometer. A leak should be deemed to have occurred if a steady and repeatable reading on the photometer at any point exceeds 0.01% of the upstream reading.
- 8.57 Alternatively a Discrete Particle Counter (DPC) may be used. For the Discrete Particle Counter method the filter face is sampled at several points to establish the smallest non-penetrating particle size. If particles at or above this size are detected when subsequent scans of the filter face, its seal and housing are made, then there is deemed to be a significant leak at, or near, the test position.
- 8.58 Should the HEPA filter fail this test it must be replaced. Should the filter mounting seal or housing fail this test it may be repaired and the test repeated.

## Bacteriological sampling

### General ventilation systems

- 8.59 Bacteriological sampling will not normally be required for either general or local exhaust ventilation (LEV) systems unless otherwise specified.

### Conventional operating rooms

- 8.60 The level of airborne bacteria introduced by the supply air can be checked by closing all doors and leaving the operating room empty with the ventilation system running for 15 minutes. An active air sampler set to 1 cubic metre and mounted on the operating table should then be activated remotely. Aerobic cultures on non-selective media should not exceed 10 bacterial and/or fungal colony forming units per cubic metre (CFU/m<sup>3</sup>).
- 8.61 The results should be examined to establish the broad category of organisms present. A high preponderance of fungal organisms may be an indication of inadequate filtration for the particular installation. Precise guidance is inappropriate and will depend on local circumstances.
- 8.62 It may be appropriate to carry out a check of airborne bacteria during a surgical operation. If required this should be carried out as soon as possible after handover. Unless there are unusually high numbers of personnel or extensive activity in the room, the number of airborne bacterial and/or fungal CFU averaged over any five-minute period, would be unlikely to exceed 180 per cubic metre.
- 8.63 Information on the additional validation testing of UCV Operating suites is given in Section 8.0(a).

### Ventilation system commissioning/validation report

- 8.64 Following commissioning and/or validation a full report detailing the findings should be produced. The system will only be acceptable to the client if at the time of validation it is considered fit for purpose and will only require routine maintenance in order to remain so for its projected life.
- 8.65 The report shall conclude with a clear statement as to whether the ventilation system achieved or did not achieve the required standard. A copy of the report should be lodged with the following groups:
- the user department;
  - infection control (where required);
  - estates and facilities.

## 8.0(a) Validation of UCV operating suites

### General

- 8.66 Commissioning of a UCV terminal will normally be carried out by its supplier. Commissioning of the air-handling unit, fire dampers, distribution ductwork and control systems may be undertaken by different teams. It is therefore important to recognise that the UCV terminal is only one element of the specialised ventilation system serving the operating suite and it cannot be accepted in isolation.



- 8.67 In order to ensure that the complete system operates correctly it will be necessary to validate the system as a whole from the air intake through to the extract discharge. It is unlikely that “in house” staff will possess the knowledge or equipment necessary to undertake this process. Validation of Ultra-Clean operating theatre ventilation systems should therefore be carried out by a suitably qualified independent Authorised Person appointed by the client.
- 8.68 It is anticipated that training in the validation of specialised healthcare ventilation systems for independent Authorised Persons will become available during the life of this SHTM.
- 8.69 The following regime of inspection and testing should be applied to the validation of new installations designed to provide Ultra-Clean conditions in an Operating suite. The test regime has been devised to ensure that the system as installed fully achieves the design requirement for these systems as set out in Section 7.0 (b) of this document.

#### Basic requirement

- 8.70 The operating suite to be validated should be physically complete with final finishes applied. All ventilation systems serving it should be operating correctly and delivering the design air-flow rates.
- 8.71 In order to avoid pre-loading the UCV terminal’s recirculation ducts and HEPA filters, the Operating suite should be free of any obvious dust and at least “builders clean” before the recirculation fans are set to work.
- 8.72 The validation procedure for a conventional theatre suite should have been satisfactorily completed to the standard set out in Section 8 prior to attempting to validate the UCV unit. In particular:
- the supply AHU will have achieved the minimum standard;
  - the operation of all fire dampers will have been proved;
  - the supply and extract air-flow rates as measured in ducts and at room terminals will achieve their design values +10%; -0%;
  - room differential pressures will be correct.

Evidence of the satisfactory achievement of the foregoing standard should be available for inspection and independently measured as necessary prior to validating the UCV unit.

#### UCV unit validation procedure

- 8.73 Tests to validate the suitability and performance of an ultra-clean operating suite should be undertaken in the order that they appear below. Should an item fail to meet the required standard it should be rectified and successfully retested before passing on to the next test.



## Summary of test regime

- Challenge tests to ensure that:
  - the UCV terminal unit is correctly assembled and sealed so that no air will bypass the filters;
  - the terminal filters are correctly sealed in their housings;
  - the terminal filters are of the same grade, of uniform quality and undamaged.
- Air velocity measurements to ensure that
  - a sufficient quantity of air is being delivered by the terminal;
  - the terminal quadrants are in balance;
  - the air flow has sufficient velocity to reach the working plane.
- An entrainment test to ensure that contaminants arising outside of the UCV terminal footprint are not drawn into it.
- Visualisation techniques to gain an understanding of the overall system performance.
- Noise measurement to ensure that working conditions are satisfactory.
- Control system checks to ensure that the system operates as specified.
- Biological monitoring to determine how effective the system is in use.

## Test and measuring conditions

- 8.74 While validating the UCV terminal, the conditions in the Operating room shall be stable and within the given ranges.

temperature: – 19 - 23°C dry bulb.

humidity: – 30 – 65% relative humidity.

## Test and measuring equipment

- 8.75 Any test or measuring equipment used should have a certificate to prove that it has been validated within the previous 12 months at a calibration facility using traceable national standards.
- 8.76 In the case of a noise meter, its “matched sound source” should have a certificate to prove that it has been validated within the previous 12 months at a calibration facility using traceable national standards. The noise meter should be calibrated to the sound source on each occasion that it is used.

## Test grid – vertical units

- 8.77 A test grid should be constructed on the floor within the ultra-clean terminal footprint as projected by the inside dimensions of the sidewalls or boundary air

curtain. A suitably marked test sheet will provide a consistent standard of test grid.

- 8.78 The test grid should comprise test squares of 280mm each side.
- 8.79 The test grid should be aligned along the centre lines of the terminal footprint with its centre under the centre point of the terminal.
- 8.80 Any test square with 80% of its area within the UCV footprint should be used as a test position.
- 8.81 An inner zone should be designated that is not less than 36% of the total footprint. It should be made up of a number of test squares distributed symmetrically about the terminal footprint centre line. Regardless of the shape of the terminal footprint, the inner zone should comprise a minimum grid of 6 x 6 test squares.
- 8.82 Unless specified otherwise, a test position should be in the geometric centre of a test square.
- 8.83 Test position 1 should be the leftmost test square in the row nearest to the operating room wall that houses the surgeon's panel.

(For an example of a grid for a 2.8 x 2.8 metre terminal see Figure 10)

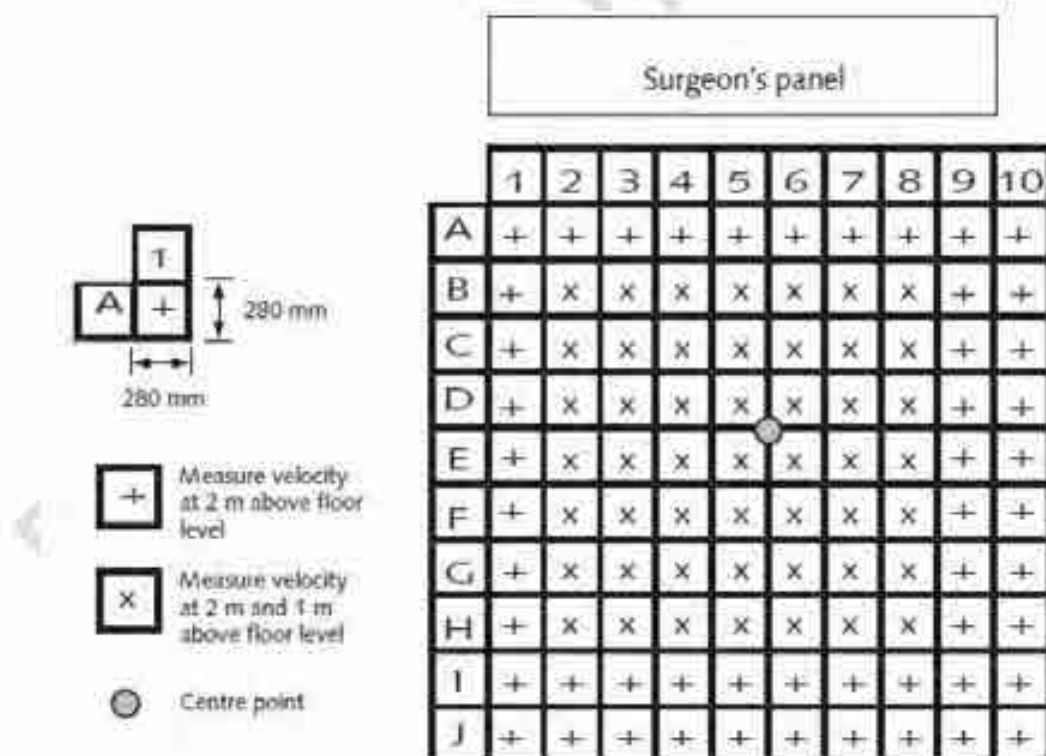


Figure 10: EXAMPLE of a TEST GRID for a 2.8m x 2.8m UCV TERMINAL

**Test grid – horizontal units**



- 8.84 A line of test positions should be marked on the floor 1 m in front of the face of the UCV terminal.
- 8.85 A test position should be marked in the centre of the line. Additional test positions should be marked at 280mm spacing along the line either side of the centre position, up to the full-face width of the unit.

#### UCV terminal challenge tests (Vertical and horizontal systems)

- 8.86 The diffuser screen fitted below the face of the terminal HEPA filters should be lowered or removed while the challenge tests are being carried out.
- 8.87 The installed HEPA filters should be checked to ensure that their grade accords with the design specification and that their performance has been certified by the manufacturer.
- 8.88 The challenge tests may be carried out using either of the following techniques:
- use DOP to provide the challenge and a photometer to detect leaks;
  - use a Discrete Particle Counter (DPC) to detect leaks. In order to obtain a sufficient challenge it may be necessary to remove temporarily the supply AHU secondary filters.
- 8.89 In both cases the upstream challenge should be measured. A measurement of particle penetration through a representative section of the HEPA filter media is then taken and used as the reference background level. These two readings enable the range of the detecting instrument to be set.
- 8.90 For the DOP test this should be set as the reference level and a leak will be declared significant if penetration greater than 0.01% of the range is detected. (See paragraph 8.56 for details).
- 8.91 For the Discrete Particle Counter (DPC) method the filter face is scanned to establish the smallest non-penetrating particle size. If significant particles at or above this size are detected when subsequent scans are made then there is deemed to be a significant leak at, or near, the test position. (see paragraph 8.57 for details)

#### UCV terminal unit clean zone leak test

- 8.92 This test will confirm that there is no unfiltered air bypassing the HEPA filter.
- 8.93 The joints and service penetration points under the UCV terminal within its side walls or boundary air curtain should be scanned to prove that there are no leaks.
- 8.94 A leak is defined as a significant rise above the background level.

### Terminal HEPA filter seal leak test

- 8.95 The test will confirm that there is no unfiltered air bypassing the HEPA filter's seal.
- 8.96 Each HEPA filter's seal should be scanned to prove that there are no leaks.
- 8.97 A leak is defined as a significant rise above the background level.

### Terminal HEPA filter media leak test

- 8.98 The test will confirm that the HEPA filters have not sustained damage while being installed.
- 8.99 The face of each HEPA filter should be scanned to prove that there are no leaks.
- 8.100 A leak is defined as a significant rise above the background level.

## Vertical UCV terminal air velocity tests

### Test set up

- 8.101 The terminal face diffuser screen should be in place for these tests.
- 8.102 Take spot readings to establish that the room is within the specified temperature and humidity test conditions.
- 8.103 Set out the test grid as described previously.
- 8.104 Swing the operating lamp arms and any other stem arms so that they align to present the least resistance to air flow, are perpendicular to the front edge of the test sheet and face the back edge. Any lamp and equipment heads should as far as practicable be outside of the UCV terminal footprint.

### Test instrument

- 8.105 The measuring instrument should be a hot-wire anemometer with a digital read-out. The instrument resolution should be at least 0.01m/s, have a tolerance of  $\pm 0.015\text{m/s}$  or 3% of that reading and be calibrated down to 0.15m/s or lower. An alternative instrument may be used providing it is of no lesser specification.

### Test method

- 8.106 The instrument should be mounted on a test stand and set to take a mean reading over a ten-second sample interval.
- 8.107 It is recommended that a printer be linked to the test instrument so that readings are recorded automatically. Alternatively they could be downloaded to a computer or data logger at the end of the test.



- 8.108 The test stand to be positioned on each test point in turn and the reading taken when the instrument has stabilised.
- 8.109 When taking a reading the test person should not stand within the same quadrant as the test instrument.
- 8.110 Readings are to be taken at the test positions with the instrument probe facing the wall housing the surgeon's panel, commencing at the first test position. Readings are taken working along the row from left to right and back, or for all test positions in one quadrant at a time.
- 8.111 When all test positions under one half of the terminal have been covered, readings of temperature and humidity are then taken at the specified height in the centre of the terminal. The read-outs on the surgeon's panel should be recorded at the same time.
- 8.112 Having completed one half of the test grid, the operating lamp arms and any other stem arms should be swung round through 180° and the test stand reversed so that the wall housing the surgeon's panel is behind the test person. Readings are recommenced starting at the right of the test row and working from right to left a quadrant at a time, as above.

#### UCV high-level discharge velocity test

- 8.113 Measurements of air velocity are to be taken at every test position 2 m above floor level and the results averaged.
- 8.114 The average of the total readings taken is to be not less than:  
0.38 m/s for a partial-wall system;  
0.30 m/s for a full-wall system.
- The average air velocity for each quadrant should not exceed ±6% of the measured average velocity for the terminal

#### UCV low-level air velocity test

- 8.115 Measurements of air velocity are to be taken at each of the inner zone test position 1m above floor level.
- 8.116 The measured velocity at every test position in the inner (operating) zone shall be not less than 0.2 m/s.

#### Horizontal UCV terminal air velocity test

##### Test set up

- 8.117 Set out the line of test positions as described previously.



- 8.118 Swing the operating lamp arms and any other stem arms so that they align to present the least resistance to air flow and are perpendicular to the line of test positions.

#### Test instrument

- 8.119 See that specified for vertical systems (paragraph 8.105 refers).

#### Test method

- 8.120 The instrument should be mounted on a test stand and set to take a mean reading over a ten-second sample interval.
- 8.121 It is recommended that a printer be linked to the test instrument so that readings are recorded automatically. Alternatively, they could be downloaded to a computer or data-logger at the end of the test.
- 8.122 The test stand should be positioned on each test point in turn and the reading taken when the instrument has stabilised.
- 8.123 When taking readings the test person should stand well downstream of the instrument.
- 8.124 Readings are to be taken at the test positions with the instrument probe facing the UCV terminal, commencing at the first test position on the left and working along the row from left to right at the specified height.
- 8.125 The instrument should be reset to the next specified height and the test repeated and so on.
- 8.126 Readings of temperature and humidity should be taken at the specified height in the centre of the terminal. The read-outs on the surgeon's panel should be recorded at the same time.

#### UCV discharge velocity test

- 8.127 Measurements of air velocity are to be taken at all test positions at 1 m, 1.5 m and 2 m above floor level.
- 8.128 The average of the total readings taken should be no less than 0.4 m/s.

#### UCV entrainment test (Vertical systems only)

##### Rationale for the entrainment test

- 8.129 The performance of UCV systems may be compromised by room air being drawn into the ultra-clean airflow, a phenomenon known as "entrainment." Significant levels of entrainment could lead to microbial contamination of items left exposed on instrument trolleys laid out beneath the canopy.

- 8.130 UCV systems having permanently fitted full sidewalls do not need to be tested, as the sidewalls physically prevent entrainment.

#### Principle of the test

- 8.131 A source of particles is produced outside of the UCV terminal and is used to challenge the system. A detector is placed within the ultra-clean airflow and used to determine the percentage penetration of the test particles at predefined locations under the UCV terminal footprint. The source and detector are moved in tandem around the UCV canopy and pairs of readings taken, from which the percentage penetration at specified locations is calculated. The degree of penetration should be below specified maximum limits if entrainment is to be declared not significant.
- 8.132 The entrainment test may be carried out using either of the following techniques:
- use DOPs to provide the challenge source at the specified release position and a photometer to measure the entrainment; or
  - duct non-HEPA-filtered air to the specified release position and use a DPC to measure the entrainment.

#### Test set-up

- 8.133 The terminal face diffuser screen should be in place for these tests.
- 8.134 The test should be performed without any equipment in place beneath or closely adjacent to the UCV terminal.
- 8.135 The theatre lights should be moved to a central position beneath the terminal and raised to 2m above floor level, so as not to interfere with the peripheral airflows.
- 8.136 Take spot readings at the centre of the canopy, one metre from floor level, to establish that the room is within the specified temperature and humidity test conditions.
- 8.137 Set out the test grid as described previously.
- 8.138 For either of the following entrainment tests, a measurement of particle penetration through a representative section of the HEPA filter media is to be taken and used as the reference background level.

#### Test equipment, challenge source, measuring instrument and detector head

- 8.139 The challenge and detector equipment should be chosen so that:
- the tracer particles are mainly within the size range 0.3 to 5 microns and thus capable of remaining airborne for a substantial time;



- the particles used should not be able to penetrate the terminal filters in sufficient numbers to cause a background count that is more than 0.1% of the challenge count;
- the choice of particle and detector will enable a minimum of a three-logarithm (1,000-fold) range of counts to be recorded between the highest (that is, source) and lowest (that is, background) readings expected. (A concentration of approximately  $10^5$  particles per cubic metre of source air has been shown to be adequate.)

#### Source – Dispersed Oil Particles (D.O.P.)

- 8.140 The DOP generator should be able to produce a cloud of test particles in the form of a visible smoke. The test smoke should be delivered via an aperture so that it flows vertically downward from the lowermost edge of the partial wall, on the outside of the UCV canopy.
- 8.141 The test smoke is to be delivered via an aperture.

**Note 4:** To prevent undue contamination of the theatre and filters with deposits of oil, DOP should only be released for the minimum amount of time necessary to complete the test.

#### Challenge source – natural particles

- 8.142 The source unit should be a fan/blower or other method that takes non-HEPA-filtered air and expels it via a delivery head at the specified release position to provide the particle challenge. The challenge air should be delivered vertically downwards from the lowermost edge of the partial wall, on the outside of the UCV canopy, parallel to the airflow coming from the diffusers. The challenge air velocity should be the same as the measured average velocity at 2 m from the terminal under test.

**Note 5:** The use of DOP for testing is gradually being phased out and replaced by a natural challenge measured with a DPC. At the time of writing research is under way to define more precisely a challenge source unit for natural particles. It is anticipated that such a unit, together with a matching test methodology, will become available during the life of this Scottish Health Technical Memorandum.

#### The detector (defined in terms of range and resolution)

- 8.143 This may be a photometer or a DPC. It is recommended that a printer be linked to the test instrument so that readings are recorded automatically. The instrument should be capable of sampling a minimum a 28.3 litres of air per minute and in the case of the DPC, provide readings for particle size ranges from 0.3 microns to 5.0 microns and greater. The instrument should be compliant with the requirements of BS EN ISO 14644-1. An alternative instrument may be used providing it is of no lesser specification.



### Test positions and orientation of source and detector

- 8.144 The test positions should be at the centre of each test square, as defined for the velocity test.
- 8.145 For rectangular UCV terminals, measurements of penetration are to be taken at the four corner test squares of the test grid and at intermediate positions along the line of test squares between the corners. The number of intermediate test positions will be as equally spaced as possible around the periphery with no fewer than 3 and no more than 5 complete test squares between test positions.
- 8.146 A further series of measurements are to be obtained around the periphery of the inner zone. Measurements of penetration are to be taken at the four corner test squares of the inner zone of the test grid and if necessary at intermediate positions along the line of test squares between the corners as equally spaced as possible, with no fewer than 3 and no more than 5 complete test squares between test positions.
- 8.147 A single measurement should be taken at the geometrical centre of the UCV terminal footprint. The centre measurement will be taken with the detector head mounted vertically upwards 1 metre above floor level.
- 8.148 The centre of the challenge particle source should be aligned with the centre of the designated test square, with its longer edge against the outer edge of the partial wall and delivering the challenge from the lower edge of the partial wall. The air containing challenge particles is directed vertically downwards from the lower edge of the partial wall, in a plane parallel to the adjacent partial wall. Where there is physical interference due to obstructions such as gas pendants, the source will be moved to the next available non-obstructed test-square location nearest to the stipulated sampling position. The detector should then also be moved to remain opposite the source.
- 8.149 In the case of non-rectangular terminals, an interpretation of the above strategy should be adopted that will yield a no less searching examination of the unit's ability to control entrainment.

### Test method

- 8.150 The sampling head of the detector instrument is mounted on a test stand with its sampling orifice facing outwards horizontally from the centre of the UCV canopy, 1m above floor level. The sampling head should be orientated at right angles to the partial wall when sampling along the sides of the test grid but will be set to bisect the angle when measuring at the corner test positions (Figure 8 in section 8, at paragraph 8.84 illustrates the challenge and detector orientations when evaluating a 2.8m x 2.8 m UCV terminal).
- 8.151 The test will commence at the first test position, this being designated the leftmost corner of the test grid when facing the wall housing the surgeon's panel. The penetration will also be measured at the corresponding test point on the inner zone commencing at the corner nearest to the first test position. When these tests have been completed, the source and detector equipment should be

moved to the next test positions, working around the test grid in a clockwise direction.

- 8.152 The test stand should be positioned on each test point in turn and a pair of readings (challenge, then penetration) taken when the instrument has stabilised. The detector should be set to take a reading over a 15 second sample interval.
- 8.153 When taking a reading the test person should stand within the UCV terminal footprint but not in the same quadrant as the detector head.

### Analysis and Interpretation

- 8.154 The following standard is to be achieved:
- penetration to be not greater than 10% of the challenge at each test position in the outer zone;
  - penetration to be no greater than 1% of the challenge at each test position in the inner zone;
  - penetration to be no greater than 0.1% of the challenge at the centre of the test grid.

If a result is close to, or above the given limits, then a further reading must be obtained using a longer time base (1 minute) and the penetration must not exceed the given limit.

### Basis of the test

- 8.155 Whyte W, Shaw BH, Freeman MAR. An evaluation of a partial-walled laminar-flow operating room. *J Hyg Camb* 1974; 73: 61 – 75.

Whyte W, Lidwell OM, Lowbury EJJ, Blowers R. Suggested bacteriological standards for air in ultraclean operating rooms. *J Hosp Infect* 1983; 4: 133 – 139.

### UCV visualisation

- 8.156 The use of smoke to gain an understanding of the overall performance of the system may prove useful at this stage in the validation process but cannot be relied on to produce a contractually definitive measure of performance.

### UCV noise level

- 8.157 An industrial-grade sound-level meter to BS EN 61672 Type 2 fitted with a muff should be used to check the noise level. The instrument should be calibrated using a matched sound source prior to each set of readings.



### Vertical systems

- 8.158 The noise level readings should be taken at typical normal listening positions 1.5 m above floor level and at least 1m from any surface and not on any line of symmetry. Measurements should be taken under the centre of each quadrant of the UCV terminal and the four readings averaged.

### Horizontal systems

- 8.159 The noise level readings are to be taken at typical normal listening positions 1.5m above floor level on the test line. The width of the unit should be divided in two and a measurement taken in the centre of each half but avoiding any line of symmetry. The two readings should be averaged.
- 8.160 Measurements should also be taken in each room of the suite.
- 8.161 In the event of a contractual deficiency a Type 1 precision-grade sound-level meter complying with BS EN 61672 should be used. Readings should be taken at the positions specified above and in each case the logarithmic mean of the results should be calculated in order to determine the noise level. (Further information can be found in SHTM08-01, forthcoming).
- 8.162 For vertical or horizontal systems, the noise level shall not exceed:
- 50NR [55dB(A)] – for UCV operating rooms and spaces without doors that open directly on to it (for example the scrub);
  - 40NR [45dB(A)] – for all other peripheral rooms of the suite.

### UCV control system checks

#### Temperature

- 8.163 The readings of temperature taken under or in front of the UCV unit should be within  $\pm 1$  K of each other and the read-out on the surgeon's panel.

#### Humidity

- 8.164 The readings of humidity taken under or in front of the UCV unit should be within  $\pm 5\%$  of each other and the read-out on the surgeon's panel.

#### Direct-reading differential pressure gauges

- 8.165 The differential pressure across the terminal filter(s) should be measured to confirm the accuracy of the indicated reading of any gauge.

#### Control functions

- 8.166 The operation of all control functions provided on the surgeon's panel should be proved for conformity with the design specification.

- 8.167 If an auxiliary panel has been fitted then its interlocking with the main surgeon's panel control functions must be proved to conform to the design specification.

#### Panel indicator lights

- 8.168 The panel indicator lights should illuminate as appropriate when the control functions are selected or warning levels are reached

#### BEMS interface

- 8.169 The operation, monitoring and alarm functions must be proved to conform to those set out in the design specification.

#### UCV theatre microbiological tests

- 8.170 There is little value in performing microbiological sampling in a new theatre supplied with ultra-clean ventilation. The foregoing filter challenge tests, air velocity measurements and entrainment test should have proved that the system operates satisfactorily and achieves the contracted level of performance. The HEPA filters will remove bacteria-sized particles from the air supplied through the UCV terminal. Therefore there will be an insignificant number of bacterial and/or fungal CFUs present until the Theatre is actually used.
- 8.171 Once the theatre has been taken into use, microbial sampling during a surgical procedure should help to confirm the satisfactory performance of the system and discipline of the users. Before commencing bacteriological testing, the room and its ventilation system should have achieved a steady state condition: (see also paragraph 8.74)
- 8.172 The installation should be tested during surgical procedure at intervals between the time of the first incision and final closure of the wound. On average, the air sampled within 300 mm of the wound should not contain more than 10 CFU/m<sup>3</sup>.

#### UCV validation report

- 8.173 Following validation a full report detailing the findings should be produced. The report shall conclude with a clear statement as to whether the UCV theatre suite achieved or did not achieve the standard set out above.
- 8.174 A copy of the report should be lodged with the following groups:
- operating department;
  - infection control;
  - estates and facilities.



## Appendix 1 - Table A1: Recommended air-change rates

Application	Ventilation	ac/Hour	Pressure (Pascals)	Supply Filter	Noise (NR)	Temp (°C)	Comments For further information see Section 6
General ward	S / N	6	-	G4	30	18-28	
Communal ward toilet	E	10	-ve	-	40	-	
Single room	S / E / N	6	0 or -ve	G4	30	18-28	
Single room WC	E	3	-ve	-	40	-	
Clean utility	S	6	+ve	G4	40	18-28	
Dirty utility	E	6	-ve	-	40	-	
Ward Isolation room	-	-	-	-	-	-	See SHPN 4; Supplement 1
Infectious disease Iso room	E	10	-5	G4	30	18-28	Extract filtration may be required
Neutropenic patient ward	S	10	+10	H12	30	18-28	
Critical Care Areas	S	10	+10	F7	30	18-25	Isolation room may be -ve press
Birthing Room	S & E	15	-ve	G4	40	18-25	Provide clean air-flow path
SCBU	S	6	+ve	F7	30	18-25	Isolation room may be -ve press
Preparation room (Lay-up)	S	>25	35	F7*	40	18-25	*H12 if a lay-up for a UCV Theatre
Preparation room / bay sterile pack store	S	10	25	F7	40	18-25	*50NR if a bay in a UCV Theatre
Operating theatre	S	25	25	F7	40	18-25	
UCV Operating theatre	S	25*	25	H12	40	18-25	Fresh air rate; excludes re-circulation
Anaesthetic room	S & E	15	>10	F7	40	18-25	Provide clean air-flow path
Theatre Sluice/dirty utility	E	>20	-5	-	40	-	
Recovery room	S & E	15	0	F7	35	18-25	Provide clean air-flow path

Table A1

Application	Ventilation	ac/Hour	Pressure (Pascals)	Supply Filter	Noise (NR)	Temp (°C)	Comments For further information see Section 6
Recovery room	S & E	15	0	F7	35	18-25	Provide clean air-flow path
Cardiac catheterisation lab	S	15	+ve	F7	40	18-22	
Endoscopy room	S	15	+ve	F7	40	18-25	
Endoscopy cleaning	E	>10	-ve	-	40	-	
Day case theatre	S	15	+ve	F7	40	18-25	
Treatment room	S	10	+ve	F7	35	18-25	
Pharmacy aseptic suite	S	20	#	H14	-	18-22	# See EGGMP (Orange guide) a
Cat 3 or 4 containment room	#	>20	#	H14*	-	18-22	# See ACDP guide; *Filter in extract
Post mortem room	S & E	S = 10 E = 12	-ve	G4	35	18-22	Provide clean air-flow path
Specimen store	E	-	-ve	-	-	-	Fan accessible from outside of store

Table A1: continued

**Notes:** 18-22°C indicates the range over which the temperature may float

18-22°C indicates the range over which the temperature should be capable of being controlled

S = supply                      N = natural ventilation

E = extract    a – European guidelines on good manufacturing practice published by the Medicines and Healthcare products Regulatory Authority (MHRA)

## Appendix 2 - Hierarchy of cleanliness

			Air-flow rate for bacterial contaminant dilution	
Class	Room	Nominal pressure (Pa) a	Flow in or supply m <sup>3</sup> /s	Flow out or extract m <sup>3</sup> /s
Sterile	Preparation room		See standard schemes in Appendix 3 for recommended design values	
	(a) lay-up	35		
	(b) sterile pack store	25		
	Operating room	25		
	Scrub bay b	25		
Clean	Sterile pack bulk store	+ve	6 ac/h	-
	Anaesthetic room c	14 c	The greater of 15 ac/hr or 0.15	The greater of 15 ac/hr or 0.15
	Scrub room	14	-	0.10
Transitional	Recovery room	3	15 ac/hr d	15 ac/hr d
	Clean corridor	0	e	7 ac/hr
	General access corridor	0	e	7 ac/hr
	Changing rooms	3	7 ac/hr	7 ac/hr
	Plaster room	3	7 ac/hr	7 ac/hr
Dirty	Service corridor	0	-	f
	Disposal room	-5 or 0	-	0.41 or 0.10

Table A2



**Notes: (applicable to Table A2)**

- a. Nominal room pressures are given to facilitate setting up of pressure relief dampers, the calculation process, and the sizing of transfer devices. In practice, the resultant pressures are not critical, provided the desired airflow rates and movement are achieved.
- b. An open or semi-open bay is considered to be part of the operating room; provided air movement is satisfactory, no specific extract is required. However if the layout means that air movement is poor, a local extract may be required to control local condensation on the building surfaces, which can result in mould growth.
- c. For design purposes, anaesthetic should be assumed to be at 14 Pa. When commissioning 10 Pa is considered suitable.
- d. 15 ac/hr are considered necessary for the control of anaesthetic gas pollution.
- e. Supply airflow rate necessary to make up 7 ac/hr after taking into account secondary air from cleaner areas.
- f. No dilution requirement. Temperature control requirements only.

Type	Pressure difference - Pa						
	5	10	15	20	25	30	40
Single door (CDB Size 2.4.3.2.6.)	.03	.05	.06	.06	.07	.07	.08
Double door (CDB)	.04	.08	.10	.11	.12	.13	.14
High permanent length of 3mm gap	.004	.008	.010	.011	.012	.012	.013

Table A3: Leakage flows in m<sup>3</sup>/s through closed door gaps

**Note:** CDB = Component Data Base

It should be noted that many doors are now fitted with cold smoke seals as standard. These will significantly reduce the door leakage rate when new and undamaged. It is therefore recommended that provision for the design leakage is factored into the sizing of the appropriate transfer grille or pressure stabiliser. Failure to do this will result in air gap whistles and doors being held partially open by air pressure.

Factory-assembled door-sets with a steel frame and pre-hung leaves have become common. There is effectively no leakage across these doors when closed. Therefore, when this type of door assembly is fitted, the door leakage can be ignored and the design airflow into the room reduced accordingly. The design airflow would then become that required either (i) for open door

protection, or (ii) to achieve the specified air-change rate - whichever is the greater.

Room class		Dirty	Transitional	Clean	Sterile
Sterile	Hatch	0.3	0.24	0.18	
	Single door	0.47	0.39	0.28	0 or 0.28 a
	Double door	0.95	0.75	0.57	0 or 0.57 a
Clean	Single door	0.39	0.28	0 or 0.28 a	
	Double door	0.75	0.57	0 or 0.57 a	
Transitional	Single door	0.28	0 or 0.28 a		
	Double door	0.57	0 or 0.57 a		
Dirty	Single door	0	Open single door = 0.80m x 2.01m high		
	Double door	0	Open double door = 1.80m x 2.01m high		

Table A4: Recommended air flow rates in m<sup>3</sup>/s through a doorway between rooms of different cleanliness to control cross-contamination

**Designer's Notes:**

- a The degree of protection required at an open doorway between rooms is dependent upon the degree of difference in cleanliness between them.
- b Flow rate required between rooms within the same class tends to zero as class reduces.
- c If two rooms are of equal cleanliness, no flow is required (in practice there will be an interchange in either direction) and the design of the air movement will assume zero air-flow. In certain cases, however, interchange is not permitted and a protection airflow of 0.28 is assumed in the design, for example, in the case of a preparation room used as a "lay up".



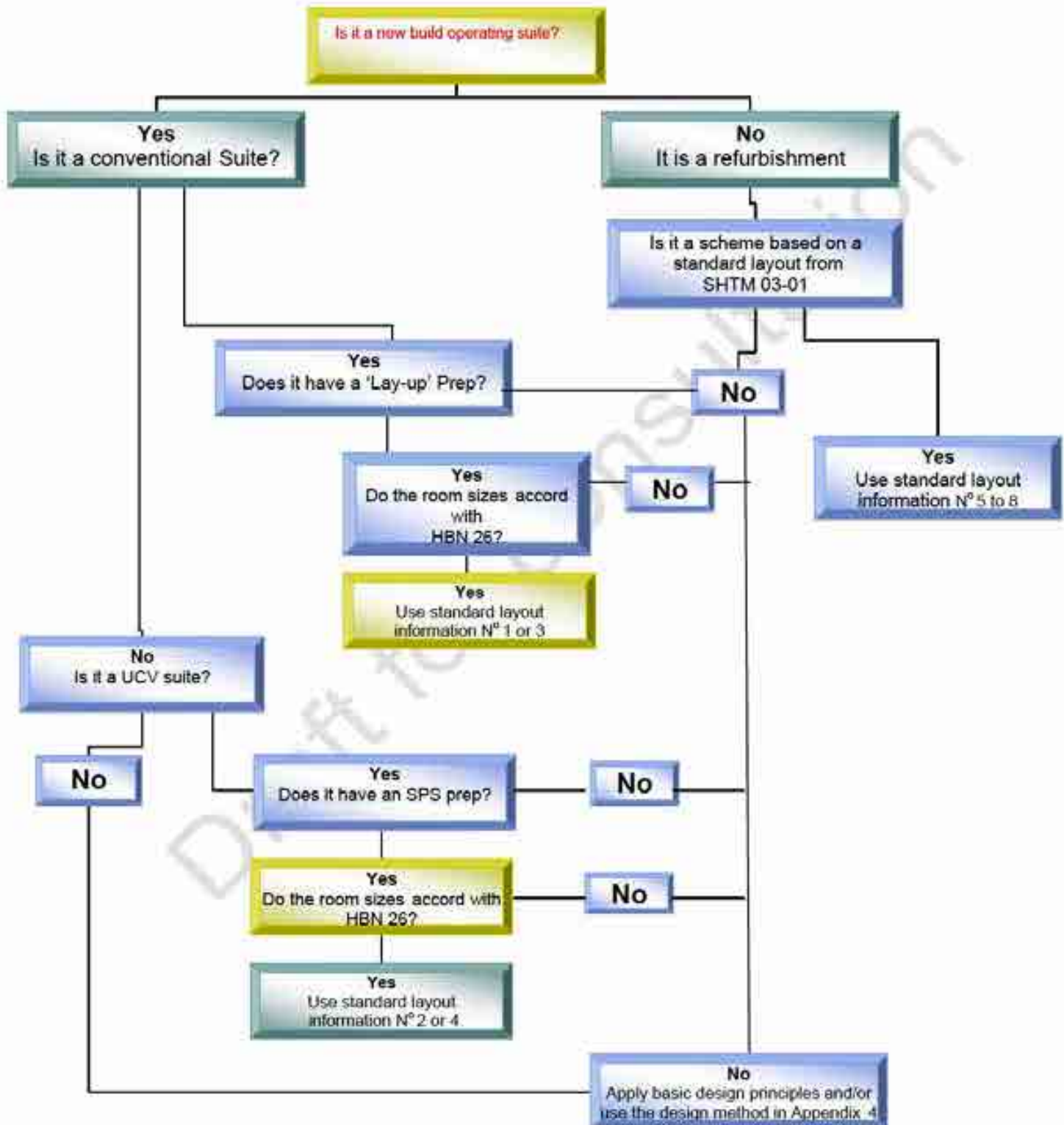
Door open between	Resultant pressure in these rooms (Pa)	Effect on other rooms	
		Room	Pressure (Pa)
Operating room and corridor or Scrub bay and corridor	0	Anaesthetic Preparation – lay up Disposal Preparation – sterile pack store	0 12 -6 5
Operating room and anaesthetic room (or other series room with double doors)	17	Preparation – lay up Disposal Preparation – sterile pack store	28 -9 22
Operating room and disposal room or Operating room and preparation room	25	No change	
Anaesthetic room and corridor (or other series room with double doors)	0	Preparation – lay-up Disposal Operating room Preparation – sterile pack store	30 -6 20 25
Preparation room – corridor Disposal room & corridor	0	No change	
Disposal room & outer corridor	0	No change	

Table A5: Typical pressures in an operating suite when a given door is open

**Notes:-**

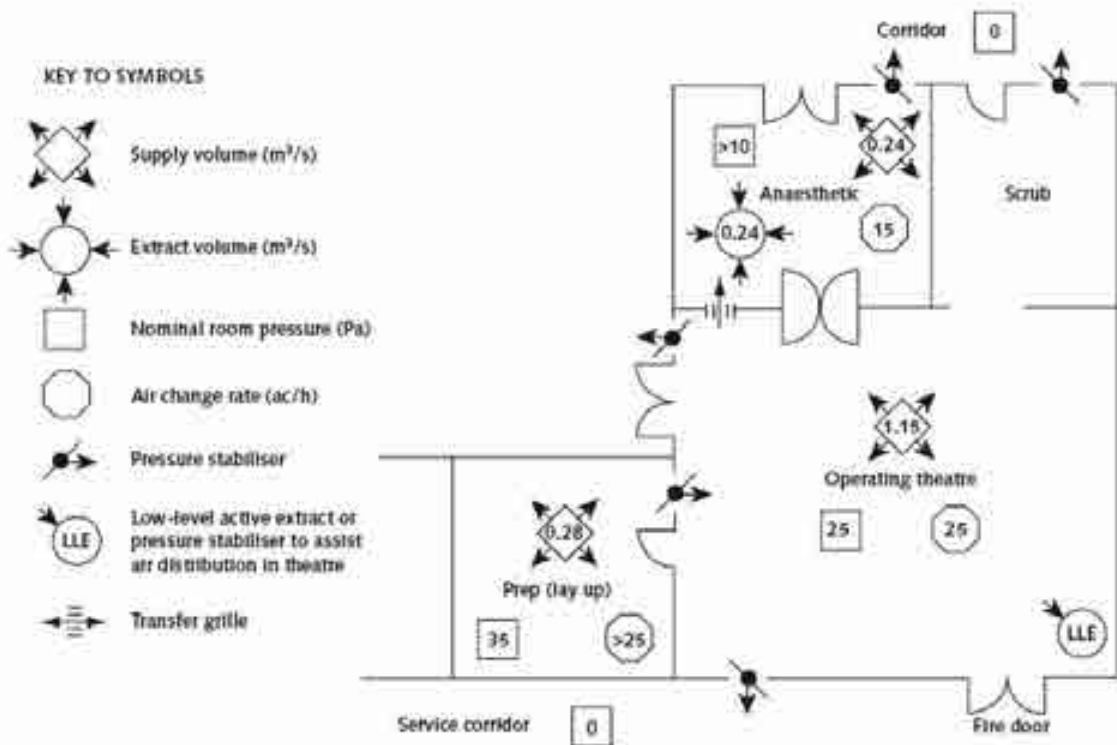
1. The room differential pressure protects against reverse flows when the door is closed.
2. The flow of air through a doorway protects against reverse airflow when the door is open.
3. Pressure stabilisers control flow and ensure a known air-flow path between rooms when doors are closed and reduce back-flow between rooms when doors to other rooms are open.

## Appendix 3 - Operating suite design logic





### New Standard Layout N<sup>o</sup> 1 - Suitable for a typical conventional theatre suite (Room sizes as specified in HBN 26)



Room	Size m <sup>3</sup> <small>Derived from HBN26</small>	Air-Change Rate per hour	Nominal Pressure Pa	Flowrate m <sup>3</sup> /s
Theatre	165	25	25	1.15
Anaesthetic	57	15	>10	0.24
Lay-Up-Prep	36	>25	35	0.28**
Scrub	*	-	25	-

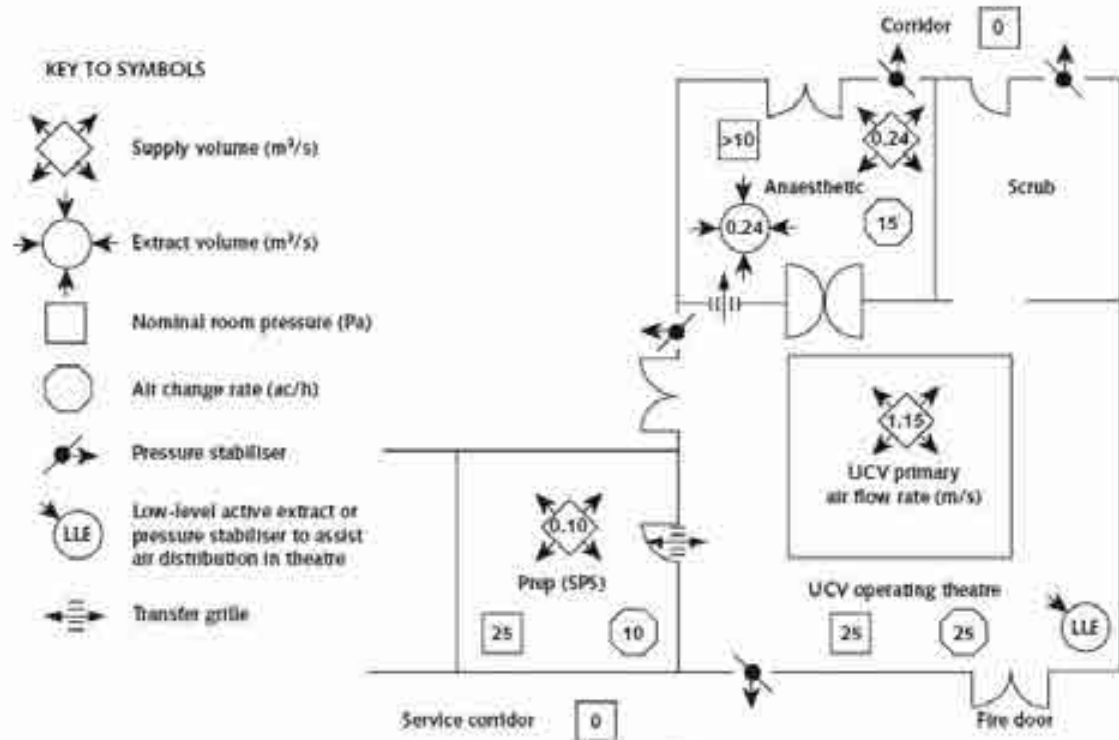
\*This is a separate scrub and is not considered as being part of the theatre volume.

\*\*Interchange is not permitted between the theatre and lay-up prep; therefore an airflow protection of 0.28 + 0.06 closed-door airflow is required as a minimum.

The volume of air to be extracted from the theatre should be determined by subtracting the airflow required for door protection at the exits from the total air entering the theatre space. The balance should be equally divided between the passive or active extract locations.

The extracts within the theatre may be either passive and fitted with pressure stabilizers or active and connected to the extract system. They should be located at low level and positioned to promote the ventilation of all areas of the space.

**New standard layout N° 2 - Suitable for a typical UCV theatre suite (Room sizes as specified in HBN 26)**



Room	Size m <sup>3</sup> <i>Derived from HBN26</i>	Air Change Rate per hour	Nominal Pressure Pa	Flowrate m <sup>3</sup> /s
Theatre	165	25	25	1.15**
Anaesthetic	57	15	>10	0.24
Sterile Prep	36	25	25	0.10
Scrub	-	-	25	-

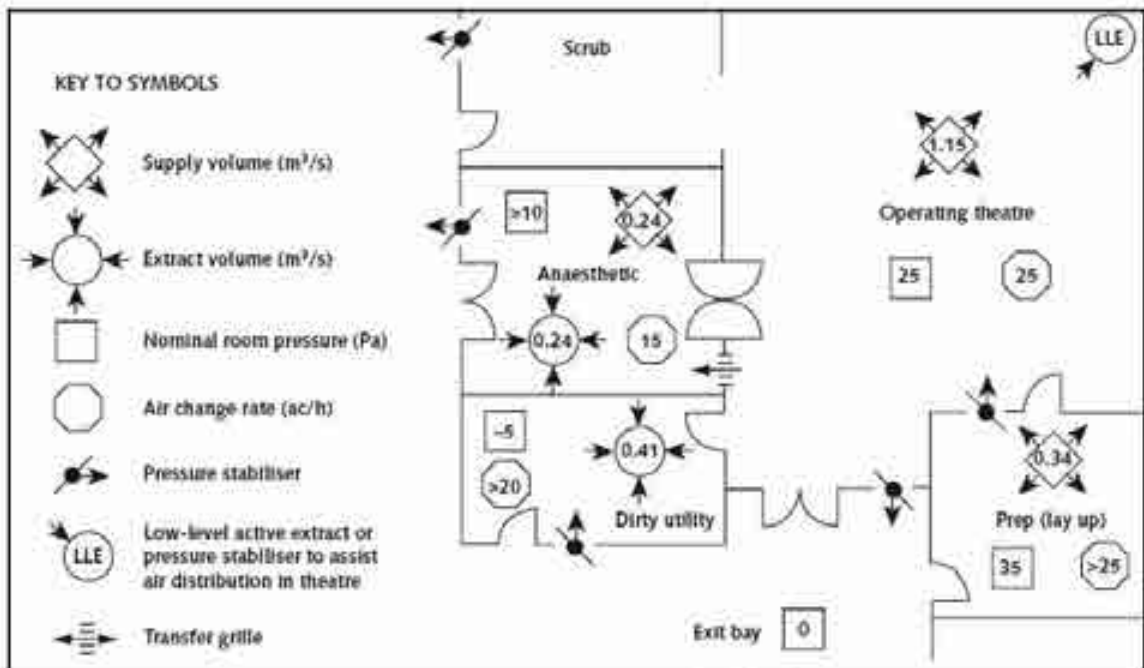
\*Separate scrub and not considered as part of theatre volume

\*\*Primary Fresh air Volume Only

The volume of air to be extracted from the theatre should be determined by subtracting the airflow required for door protection at the exits from the total air entering the theatre space. The balance should be equally divided between the passive or active extract locations.

The extracts within the theatre may be either passive and fitted with pressure stabilizers or active and connected to the extract system. They should be located at low level and positioned to promote the ventilation of all areas of the space.

**New standard layout N° 3 - Suitable for a typical Conventional theatre suite (Layout and room sizes are as illustrated in HBN 26)**



Room	Size m <sup>2</sup> <small>Derived from HBN26</small>	Air Change Rate per hour	Nominal Pressure Pa	Flowrate m <sup>3</sup> /s
Theatre	165	25	25	1.15
Anaesthetic	57	15	14	0.24
Lay-Up Prep	36	>25	35	0.34**
Scrub	*	-	25	-
Dirty Utility	36	-	-5	0.41

\*Separate scrub not considered part of theatre volume.

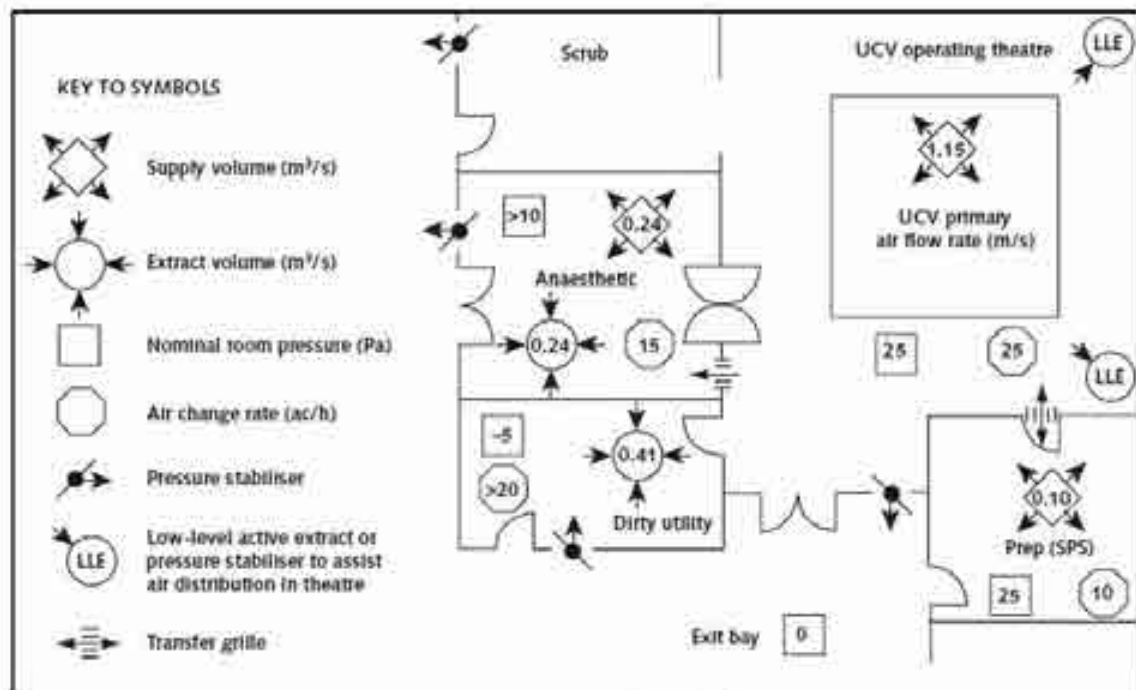
\*\*Interchange is not permitted between the theatre and lay up prep therefore as table 4 an airflow protection of 0.28 + 0.06 closed door air flow is required as a minimum.

The volume of air to be extracted from the theatre should be determined by subtracting the airflow required for door protection at the exits from the total air entering the theatre space. The balance should be equally divided between the passive or active extract locations.

The extracts within the theatre may be either passive and fitted with pressure stabilizers or active and connected to the extract system. They should be located at low level and positioned to promote the ventilation of all areas of the space.



**New standard layout N<sup>o</sup> 4 - Suitable for a typical UCV theatre suite (Layout and room sizes are as illustrated in HBN 26)**



Room	Size m <sup>2</sup> <small>Derived from HBN26</small>	Air Change Rate per hour	Nominal Pressure Pa	Flowrate m <sup>3</sup> /s
Theatre	165	25	25	1.15**
Anaesthetic	57	15	>10	0.24
Sterile Pack Prep	36	10	25	0.10
Scrub	-	-	25	-
Dirty Utility	36	-	-5	0.41

\* Separate scrub not considered part of theatre volume

\*\*Primary Fresh air Volume Only

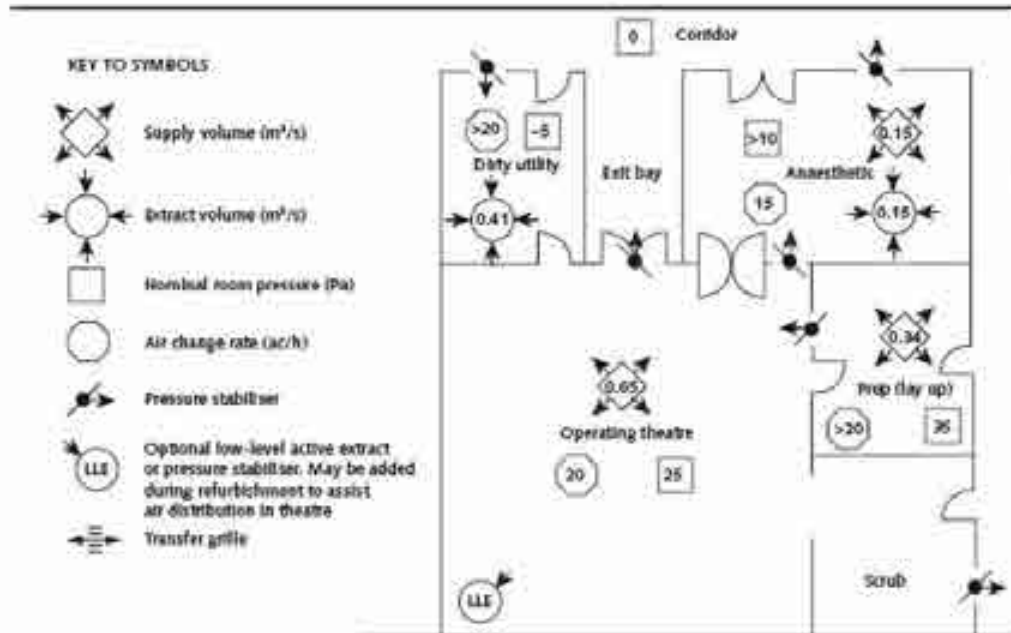
The volume of air to be extracted from the theatre should be determined by subtracting the airflow required for door protection at the exits from the total air entering the theatre space. The balance should be equally divided between the passive or active extract locations.

The extracts within the theatre may be either passive and fitted with pressure stabilizers or active and connected to the extract system. They should be located at low level and positioned to promote the ventilation of all areas of the space.



## New standard layout N° 5 - SHTM 2025 Existing standard plan '1b' typical layout for a conventional theatre suite

This layout and data is for historical purposes only. The information is to be used for the evaluating of existing systems or rebalancing following ventilation system cleaning.

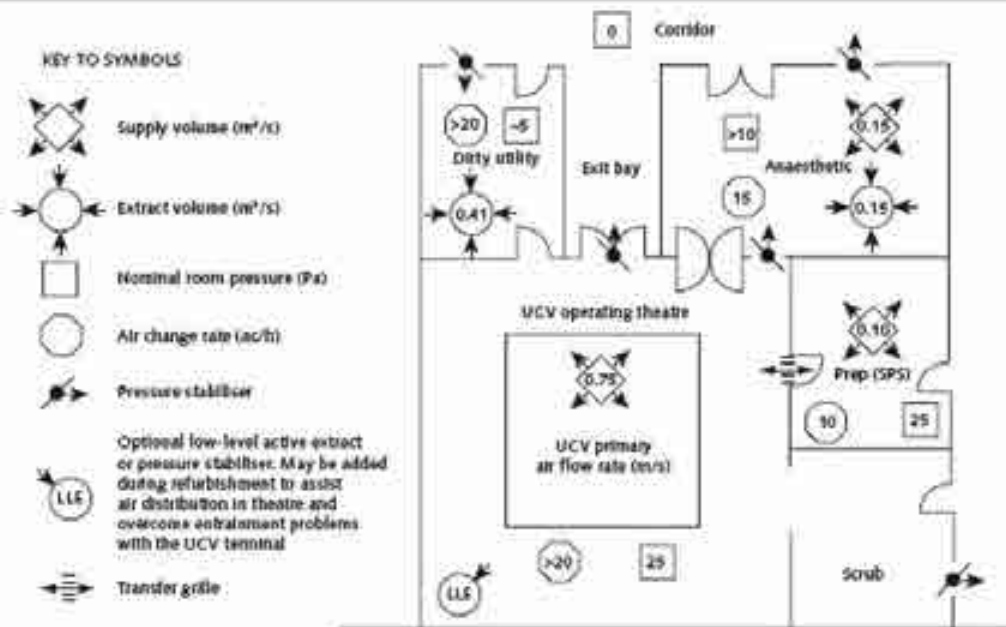


Room	Size m <sup>2</sup>	Air Change Rate per hour	Nominal Pressure Pa	Flowrate m <sup>3</sup> /s
Theatre	Existing Theatre Suite To Be Measured On Site	20	25	0.65
Anaesthetic		15	14	0.15
Lay-Up Prep		-	35	0.34
Scrub		-	25	Included within theatre
Disposal		-	-5	0.41

The disposal layout detailed will remain the same should a hatch be utilised instead of a door onto the outer corridor.

## Standard layout N° 6 - SHTM 2025 Existing standard Plan '1a' Typical layout for a UCV theatre suite

This layout and data is for historical purposes only. The information is to be used for the evaluating of existing systems or rebalancing following ventilation system cleaning.



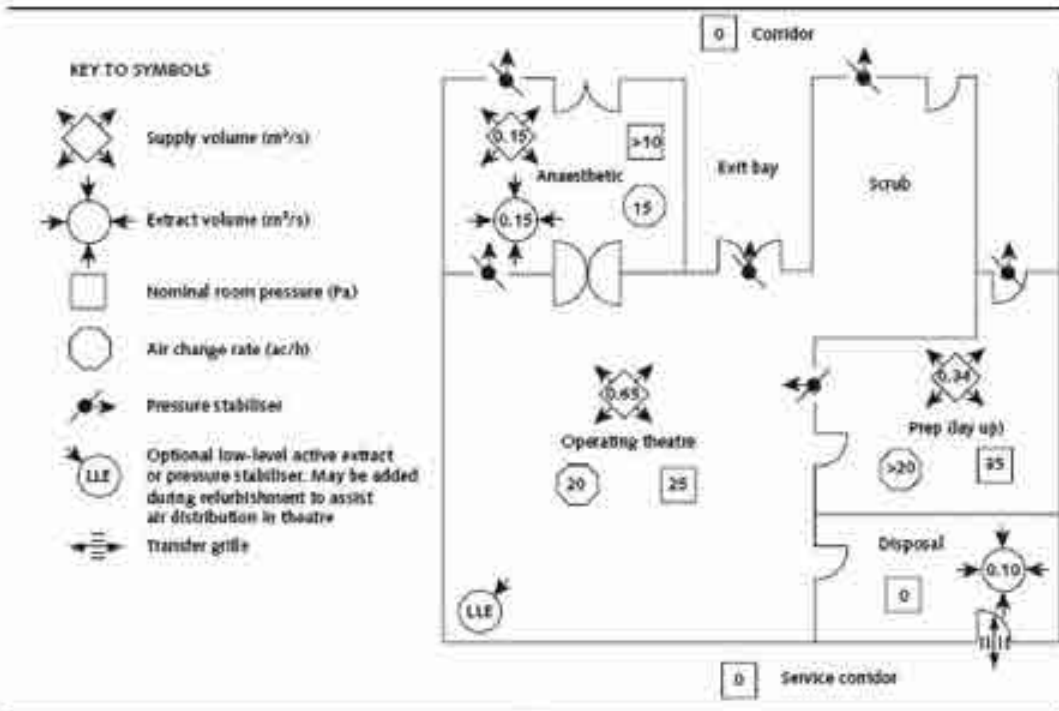
Room	Size m <sup>3</sup>	Air Change Rate per hour	Nominal Pressure Pa	Flowrate m <sup>3</sup> /s
Theatre	Existing Theatre Suite To Be Measured On Site	20	25	0.75*
Anaesthetic		15	>10	0.15
Sterile Pack Prep		10	25	0.1
Scrub		-	25	Included within theatre
Disposal		-	-5	0.41

\*Primary fresh airflow volume

The disposal layout detailed will remain the same should a hatch be utilised instead of a door onto the outer corridor.

## Standard layout N° 7 - SHTM 2025 Existing standard Plan '5b' Typical layout for a conventional theatre suite

This layout and data is for historical purposes only. The information is to be used for the evaluating of existing systems or rebalancing following ventilation system cleaning.



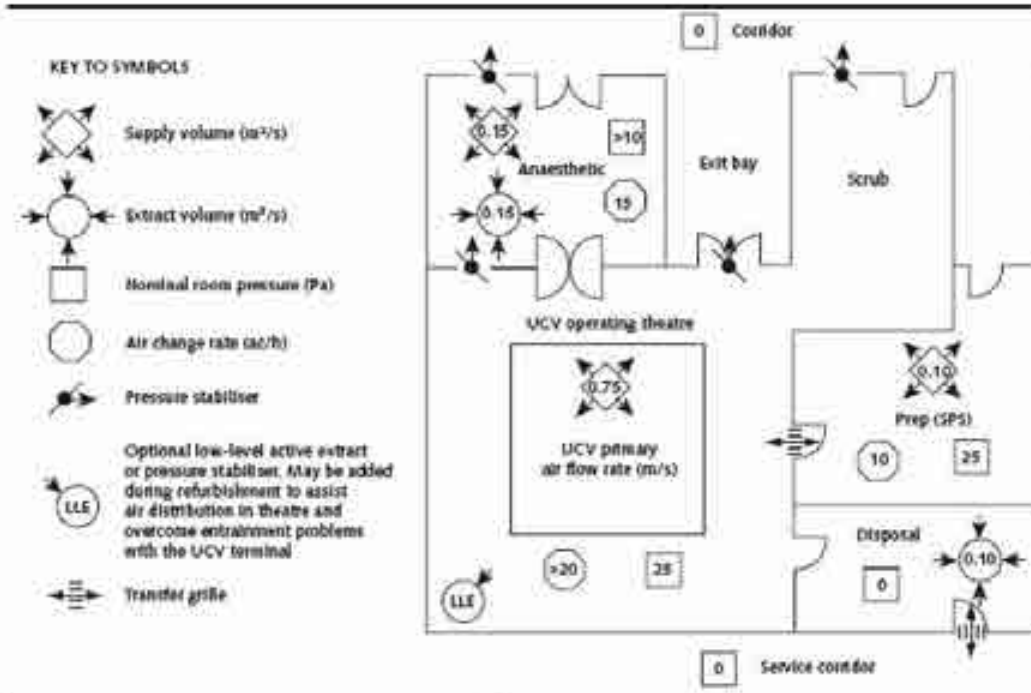
Room	Size m <sup>2</sup>	Air Change Rate per hour	Nominal Pressure Pa	Flowrate m <sup>3</sup> /s
Theatre	Existing Theatre Suite to be Measured on site	20	25	0.65
Anaesthetic		15	>10	0.15
Lay-Up Prep		>20	35	0.34
Scrub		-	25	Included within theatre
Disposal		-	0	0.1

The disposal layout detailed will remain the same should a hatch be utilised instead of a door onto the outer corridor. Alternatively the disposal room could be omitted and replaced with a disposal hatch between the theatre and corridor.



## Standard layout N° 8 - SHTM 2025 Existing standard Plan '5a' Typical layout for a UCV theatre suite

This layout and data is for historical purposes only. The information is to be used for the evaluating of existing systems or rebalancing following ventilation system cleaning.



Room	Size m <sup>2</sup>	Air Change Rate per hour	Nominal Pressure Pa	Flowrate m <sup>3</sup> /s
Theatre	Existing Theatre Suite To Be Measured On Site	20	25	0.75*
Anaesthetic		15	>10	0.15
Sterile Prep		10	25	0.1
Scrub		-	25	Included within theatre
Disposal		-	0	0.1

\*Primary fresh air-flow volume only

The disposal layout detailed will remain the same should a hatch be utilised instead of a door onto the outer corridor. Alternatively the disposal room could be omitted and replaced with a disposal hatch between the theatre and corridor.



## Appendix 4 - Design of air-movement control schemes for operating theatres.

### General

- A4.1 Standard operating suite design solutions are given in Appendix 3. If these standard solutions cannot be used, the following procedure should be adopted, which will result in an acceptable design. Note that the method employed can equally be used to provide a design solution to a ventilated suite of rooms for any application.
- A4.2 The method is concerned with the calculation of airflow rates to ensure that correct air movement occurs between rooms when any one door is open. Under most circumstances, the air quantities required for air-movement control will approximate to those for either temperature control or bacterial contaminant dilution. This flow rate is sufficient to control the effects of any slight reverse flows occurring when a door is opened.
- A4.3 The progression through the design procedure is shown in the airflow design procedure chart (Figure A4/3) and is supported by worksheets WS1 to WS7 described in paragraph A4.4. It is recommended that a plan of the suite and an airflow network be made (Figure A4/2) to collate all information. Flow rates, air-transfer devices etc should be entered as required. The remainder of this Appendix may be treated as reference data to assist in the various steps. The following symbols are used:

$S_S$  – supply airflow rate for summer temperature control;

$S_W$  – supply airflow rate for winter temperature control;

$S_D$  – supply airflow rate for dilution of bacterial contaminants;

$S_L$  – supply airflow rate for heat loss;

$S_G$  – supply airflow rate for heat gain;

$E_D$  – extract airflow rate for dilution of bacterial contaminants;

$S_F$  – final supply airflow rates;

$E_F$  – final extract flow rates;

$S_{AMC}$  – air-supply flow rate for air-movement control;

$E_{AMC}$  – air-extract flow for air-movement control;

$L_{OUT}$  – leakage airflow rate outward;

$L_{IN}$  – leakage airflow rate inward;

$\Sigma_{OUT}$  – total airflow rate outward;

$\Sigma_{IN}$  – total airflow rate inward.

A4.4 To simplify the procedure, standard worksheets (WS1 to WS7) have been devised. For each operating suite, a set is required comprising one each of WS1, WS3, WS5, WS6a, WS6b and WS7, one WS4 for each corridor and one WS2 to cover each peripheral room. WS2 has five versions:

- WS2a single flow;
- WS2b parallel/series multi-flow;
- WS2c parallel multi-flow or series multi-flow (unbalanced);
- WS2d series multi-flow (balanced); and
- WS2e bay (semi-open).

### Peripheral room type

A4.5 The rooms in the operating suite other than the operating room and corridor are referred to as peripheral rooms. Peripheral rooms have been classified according to the flows in and out. These room classifications are defined below in paragraphs A4.6 – A4.11.

#### Single flow

A4.6 This is a room with only one door and a net surplus of supply or extract air.

#### Parallel multi-flow

A4.7 This is a room with two or more doors through each of which the air-flows either outwards (high-pressure) or inwards (low-pressure) (for example the Prep (lay-up) in standard layout 5 in Appendix 3).

#### Parallel/series multi-flow

A4.8 This is a room having a net surplus of supply or extract and with two or more doors. One or more doors will be to an area of equal cleanliness and need not be protected; hence, the flow may vary between inwards and outwards, the remaining door being to an area of greater or lesser cleanliness (for example the Prep (SPS) in standard layout 6 in Appendix 3).

#### Series multi-flow (unbalanced)

A4.9 This is a room having a net surplus of supply or extract and with two or more doors. Air flows inwards through one or more doors and outwards through one or more doors.



### Series multi-flow (balanced)

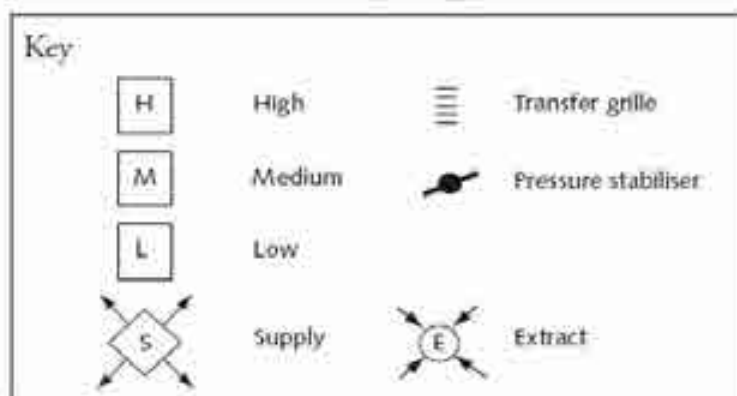
- A4.10 This is a room as in paragraph A4.9 above, but having either no mechanical ventilation or no net surplus of supply or extract. (for example an anaesthetic room).

### Bay

- A4.11 A room that has a permanent opening to the operating room may be considered as a bay off the latter (for example a scrub). Two categories exist:
- open bay – the opening is larger than a normal single door opening. The bay may be considered as part of the main room;
  - semi-open bay – the opening is no larger than a normal single door opening. In this case it is possible to protect the bay from the main room by provision of air supply or extract in the bay, or by passing air to or from another area.

### Air-movement control in peripheral rooms

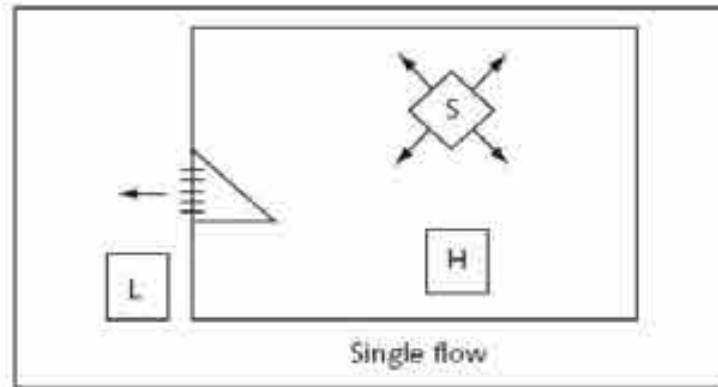
- A4.12 For the design of air-movement control, two types of air-transfer device are considered. These are transfer grilles and pressure stabilisers. Each has a particular field of application within the design, as described in paragraphs A4.34 – A4.43. Air movement is controlled in each of the different room types described in paragraphs A4.13 – A4.31.



**Note:** This key applies to each diagram in 4.13 - 4.27.

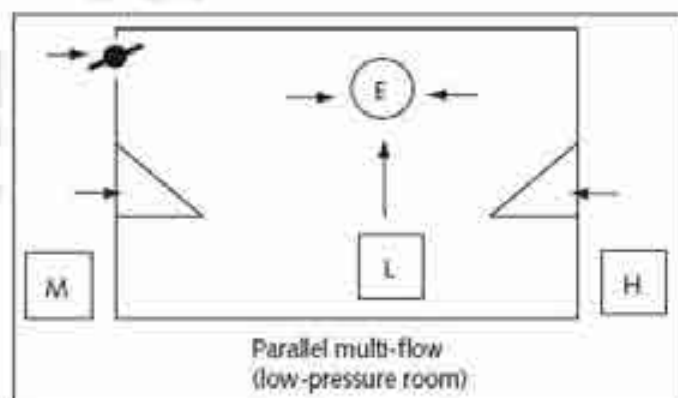
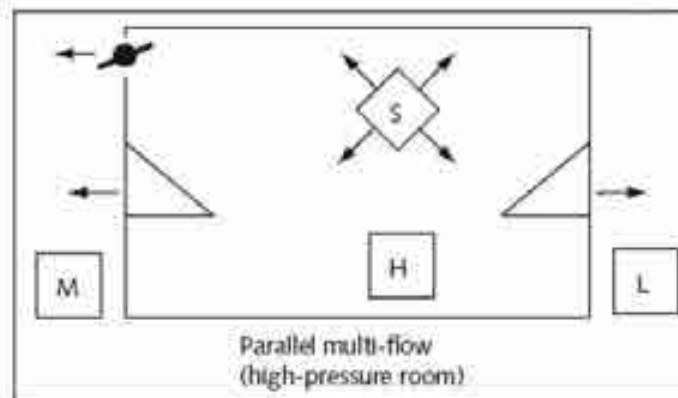
### Single flow rooms

- A4.13 An appropriately sized transfer grille should be located in or adjacent to the door of each single flow room to relieve the pressure differences across the door when closed.



### Parallel multi-flow rooms

- A4.14 The pressure difference across the closed doors must be relieved, but transfer grilles are not appropriate where two doors lead to areas of different pressures, because reverse flow could occur when the other door is open. For this reason, pressure stabilisers are used.



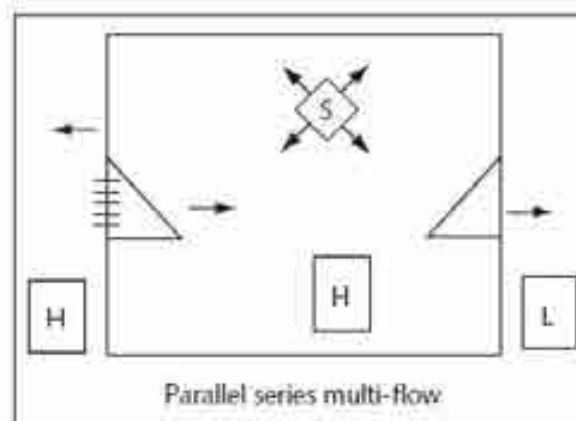
- A4.15 These rooms will be either high-pressure or low-pressure with respect to the adjacent areas (see preparation lay-up room and disposal room, respectively, in standard layout 5 of Appendix 3). The pressure-relief damper is always situated between the room and area, which results in the smaller differential pressure to ensure best use of air.



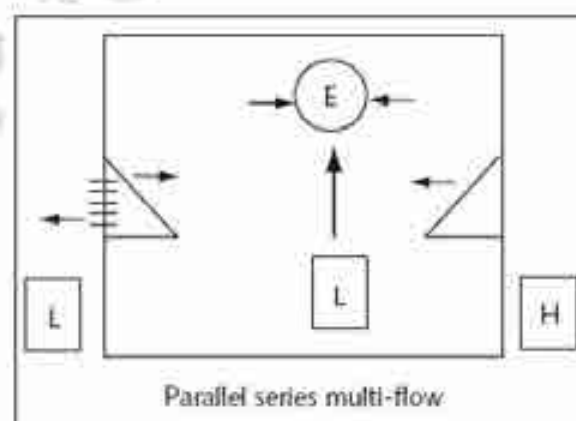
- A4.16 Just as reverse flow can occur if transfer grilles are used, it can similarly occur via door gaps when the other door is opened. It is not possible to avoid this, except by using air locks, but due to the low flow rates and short durations involved, this is not considered to be of importance.

### Parallel-series multi-flow rooms

- A4.17 These rooms are similar to those in paragraph A4.14 above, but because the room is of equal cleanliness to one of the adjacent rooms the nominal pressures will be equal and air may flow through the adjoining doorway in either direction. (for example the Prep (SPS) in standard layout 6 of Appendix 3).



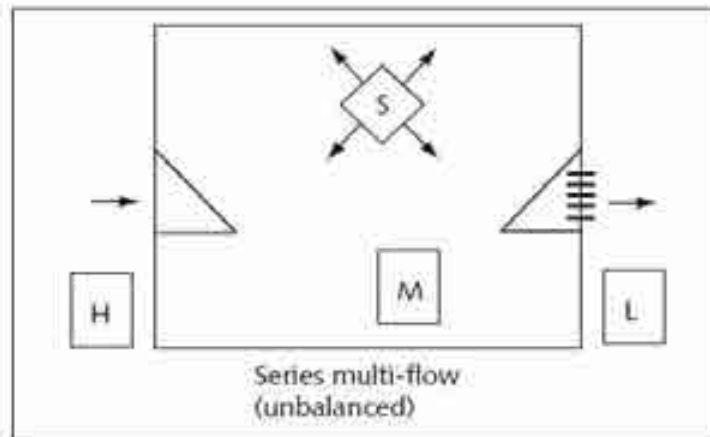
- A4.18 Where the nominal room pressure equals that of the higher-pressure adjacent room, the best use of air is by supplying air required for bacterial dilution only and allowing this to exhaust via a transfer grille to the area of equal cleanliness. The doorway to the lower pressure area is protected by the combination of the supply air and the air that will flow inwards through the transfer grille from the area of equal cleanliness.



- A4.19 Conversely, where the nominal pressure equals that of the lower-pressure adjacent room, extract ventilation and a transfer grille to the lower pressure adjacent room should be provided. (for example, the disposal room in standard layout 8 of Appendix 3).

**Series multi-flow (unbalanced)**

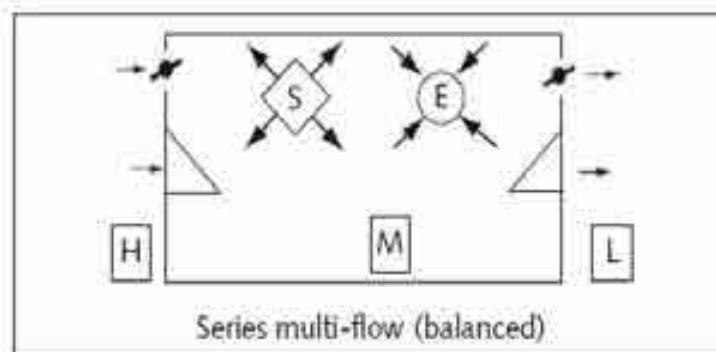
- A4.20 These rooms are somewhat similar to those in paragraph A4.15 above, but because the pressure lies between that of the rooms on either side, the back-flow problem does not exist.



- A4.21 Where the room has a net surplus of mechanical supply air, a transfer grille should be located in or adjacent to the door through which air flows outwards, and the mechanical supply flow rate to the room should be chosen to give protection when this door is open.
- A4.22 Where the room has a net surplus of mechanical extract air, a transfer grille should be located adjacent to the door through which the air flows inwards, and the mechanical extract flow rate to the room should be chosen to give protection when this door is open.
- A4.23 The grille must be sized for the protection requirement of the opposing door when open. When the room on the high-pressure side depressurises, there is a possibility of back-flow through gaps around the door, but this problem may be ignored.

**Series multi-flow (balanced)**

- A4.24 In these rooms, a transfer device adjacent to each doorway is required in order to provide a flow path for the air required to protect the opposing door when opened.



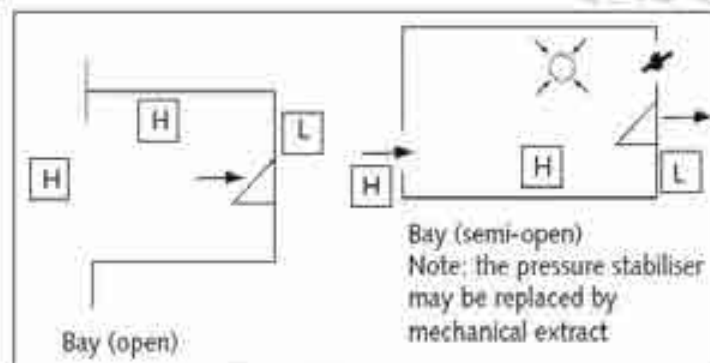


- A4.25 These transfer devices will normally be pressure stabilisers, although transfer grilles may be used where a large amount of excess air is to be exhausted from the operating room when all doors are closed. (for example, anaesthetic rooms).
- A4.26 The calculation procedure is to assume that pressure stabilisers are being used; then (if there is sufficient excess air) change to transfer grilles as described in paragraph A4.50.

## Bay

### Open bay

- A4.27 A bay of the open type (for example scrub-up) is considered to be part of the operating room. Provided air movement is satisfactory, no specific extract is required.



### Semi-open bay

- A4.28 In a bay of the semi-open type, protection of one area from the other is possible. (for example scrub-up).
- A4.29 As stated previously, the need for protection between operating room and scrub-room is not very great. Better use of air can therefore be achieved in this case by installing a pressure stabiliser between the scrub-room and clean corridor. This will allow a flow of air through the scrub-room at all times, except when a door is opened elsewhere in the suite. The pressure stabiliser will then close and the air will be diverted to the other door. When it is considered necessary to protect the scrub-room at all times, either a transfer grille to the corridor or mechanical extract in the scrub-room should be provided.

### Operating room

- A4.30 Once the peripheral rooms have been considered, the operating room requirements may then be decided and the supply flow rate required for air-movement control calculated. This flow rate should be such that, with any one door open, the correct air movement directions are maintained. There will be one door in the suite that will require the largest supply flow rate to the

operating room for protection when open. This is called the “key door” and is discussed separately in paragraph A4.33. Use of this concept avoids repetitive calculations for each door in turn. Having established the required supply flow rate, a relief route must be provided to the clean corridor for any excess air when the doors are closed. This would be via transfer grilles or pressure stabilisers through a series-flow room or via pressure stabilisers to the clean corridor directly.

### Corridors

- A4.31 All surplus air from the suite, except that lost through structure leakage and any passing to the outer corridor, will arrive in the patient/staff corridor. Should this air be insufficient to achieve the required air-change rate (see Appendices 1&2), some additional air supply should be provided. (The air balance should take account of structural leakage.)

### Door opening

- A4.32 Whereas the resulting pressures are dependent on ductwork layout, room relationships and characteristics of the fan, the generalisations shown in Appendix 2 can be used to estimate the change in room pressure when a door is opened.
- A4.33 The “key door” will be the open double door which leaves the operating room at the highest pressure, and/or requires the largest air flow. This should be determined using the procedure in worksheet WS3.

### Transfer grilles

- A4.34 These may be used to limit the pressure differences across the closed door of a single-flow room or, in some instances, for protection of a series-flow or parallel-series-flow room. They allow airflow in both directions and may not be suitable for all applications.
- A4.35 The free area of a grille is calculated from the following equation:

$$A = \frac{Q}{0.84\sqrt{\Delta P}}$$

where:

*A* is free area (m<sup>2</sup>)

*Q* is flow rate (m<sup>3</sup>/s)

*P* is pressure difference (Pa).



- A4.36 The flow through a grille at a different pressure may be found from the following equation:

$$Q_2 = Q_1 \sqrt{\frac{\Delta P_1}{\Delta P_2}}$$

where:

$Q_1$  and  $P_1$  are original flow and differential pressure

$Q_2$  and  $P_2$  are new flow and differential pressure.

- A4.37 The transfer grille may be replaced by carefully proportioned door undercuts of the equivalent free area.
- A4.38 The function of the transfer grille is to provide a means of airflow control by which the volume and pressure loss can be established. If a grille is used, it should have an easily removable core to facilitate cleaning.

### Pressure-relief dampers

- A4.39 The functions of a pressure-relief damper are now carried out by pressure stabilisers. Accordingly, all further mention of them has been removed from this document.

### Pressure stabilisers

- A4.40 Pressure stabilisers can be adjusted to hold the pressure constant over a wide range of flow rates. They are used where requirements exist for accurate room-pressure control or rapid shut-off on pressure fall.
- A4.41 The installation of a grille or baffle in association with a stabiliser will alter the operating characteristics. It is recommended that a location be chosen to avoid the need for visual screening, for example, at high level. The location should be chosen to minimise the likelihood of damage.
- A4.42 The stabilisers used should be virtually silent in operation, adjustable on site, maintenance-free and of a type that cannot be wrongly inserted. They should not be used in external walls or where the pressure difference is less than 5 Pa. The required size of a pressure stabiliser is dependent on the design pressure difference across it and flow rate through it. The manufacturer should provide data relating pressure difference to mean velocity (or flow rate per unit area). From this, the required area can be calculated and then rounded-up to the nearest size manufactured or nearest combination of smaller sizes.
- A4.43 It is sometimes possible to arrange for a pressure stabiliser to perform two tasks. In an anaesthetic room, for example, the two pressure stabilisers may be

made to pass the open door protection air, and also control the operating and anaesthetic room pressures with the door closed. To achieve this, the stabilisers are sized for the flow rate required with one of the doors open, but the pressure setting is adjusted to be the value required with the doors closed. This is shown in Figure A4/1.

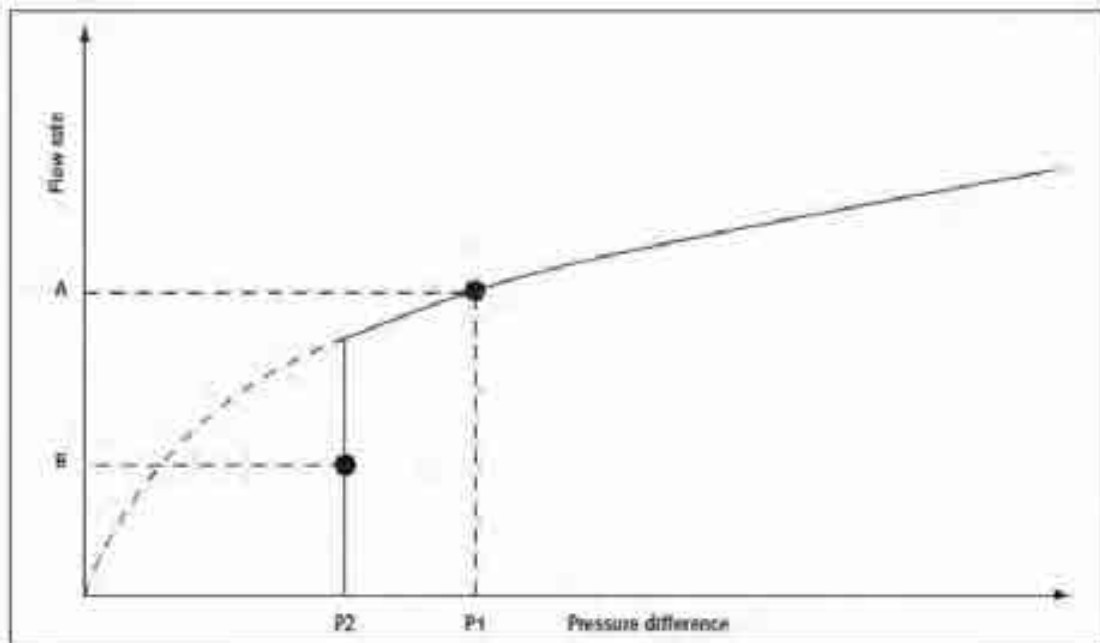


Figure A4/1

### Door leakage flows

- A4.44 For an air-movement control scheme to work satisfactorily, it is essential that the estimates of door-gap leakage made at the design stage are closely related to those which are achieved in practice. The calculation of gap-flows is complicated by the fact that such flows generally fall into the transition region between laminar and turbulent flow and hence do not follow the normal flow equations. The gaps assumed are 4 mm along the bottom, 3 mm at the top and sides, and 2 mm between double leaves. Doors should not have wider gaps than these. Tighter gaps would result in lower flow-rate requirements and hence lower fan power, but care should be taken to ensure that all doors in the suite have similar gap dimensions. It may be possible to ignore the door leakage and so reduce the airflow requirement (see the notes in Appendix 3).

### Room temperature estimation

- A4.45 The air-flow rate required to prevent back-flow through an open door is dependent on the temperature difference across the door. The design figures shown in Appendix 3 are based on the temperature differences that will normally occur in practice, assuming heat gains and losses in accordance with Appendix 2.



A4.46 In accordance with the airflow design process, the temperature differences across the doors of all rooms classed as “sterile” is calculated. Worksheet WS6 is recommended for the calculations, using the following criteria:

- assume that the operating room is being controlled at 20°C and calculate the incoming air-supply temperature as shown on worksheet WS6;
- the calculation should be repeated for both summer and winter conditions, with an operation in progress;
- assume all doors are closed;
- use the room supply flow rates from WS1;
- use the inward air flows through air-transfer devices and closed door leakages from WS2a to WS2e;
- the formula used in worksheet WS6 is as follows:

$$T = \frac{(t_1Q_1 + t_2Q_2 + \dots + t_nQ_n) + 0.828H}{(Q_1 + Q_2 + \dots + Q_n)}$$

where:

$Q$  = flow rate from source (m<sup>3</sup>/s)

$t$  = the temperature of source (°C)

$H$  = the room heat gain (kW).

A4.47 If the evaluated temperature differences between rooms do not exceed 2°C, the solution is satisfactory, otherwise proceed as follows:

- check the assumption on which the heat gains are based;
- take steps to reduce the heat gains;
- if the door is to a corridor, the flow through the open door will be larger than the value given in Appendix 2. Calculate on WS3, assuming it is the “key door” with door-flow unknown, and the supply as known;
- if the door leads to a room with mechanical supply, install a trimmer heater in the supply to the room controlled by either a differential thermostat or a thermostat slaved to the operating room thermostat to ensure that  $T$  is minimized.
- If the door leads to a room with no mechanical supply, increase the door protection flow as follows:

$$Q_{\text{new}} = Q_{\text{old}} \left[ \frac{\Delta T + 1}{2} \right]$$

A4.48 These options should be considered in the above order, and the first three should be investigated thoroughly before proceeding to the latter two. The mechanical supply may need to be increased in order to achieve the desired air-change rates.

## Relief of excess air from operating room when all doors are closed

- A4.49 As the mechanical supply to the operating room is sized to provide an appropriate flow outward through any door that is opened, it follows that when all doors are closed, there will be more air supplied to the operating room than can exit from it via leaks etc. This “excess” air can be relieved by either of the two methods described in paragraphs A4.50 - 4.54.

### By transfer devices via the anaesthetic room

- A4.50 For door protection, the transfer devices in the anaesthetic room are typically designed to pass 0.47 m<sup>3</sup>/s at a differential pressure of 14 Pa. When the doors are closed, the differential pressure will change to 11 Pa between theatre and anaesthetic room, and 14 Pa between anaesthetic room and corridor; the volume of air passed by the transfer devices will be modified as shown in the following formula:

$$\begin{aligned} Q &= Q_1 \left( \frac{\Delta P_1}{\Delta P_2} \right)^{1/2} \\ &= 0.47 \left( \frac{11}{14} \right)^{1/2} \\ &= 0.42 \text{ m}^3/\text{s} \end{aligned}$$

where:

Q = “excess” air to be vented with doors closed;

Q<sub>1</sub> = air-flow required for door protection through transfer device;

ΔP<sub>1</sub> = nominal differential pressure with door to operating room closed and door to corridor closed;

ΔP<sub>2</sub> = nominal differential pressure between either the anaesthetic room and corridor when the operating room door is open, or the anaesthetic room and operating room when the corridor is open. This differential pressure is used when selecting size of both devices.

- A4.51 If the “excess” air is less than 0.42 m<sup>3</sup>/s, a pressure stabiliser is required to ensure that the correct protection airflow is available to pass through the door.
- A4.52 If the “excess” air is greater than 0.42 m<sup>3</sup>/s, a transfer grille is acceptable because at all times the airflow will exceed the flow required for door protection.

### By pressure stabilisers to the corridor

- A4.53 If it is undesirable to pass operating room air through the anaesthetic room, it may be passed directly to a corridor via a separate pressure stabiliser.



A4.54 If there is sufficient "excess" air, the transfer grille solution at paragraph A4.52 should be adopted, as it provides the simplest solution and, once set up, will require no further maintenance. With less excess air, it is recommended that the air be passed through the anaesthetic room via the pressure stabilisers as at paragraph A4.51, thus keeping the number of pressure stabilisers to a minimum. Both these solutions increase the air-change rate in the anaesthetic room, but care should be taken to avoid passing excessive amounts through that would cause discomfort to the occupants.

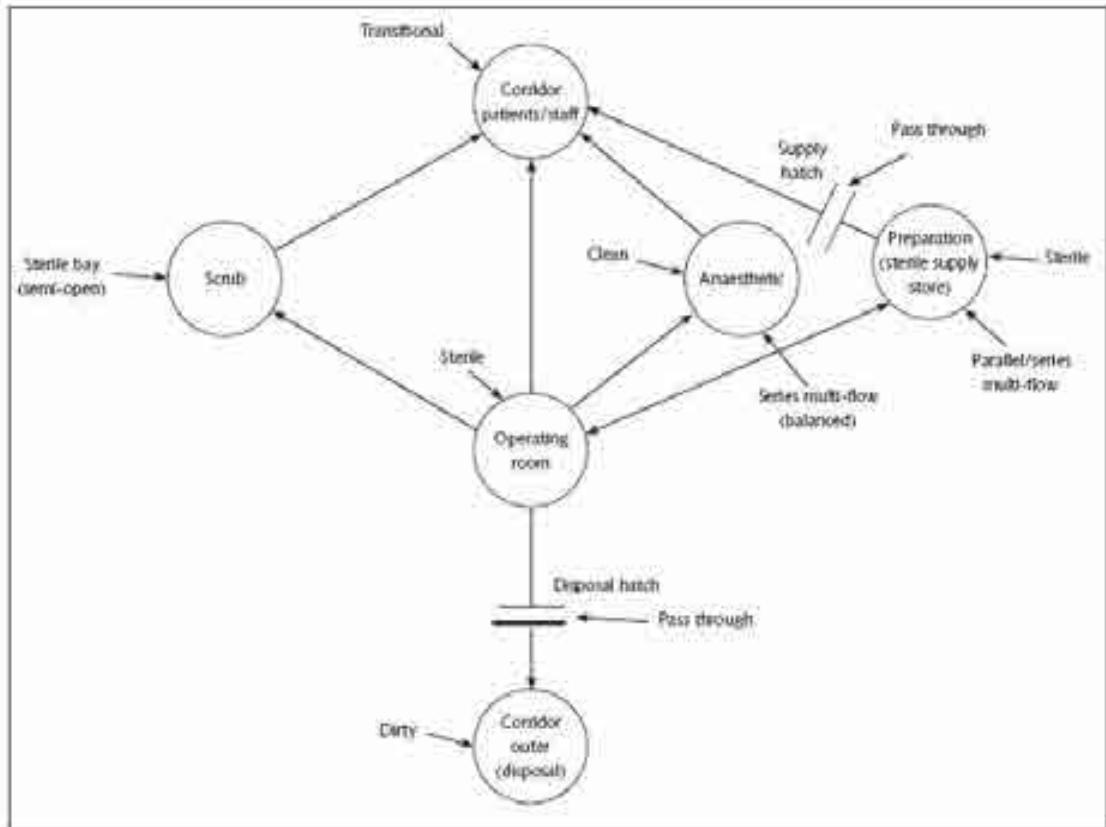


Figure A4/2: An example of an airflow network

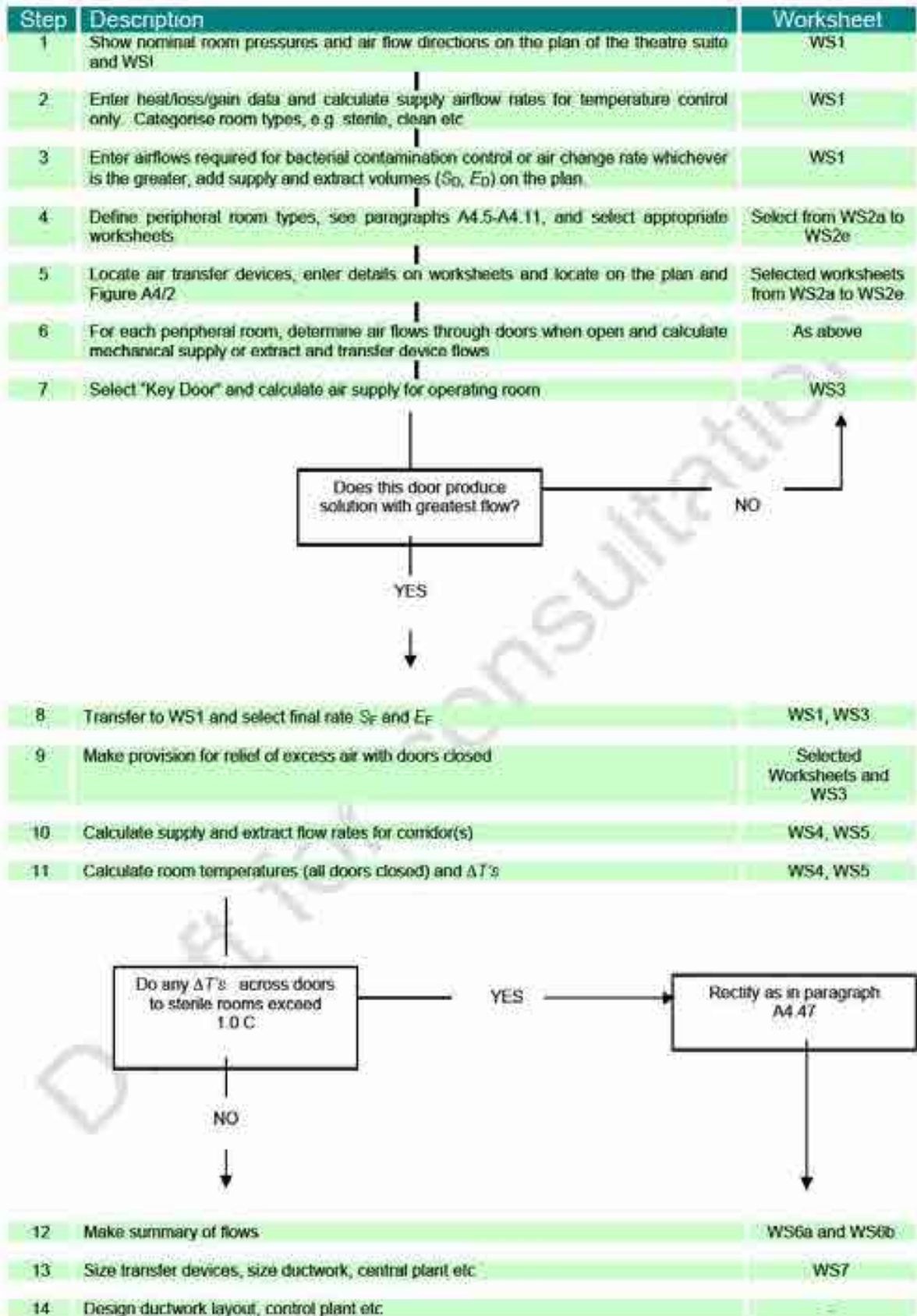


Figure A4/3: Airflow design procedures

Calculation sheet for		Worksheet WS1				
		Reference:				
Room Name:						
1. Summer Temperature Control						
Heat Gain	kW					
2. Acceptable $\Delta t$	$^{\circ}\text{C}$					
3. Air flow rate ( $S_G$ )	$\text{m}^3/\text{s}$					
$= \frac{\text{Gain}}{\Delta t \times 1.2}$						
4. Winter Temperature Control						
Heat Loss	kW					
5. Acceptable $\Delta t$	$^{\circ}\text{C}$					
6. Air flow rate ( $S_L$ )	$\text{m}^3/\text{s}$					
$= \frac{\text{Loss}}{\Delta t \times 1.2}$						
7. Dilution of bacterial contaminations	$\text{m}^3/\text{s}$					
Air flow rate						
$S_D$ or $E_D$						
8. Desired air change rate	ac/hr					
$\frac{\text{AC/hr} \times \text{room volume (m}^3\text{)}}{3600}$	$\text{m}^3/\text{s}$					
9. Maximum of $S_G$ , $S_L$ , $S_D$ or $E_D$ or air change rate from Step 8	$\text{m}^3/\text{s}$					
10. Air movement control	$\text{m}^3/\text{s}$					
Air flow for air movement control	$\text{m}^3/\text{s}$					
$S_{AMC}$ or $E_{AMC}$ (from WS2, WS3, or WS4)						
11. Final Supply Flow Rate ( $S_F$ )	$\text{m}^3/\text{s}$					
12. Final Extract	$\text{m}^3/\text{s}$					
13. Total Supply	$\text{m}^3/\text{s}$					
14. Total Extract	$\text{m}^3/\text{s}$					

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<b>Air Movement Control</b>  Peripheral Room ..... type, single flow	<b>Worksheet WS2a</b>  Reference:  Nominal Pressure: ..... Pa																																			
Consider door to ..... open																																				
Flow required through doorway to give protection	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2"></th> <th colspan="3" style="text-align: center;">Air flow, m<sup>3</sup>/s</th> </tr> <tr> <th style="width:15%;">Pa</th> <th style="width:15%;">Δf</th> <th style="width:15%;">Out</th> <th style="width:15%;">In</th> <th style="width:40%;">Remarks</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr> <td colspan="2" style="text-align: right;"><b>Total</b></td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			Air flow, m <sup>3</sup> /s			Pa	Δf	Out	In	Remarks																					<b>Total</b>				
		Air flow, m <sup>3</sup> /s																																		
Pa	Δf	Out	In	Remarks																																
<b>Total</b>																																				
S <sub>AMC</sub> (Σ <sub>OUT</sub> - Σ <sub>IN</sub> ) <input style="width: 80px;" type="text"/> m <sup>3</sup> /s or E <sub>AMC</sub> (Σ <sub>OUT</sub> - Σ <sub>IN</sub> ) <input style="width: 80px;" type="text"/> m <sup>3</sup> /s Transfer S <sub>AMC</sub> or E <sub>AMC</sub> to WS1																																				
Consider door to ..... closed																																				
Closed door leakage	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">Pa</th> <th style="width:15%;">Δf</th> <th style="width:15%;">Out</th> <th style="width:15%;">In</th> <th style="width:40%;">Remarks</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr> <td colspan="2" style="text-align: right;"><b>Total</b></td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Pa	Δf	Out	In	Remarks																					<b>Total</b>									
Pa	Δf	Out	In	Remarks																																
<b>Total</b>																																				
Return S <sub>r</sub> and E <sub>r</sub> to WS1 <input style="width: 80px;" type="text"/> <input style="width: 80px;" type="text"/>  Flow through transfer grille outward (S <sub>r</sub> - E <sub>r</sub> - L <sub>out</sub> ) <input style="width: 100px;" type="text"/> or Flow through transfer grille inward (E <sub>r</sub> - S <sub>r</sub> - L <sub>in</sub> ) <input style="width: 100px;" type="text"/>																																				

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Air movement control Peripheral Room ..... type, parallel/series multi-flow		Worksheet WS2b References:			
		Nominal Pa	Pressure:		
Door from this room to ..... (room of equal cleanliness) is not to be protected. A transfer grille is located in, or adjacent to, this door.					
Consider door to ..... open					
Room pressure now becomes: <input type="text"/> or <input type="text"/> or <input type="text"/> Pa (see Appendix 6)					
		Air flow, m <sup>3</sup> /s			
		Out	In	Remarks	
Flow required through doorway to give protection					
At above pressures leaks through closed doors	Pa	$\Delta P$			
Mechanical supply or extract (S <sub>F</sub> /E <sub>F</sub> )					
		Total			
$X (\sum_{out} - \sum_{in})$		<input type="text"/>	Or $Y (\sum_{in} - \sum_{out})$		<input type="text"/>
Transfer grille required					
		from high-pressure zone		Flow = X	
or				<input type="text"/>	at <input type="text"/> $\Delta Pa$
		to low-pressure zone		Flow = Y	
Size of transfer grille (free area) A1		<input type="text"/>			
Consider doors and hatch closed – room pressure becomes <input type="text"/> Pa (nominal)					
Closed door leakage from Appendix 4 (assuming no transfer grille)		Pa	$\Delta P$	Out	In
Mechanical supply or extract					
		Total			
Air flow required through transfer grille = IN – OUT = Z'		<input type="text"/>			
= Z''		or OUT – IN		<input type="text"/>	
Transfer grille required flow Z' or Z''		<input type="text"/>	@ <input type="text"/> $\Delta P$		
Size of transfer grille (free area) A2 =		<input type="text"/>			
Select larger of A1 or A2		<input type="text"/>			

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Air movement control			Worksheet WS2c		
Peripheral Room ..... type, parallel multi-flow high/low or series multi-flow (unbalanced)			References:		
			Nominal Pressure: Pa		
Consider door from this room to ..... open.					
Room pressure now becomes <input style="width: 50px;" type="text"/> or <input style="width: 50px;" type="text"/> or <input style="width: 50px;" type="text"/> Pa (see Appendix 6)					
			Air flow, m <sup>3</sup> /s		
			Out	In	Remarks
Flow required through doorway to give protection					
At above pressures leaks through closed doors			Pa	$\Delta P$	
<b>Total</b>					
$S_1 (\sum_{out} - \sum_{in})$ <input style="width: 50px;" type="text"/> Or $E_1 (\sum_{in} - \sum_{out})$ <input style="width: 50px;" type="text"/>					
Consider door from this room to ..... open					
Room pressure then becomes <input style="width: 50px;" type="text"/> or <input style="width: 50px;" type="text"/> or <input style="width: 50px;" type="text"/> Pa					
			Out	In	Remarks
Flow required through open doorway to give protection					
At above pressures leaks through closed doors are			Pa	$\Delta P$	
<b>Total</b>					
$S_2 (\sum_{out} - \sum_{in})$ <input style="width: 50px;" type="text"/> Or $E_2 (\sum_{in} - \sum_{out})$ <input style="width: 50px;" type="text"/>					
Consider doors closed. Closed doors leakage from Appendix 4					
Door to:			Pa	$\Delta P$	
<b>Total</b>					
Return $S_r$ and $E_r$ to WS1 <input style="width: 50px;" type="text"/> <input style="width: 50px;" type="text"/>					
Flow through transfer grille outward ( $S_r - I_{out}$ ) <input style="width: 50px;" type="text"/> to .....					
or					
Flow through transfer grille inward ( $E_r - I_{in}$ ) <input style="width: 50px;" type="text"/> from .....					
Transfer grille <input style="width: 50px;" type="text"/> Pressure relief damper <input style="width: 50px;" type="text"/>					

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<b>Air movement control</b> Peripheral Room ..... type, parallel/series multi-flow		<b>Worksheet WS2d</b> References:	
Note: In this type of room the supply and extract air flow rates are equal and take no part in the air movement control (AMC)		Nominal Pressure: Pa	
First, open door to higher pressure area Room pressure then becomes: <input style="width: 50px;" type="text"/> or <input style="width: 50px;" type="text"/> or <input style="width: 50px;" type="text"/> Pa (see Appendix 2)			
Flow required through doorway to give protection		Air flow, m <sup>3</sup> /s	
		Out	In
At above pressures leaks through closed doors		Pa	$\Delta P$
		Total	
$Q_i (\sum_{in} - \sum_{out})$ <input style="width: 100px;" type="text"/> (+ve inwards)			
Next, open door to lower pressure area Room pressure then becomes: <input style="width: 50px;" type="text"/> or <input style="width: 50px;" type="text"/> or <input style="width: 50px;" type="text"/> Pa			
Flow required through open doorway to give protection		Out	In
At above pressures leaks through closed doors are		Pa	$\Delta P$
		Total	
$Q_i (\sum_{in} - \sum_{out})$ <input style="width: 100px;" type="text"/> (+ve inwards)			
Flow through transfer device (TD1) to protect Door 1 = Q1 <input style="width: 50px;" type="text"/> at resultant			
$\Delta P$			
Flow through transfer device (TD2) to protect Door 2 = Q2 <input style="width: 50px;" type="text"/> at resultant			
$\Delta P$			

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Air movement control Operating Room			Worksheet WS3 References:		
			Nominal Pressure: Pa		
Note: To avoid considering each door open in turn, the "key door" concept is introduced. This is the door which requires the greatest mechanical flow when open. See paragraph A4.33					
Select "key door" (see above). Consider this door open – room pressure now becomes <input style="width: 100px;" type="text"/> Pa (See Appendix 2) See Appendix 3 for room pressures					
			Air flow, m <sup>3</sup> /s		
			Out	In	Remarks
Flow required through doorway to give protection					
Air flow "out" or "in" via doors, transfer devices etc.	Pa	$\Delta P$			
Mechanical extract					
Total					
$S_{AMC} (\sum_{OUT} - \sum_{IN})$ <input style="width: 100px;" type="text"/> Transfer $S_{AMC}$ to WS1 Consider all doors closed. Return $S_p$ and $E_p$ to WS1 <input style="width: 100px;" type="text"/> Room pressure now <input style="width: 100px;" type="text"/> Pa (nominal)					
Air flow "out" or "in" via door leakage, transfer devices etc.	Pa	$\Delta P$	Out	In	Remarks
Mechanical extract					
Total					
Flow $(\sum_{IN} - \sum_{OUT})$ through transfer device <input style="width: 100px;" type="text"/> @ $\Delta P$ <input style="width: 100px;" type="text"/> to..... .....					
For final selection of transfer device see paragraphs A4.50 – A4.54					

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Air movement control			Worksheet WS4		
Corridor			References:		
			Nominal Pressure: Pa		
Consider all doors closed					
			Air flow, m <sup>3</sup> /s		
			Out	In	Remarks
Flow required through doorway to give protection					
Leaks through closed doors, transfer devices, permanent openings etc.	Pa	$\Delta P$			
Total flow inwards ( $S_1$ )					
Add mechanical input ( $S_2$ ) if necessary to increase $S_1$ to give 7 AC/hr					
<b>Total Flow Outwards and Inwards</b>					
$S_{AMC} = (\sum_{out} - \sum_{in} + S_2)$			<input type="text"/>	Transfer to WS5	
$or E_{AMC} = (\sum_{in} - \sum_{out} + S_2)$			<input type="text"/>	Transfer to WS5	

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Air movement control		Worksheet WS5
Corridor		References:
Summary of Air Supply and extract for an Operating Suite		
Consider all doors closed		
Air Flow to Corridor	All Doors Closed	Anaesthetic (key door open)
	m <sup>3</sup> /s	m <sup>3</sup> /s
From Preparation		
From Operating Room		
From Scrub		
From Anaesthetic		
Total (a)		
Air Flow to Corridor from Disposal		
From other source		
Total (b)		
Other Room Supplies..... Total (c)		
Total Air Supply (a) + (b) + (c)		
Consider corridor ventilation (see Appendix 2) and calculate air volume required, based on 7 ac/hr (see Note 1)		
		m <sup>3</sup> /s
Additional Air to Ventilate Corridor		
Additional Air to Ventilate Service Corridor (see Note 2)		
Air Extract		
The size of the extract plant should be of the order of 10% below the supply to assist in maintaining the department under positive pressure relative to the outside departments.		
		m <sup>3</sup> /s
Extract Plant = Supply less Leakage		
Less 10% of Supply		
Total Extract (see Note 3)		

Surveyor (AP(V)/CP(V))..... Date.....







<b>Transfer Grilles, Pressure Relief Dampers and Pressure Stabilisers</b>						Worksheet WS7 Reference:	
Transfer Grilles – see paragraphs A4.34 – A4.38							
<b>Check Doors to Sterile Areas</b>							
No	Location	Pressure Difference Pa	Flow Rate m <sup>3</sup> /s	Free Area m <sup>2</sup>	Model	Resultant Δp Pa	Remarks
Pressure Relief Dampers – see paragraph A4.39							
No	Location	Pressure Difference Pa	Flow Rate m <sup>3</sup> /s	Free Area m <sup>2</sup>	Pressure Setting Pa	Remarks	
Pressure Stabilisers – see paragraphs A4.40 – A4.43							
Note: where a stabiliser is acting both as series room door protection and operating pressure control, "pressure difference" and "flow rate" are from WS2d, "pressure setting" is from WS3							
No	Location	Pressure Difference Pa	Flow Rate m <sup>3</sup> /s	Free Area m <sup>2</sup>	Pressure Setting Pa	Remarks	

Surveyor (AP(V)/CP(V))..... Date.....

## References

### Acts and regulations

**Scottish Technical Handbooks Non Domestic.** Scottish Building Standards Agency, 2007. <http://sbsa.gov.uk>

**Scottish Technical Handbooks, Non Domestic, Section 2: Fire.** Scottish Building Standards Agency. 2007 <http://sbsa.gov.uk>

**Scottish Technical Handbooks, Non Domestic Section 6: Energy.** Scottish Building Standards Agency 2007. <http://sbsa.gov.uk>

**Control of Substances Hazardous to Health Regulations (COSHH) 2002.** SI 2002 No 2677. TSO, 2002. [www.opsi.gov.uk/si/si2002/20022677.htm](http://www.opsi.gov.uk/si/si2002/20022677.htm)

**Health Act 2006.** TSO, 2006. [www.opsi.gov.uk/ACTS/acts2006/20060028.htm](http://www.opsi.gov.uk/ACTS/acts2006/20060028.htm)

**Health and Safety at Work etc Act 1974.** HMSO, 1974.

**Management of Health and Safety at Work Regulations 1999.** SI 1999 No 3242. TSO, 1999. [www.opsi.gov.uk/SI/si1999/19993242.htm](http://www.opsi.gov.uk/SI/si1999/19993242.htm)

**Medicines Act 1968.** TSO, 1968.

**Provision and Use of Work Equipment Regulations 1998.** SI 1998 No 2306. HMSO, 1998. [www.opsi.gov.uk/SI/si1998/19982306.htm](http://www.opsi.gov.uk/SI/si1998/19982306.htm)

**Workplace (Health, Safety and Welfare) Regulations 1992.** SI 1992 No 3004. HMSO, 1992. [www.opsi.gov.uk/si/si1992/Uksi\\_19923004\\_en\\_1.htm](http://www.opsi.gov.uk/si/si1992/Uksi_19923004_en_1.htm)

### British Standards

**BS 5588-9:1999.** Fire precautions in the design, construction and use of buildings. Code of practice for ventilation and air conditioning ductwork. British Standards Institution, 1999.

**BS 5726:2005.** Microbiological safety cabinets. Information to be supplied by the purchaser to the vendor and to the installer, and siting and use of cabinets. Recommendations and guidance.

**BS 5925:1991.** Code of practice for ventilation principles and designing for natural ventilation.

**BS EN 779:2002.** Particulate air filters for general ventilation. Determination of the filtration performance.

**BS EN 1822-1:1998.** High efficiency air filters (HEPA and ULPA). Classification, performance testing, marking.



**BS EN 1822-2:1998.** High efficiency air filters (HEPA and ULPA). Aerosol production, measuring equipment, particle counting statistics.

**BS EN 1822-3:1998.** High efficiency air filters (HEPA and ULPA). Testing flat sheet filter media.

**BS EN 1822-4:2000.** High efficiency air filters (HEPA and ULPA). Determining leakage of filter element (scan method).

**BS EN 1822-5:2000.** High efficiency air filters (HEPA and ULPA). Determining the efficiency of filter element.

**BS EN 12469:2000.** Biotechnology. Performance criteria for microbiological safety cabinets.

**BS EN 13030:2001.** Ventilation for buildings. Terminals. Performance testing of louvres subjected to simulated rain.

**BS EN 14175-2:2003.** Fume cupboards. Safety and performance requirements.

**BS EN ISO 14644-1:1999.** Clean rooms and associated controlled environments. Classification of air cleanliness.

**BS EN ISO 14644-4:2001.** Clean rooms and associated controlled environments. Design, construction and start-up.

## Department of Health Publications

**(The) Health Act 2006:** Code of practice for the prevention and control of healthcare associated infections. 2006. [www.dh.gov.uk](http://www.dh.gov.uk)

**Health Building Note 26 – Facilities for surgical procedures.** The Stationery Office, 2004.

**Health Technical Memorandum 55 – Windows.** The Stationery Office, 1998.

**Health Technical Memorandum 58 – Internal doorsets.** The Stationery Office, 2005.

**Health Technical Memorandum 05-02 – Guidance in support of functional provisions for healthcare premises.** The Stationery Office, 2007.

**Health Technical Specification C04 – Mechanical ventilation and air conditioning systems.** The Stationery Office, 1997.

## NHSScotland Publications

**Scottish Health Planning Note 13: Sterile services department.** Health Facilities Scotland forthcoming.



**Scottish Health Technical Memorandum 04-01** – The control of *Legionella*, hygiene, 'safe' hot water, cold water and drinking water systems. Health Facilities Scotland 2010.

**Scottish Health Technical Memorandum 81**: Fire Preventions in New Hospitals, 2003. Health Facilities Scotland .

**Scottish Health Technical Memorandum 07-02**: Environment and Sustainability. Health Facilities Scotland 2006

**Scottish Health Technical Memorandum 08-01**: Acoustics. Health Facilities Scotland forthcoming

**Scottish Health Facilities Note 30**: Infection Control in The Built Environment: Design and planning. Health Facilities Scotland 2007.

### Chartered Institution of Building Services Engineers publications

**Applications Manual AM10** – Natural ventilation in non-domestic buildings. CIBSE, 2005.

**Applications Manual AM13** – Mixed mode ventilation. CIBSE, 2000.

**Commissioning Code A**: Air distribution systems. CIBSE 1996.

**Commissioning Code R**: Refrigerating systems. CIBSE 2002.

**Commissioning Code W**: Water distribution systems. CIBSE 2003.

**Guide A: Environmental design**. CIBSE, 2006.

**Guide B**: Heating, ventilating, air conditioning and refrigeration. CIBSE, 2005.

**Lighting guide LG2**: Hospitals and health care buildings. CIBSE, 2008.

### Heating & Ventilating Contractors' Association (HVCA) publications

**DW/143** – A practical guide to ductwork leakage testing. HVCA Publications, 1998.

**DW/144** – Specification for sheet metal ductwork, low, medium & high pressure/velocity air systems. HVCA Publications, 1998.

**DW/154** – Specification for plastics ductwork. HVCA Publications, 2000.

**TR/19** – Guide to good practice: internal cleanliness of ventilation systems. HVCA Publications, 2005.

## Other publications

Advisory committee on Dangerous Pathogens (2001). **The management, design and operation of microbiological containment laboratories**. HSE Books, 2001.

Building Services Research & Information Association (BSRIA). **Application Guide AG 3/89.3 – Commissioning of air systems in buildings**. BSRIA, 2001.

Building Services Research & Information Association (BSRIA). **COMPAK 1 – Commissioning guides set**.

**DIN 1946-4**. Ventilation and air conditioning – ventilation in hospitals. Deutsches Institut Fur Normung, 1999.

Health & Safety Commission (2000). **Approved Code of Practice, Legionnaires' disease: the control of legionella bacteria in water systems (L8)**. Health and Safety Executive, 2000.

Health & Safety Executive (1993). **HS(G)37: an introduction to local exhaust ventilation**. HSE Books, 1993.

Health & Safety Executive (2005). **Workplace exposure limits: containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations 2002 (as amended)**. HSE Books, 2005.

Health & Safety Commission's Health Services Advisory Committee (2003). **Safe working and the prevention of infection in clinical laboratories and similar facilities**. HSE Books, 2003.

Health & Safety Commission's Health Services Advisory Committee (2003). **Safe working and the prevention of infection in the mortuary and post-mortem room**. HSE Books, 2003.

Hospital Infection Society (2005). **Microbiological commissioning and monitoring of operating theatre suites**. HIS, 2005.  
[www.his.org.uk/\\_db/\\_documents/OTIC-final.pdf](http://www.his.org.uk/_db/_documents/OTIC-final.pdf)

Medicines and Healthcare products Regulatory Agency (2007). **Rules and guidance for pharmaceutical manufacturers and distributors (The Orange Guide)**. Pharmaceutical Press, 2007. [www.mhra.gov.uk](http://www.mhra.gov.uk)

Water Regulations Advisory Scheme (WRAS) (2005). **Water Fittings and Materials Directory**. WRAS, 2005. [www.wras.co.uk](http://www.wras.co.uk)

Whyte W, Lidwell OM, Lowbury EJJ and Blowers R (1983). **Suggested bacteriological standards for air in ultraclean operating rooms**. *J Hosp Infect*, Vol 4, pp 133-139.

Whyte W, Shaw BH and Freeman MAR (1974). **An evaluation of a partial-walled laminar flow operating room**. *J Hyg Camb*, Vol 73, pp 61-75.



Item No.	Issues for Discussion	Detail of Issue	Risk	Technical Information
1	<b>Lighting in Fire Fighting Stairwells</b>	<p>The lighting within the 7 fire fighting shafts / stairwells and associated lobby has been installed with single circuit from the local lighting distribution boards that are not supplied by the fire rated cables.</p> <p>The Board believes all fire fighting stairwells should be supported by a primary and secondary fire rated power supplies from dedicated distribution boards and automatic changeover for dual fire rated supplies.</p>	<p>Safety of all occupants in the building - The implication of this is the Scottish Fire and Rescue Service may not be able to access the firefighting stairwell in a fire due to inadequate lighting levels.</p>	<p><b>1. Safety</b> The Fire Fighting Shaft / Stair will be used by the Fire Brigade to access all levels of the building to fight a fire. The fire brigade requires sufficient lighting in the event of power failure.</p> <p><b>2. Good industry practice</b> The good industry practice is to have electrical installation designed in accordance with IEE Wiring Regulation therefore compliant with BS 8519. As recent comparative examples, the Board understand both Alder Hay and Dumfries and Galloway Royal Infirmary have electrical installation for firefighting stairwells designed and installed in accordance with BS 8519.</p> <p><b>3. Board's Construction Requirements</b> The 8.1 n) of BCRs (Minimum Engineering Standards) reference the BS 7671:2008 (IEE Wiring Regulations). The IEE Wiring Regulations (Section 110.1.3) outlines the requirements for electrical installation for (x) Life Safety and firefighting applications as BS 8519 (Selection and installation of fire resistant power and control cable systems for life safety and firefighting applications – Code of practice).</p> <p>Section 6 (Power Supplies) of BS 8519 indicates the requirement for secondary power supplies and cross refers to Figure 1 and 2. Both supplies (primary and secondary) should be fire rated.</p> <p><b>4. Project Co's Proposals</b> Furthermore, as per Appendix A (Lighting Schedule) of 4.23.3 of Project Co Proposal, dual circuits should have been provided for lighting in stairwells.</p> <p>In addition, section 7.1 (Low Voltage Distribution) of 4.23.3 of Project Co Proposals confirms: "Power supply cabling to fire fighting applications shall be selected and routed in accordance with the requirements of BS 8519 and LPC Technical Bulletin 210."</p> <p><b>5. Non Domestic Technical Handbook</b> Project Co (TUV SUD) have advised that as BS 9999 2010 is not referred to in the WSP Fire Strategy nor within the Non- Domestic Technical Handbook, that it is not applicable to the Project.</p> <p>The Board notes the following on the Non Domestic Technical Handbook 4.5.1 Electrical Installations of Non Domestic Technical Handbook states: "Electricity, when properly used, is a safe and convenient source of energy for heat, light and power within buildings. However misuse may lead to significant harm to individuals and buildings alike. Risk of fire from an electrical installation should be minimised. In normal operation, taking into account the surroundings, it should not create the risk of fire, burns, shock or other injury to people. An electrical installation should be designed, constructed, installed and tested such that it is in accordance with the recommendations of BS 7671: 2008."</p> <p>Furthermore, the Fire Strategy is based on SHTM 81, which in turn refers to BS 9999 therefore is applicable. The 38.2.3 of BS 9999 advises that the normal lighting within the Fire Fighting Shaft should be supported by a secondary power supply. The secondary power supply should be from an alternative source and the primary &amp; secondary cabling should be fire rated, diversely routed, terminating within the Fire Rated Compartment. The BS 9999 confirms the requirements set out by BS 8519.</p> <p>The IEE Wiring Regulations (BS 7671) are compulsory regulations for design, installation, commissioning and certification of electrical installation in the UK.</p> <p><b>6. Battery Back Up</b> Project Co suggest a self-contained, battery backed up emergency lighting is being provided, however this does not comply with the guidance.</p>

<p>2</p>	<p><b>Non Fire Rated IPS / UPS cabling</b></p>	<p>For compliance with BS 7671 and Guidance Note 7, and also BS 8519 circuits associated with essential life-support services should be either fire-rated or fire-protected. The implication of this is, in the event of a fire, power may be lost to essential life safety medical equipment in critical areas.</p> <p>Current Project Co's design consist of non fire rated cables to IPS bards serving critical areas.</p>	<p>The implication of this is, in the event of a fire, power may be lost to essential life safety medical equipment in critical areas.</p>	<p><b>1. Safety</b>                  In Group 2 Medical Locations, the continuity of electrical supplies are essential to maintain the life of the patients, the power supplies for medical IT equipment should be protected from fire. The LV distribution circuitry up to the sub-distribution board used to connect the IPS and UPS systems, should be deemed as life safety system.                  Guidance Note 7, Group 2 Medical Location:  <i>"Medical location where applied parts are intended to be used, and where discontinuity (failure) of the supply can cause danger to life, in applications such as:</i>                  (a) <i>intracardiac procedures; and</i>                  (b) <i>vital treatment and surgical operations."</i></p> <p><b>2. Good industry practice</b>                  The good industry practice is to have battery plant adjoining Category 5 rooms, however in RHSC DCN the battery plant is centralised with the circuitry to sub main DBs with long cable runs passing through several fire zones. On that basis the cables providing power to life safety equipment should be fire resistant.</p> <p><b>3. Board's Construction requirements</b>                  The 8.1 n) of BCRs (Minimum Engineering Standards) reference the BS 7671:2008 (IEE Wiring Regulations).                   As per IEE Wiring Regulations (BS 7671) section 110, the method of fire protection should be considered for services essential to maintain the operation of the life safety systems as per BS 8519 (section 6). As per Figure 1 and 2 of the BS 8519 the life safety systems should be provided with dual supplies which are fire resistant.   <i>"The electrical distribution system supplying the life safety and fire-fighting equipment should be designed in such a way as to ensure that power is available at all times. In order to achieve this, dual supplies should be provided, to each of the critical systems, via an automatic changeover device, installed within the protective enclosure of the critical equipment.</i>                  NOTE 1 <i>The primary supply is generally derived from the mains or utility supply, whilst the secondary supply is derived from either a standby generator or an independent secondary mains supply."</i></p> <p>9.6 Supplies of Guidance Note 7 states:  <i>"In medical locations, the distribution system shall be designed and installed to facilitate the automatic changeover from the main distribution network to the electrical safety source feeding essential loads, as required by Regulation 560.5."</i></p> <p>9.18.6 Circuits of safety services of Guidance Note 7 states:  <i>"The circuit that connects the power supply source for safety services to the main distribution board is considered a safety circuit."</i></p> <p><b>4. Project Co's Proposals</b>                  PCP 4.23 (Specifications - Building Services) section 420L confirms the use of 120min Fire Resistant cables between the central battery system and DBs:                  420L FIRE RESISTANT, INSULATED AND SHEATHED CABLES. Sub mains from Central Battery System to local distribution boards.  <ul style="list-style-type: none"> <li>• BS 5266-1.</li> <li>• BS 8519:2010, 120 minute fire survival.</li> <li>• Third party certification: British Approvals Service for Cables (BASEC) certified and LPCB.</li> <li>• Manufacturer: As Prysman Cables FP600S.</li> <li>- Product reference: Submit proposals.</li> </ul></p> <p><b>5. Project Co's argument</b>                  Medical equipment will be equipped with self contained batteries hence no additional resilience is required.</p>
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Item No.	Issues for Discussion	Detail of Issue	Risk	Technical Information
3	<p><b>No earth bonding in certain required areas.</b></p> <p><b>(Equipotential Bonding in Rooms)</b></p>	<p>No equipotential bonding has been installed 144 Group 1&amp;2 rooms. Equipotential bonding is required to prevent electric shock to patients, staff and visitors.</p> <p>A sample room has been offered by Project Co to the Board for witnessing indicating installation of equipotential bonding boxes. The Board understands this will now be installed in all 144 Group 1&amp;2 rooms.</p>	Patient and staff safety.	<p>1. Safety The equipotential bonding is required to prevent electric shock to patients, staff and visitors.</p> <p>2. Board's Construction requirements The 8.1 n) of BCRs (Minimum Engineering Standards) reference the BS 7671:2008 (IEE Wiring Regulations). The BS 7671 and Guidance Note 7 indicates that Equipotential Bonding Bars are required in both Group 1 &amp; Group 2 rooms to equalize the potential differences between the various parts of the installation within the room.</p> <p>3. Background to Project Co position Project Co degraded the categorisation and grouping of certain rooms, without consultation with the Board, in order to achieve electrical certification from Group Management Systems.</p>

Item No.	Issues for Discussion	Detail of Issue	Risk	Technical Information																																																																																
4	<p><b>Bedroom ventilation pressure regime and air change rate rooms for neutropenic patients</b></p>	<p>Bedrooms for neutropenic patients have been designed as other single bedrooms, i.e. balanced pressure with 4ac/h supply air and extract via ensuite at the rate of min 10ac/h.</p> <p>However as per SHTM 03-01 (2014), rooms for neutropenic patients should have +10 (Pascals) pressure and supply at 10ac/h.</p>	<p>Operational and infection control risk.</p>	<p><b>1. Safety</b> Neutropenic patients are highly susceptible to infection hence the design should prevent any such patient to be exposed to potential infection from outside of the room. i.e. the air from the room should be pushed to outside preventing any infected air ingress the room.</p> <p><b>2. Board's Construction Requirements</b> The 2.3 (NHS Requirements) of the BCRs references all SHTMs. The Appendix 1:Recommended air-change rates of SHTM 03-01 Part 1 states: <a href="#">Appendix 1: Recommended air-change rates</a></p> <table border="1"> <thead> <tr> <th>Application</th> <th>Ventilation</th> <th>Pressure</th> <th>Pressure (Pascals)</th> <th>Supply Air</th> <th>Change Rate (ACH)</th> <th>Temp. (°C)</th> <th>Comments for Airflow, Filtration and Decidings</th> </tr> </thead> <tbody> <tr> <td>General ward</td> <td>D/N</td> <td>0</td> <td>-</td> <td>G4</td> <td>30</td> <td>18-26</td> <td></td> </tr> <tr> <td>Consultation room</td> <td>E</td> <td>10</td> <td>-ve</td> <td>-</td> <td>40</td> <td>-</td> <td></td> </tr> <tr> <td>Single room</td> <td>D/N</td> <td>0</td> <td>0 or -10</td> <td>G4</td> <td>10</td> <td>18-26</td> <td></td> </tr> <tr> <td>Single room WC</td> <td>E</td> <td>0</td> <td>-ve</td> <td>-</td> <td>40</td> <td>-</td> <td></td> </tr> <tr> <td>Clean utility</td> <td>D</td> <td>0</td> <td>+ve</td> <td>G4</td> <td>40</td> <td>18-22</td> <td></td> </tr> <tr> <td>Dirty utility</td> <td>E</td> <td>0</td> <td>-ve</td> <td>-</td> <td>40</td> <td>-</td> <td></td> </tr> <tr> <td>Ward isolation room</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>See SHTM 4, Supplement 1</td> </tr> <tr> <td>Infectious disease lab room</td> <td>E</td> <td>10</td> <td>-</td> <td>G4</td> <td>30</td> <td>18-26</td> <td>External isolation may be required</td> </tr> <tr> <td>Neutropenic patient ward</td> <td>S</td> <td>10</td> <td>+10</td> <td>H12</td> <td>10</td> <td>18-26</td> <td></td> </tr> </tbody> </table> <p>The paragraph 1.1 (Scope) of C1.4 (Haematology &amp; Oncology Inpatients &amp; Day Care Clinical Output Specifications) of Sub Section D (Specific Clinical Requirements) of BCRs confirms the services include the management of children with febrile neutropenia.</p> <p><b>The Haematology and Oncology Department</b></p> <p>This ward will provide inpatient and day care facilities for children and young people with haematology and oncology conditions. There will be a dedicated Teenage Cancer Trust Unit within the ward.</p> <p><b>1.1 The Service</b></p> <p><b>1.1.1 Scope of the Service</b></p> <p>The paediatric Haematology and Oncology Unit, (Inpatient and Day Care services), is to provide a 24/7 service for the care of all patients with cancer or blood dyscrasia (a pathologic condition in which any of the constituents of the blood are abnormal in structure, function, or quality, as in leukaemia or haemophilia).</p> <p>Patients and families will attend for assessment, investigations, treatment, ongoing care planning, and palliative and end of life care.</p> <p>The type of services provided include:</p> <ul style="list-style-type: none"> <li>• Chemotherapy</li> <li>• High dose therapy with autologous bone marrow or peripheral blood stem cell transplant</li> <li>• Psycho-social support and counselling for patients and families:</li> <li>• <b>Management of children with febrile neutropenia</b></li> <li>• Management of any complications relating to cytotoxic therapy</li> </ul>	Application	Ventilation	Pressure	Pressure (Pascals)	Supply Air	Change Rate (ACH)	Temp. (°C)	Comments for Airflow, Filtration and Decidings	General ward	D/N	0	-	G4	30	18-26		Consultation room	E	10	-ve	-	40	-		Single room	D/N	0	0 or -10	G4	10	18-26		Single room WC	E	0	-ve	-	40	-		Clean utility	D	0	+ve	G4	40	18-22		Dirty utility	E	0	-ve	-	40	-		Ward isolation room	-	-	-	-	-	-	See SHTM 4, Supplement 1	Infectious disease lab room	E	10	-	G4	30	18-26	External isolation may be required	Neutropenic patient ward	S	10	+10	H12	10	18-26	
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Item No.	Issues for Discussion	Detail of Issue	Risk	Technical Information
5	<b>25% spare capacity</b>	<p>The 25% spare capacity should be provided by Project Co in terms of main and sub main distribution containment, UPS boards, AHU, physical space in voids and ceilings, risers.</p> <p>Its apparent from site visits, the spare capacity has not been provided.</p>	Operational and clinical risk for future expansion.	<p>1. Board's Construction Requirements Compliance with BCRs section 9.6.1, 8.8.1, 8.8.2, 8.13, 8.14.</p> <p>2. Project Co's Proposals 4.9 (Mechanical &amp; Electrical Engineering) of Section 4 (project Co's Proposals) of Schedule Part 6 (Construction Matters) confirms the 25% capacity in various areas of design as per the requirements of BCRs.</p> <p>3. Board's compliance argument It is evident from the installation on site, i.e. cable containment, ceiling voids, UPS boards, that the spare capacity has not been provided. Project Co submitted two derogations at FC:</p> <ol style="list-style-type: none"> <li>1. CAT6a cables</li> <li>2. Spare capacity in general. This derogation was meant to be reviewed in conjunction with the Board during RDD process however no evidence from PCo undertaking this exercise until a schedule was issued early in Feb 18.</li> </ol>
6	<b>HV distribution</b>	<p>In relation to system resilience, the Board believes Project Co's design for HV Distribution is non-compliant with the Board's Construction Requirements (BCR's), Project Co Proposal's (PCP's) and SHTM Guidance for the following elements;</p> <ol style="list-style-type: none"> <li>1. Resilience of the HV main intake switch room,</li> <li>2. HV cable distribution,</li> <li>3. HV / LV substations.</li> </ol> <p>The Board believes the design currently creates single points of failure at the HV side of the electrical distribution network.</p> <p>The Board understands Project Co are working on a revised design.</p>	<p>Patient safety risk</p> <p>From a clinical perspective the concern for the Board is following the approximate 1 hour UPS back up, the single points of failure present an unacceptable level of risk in relation to loss of power to the Facility, with the potential compromise of life support for 24 children in ITU and other patients, and other patients within Group 2 areas in RHCYP and DCN.</p>	Refer to Independent Expert Reports.
7	<b>4 bed ventilation</b>	<p>In relation to ventilation pressure regimes, the Board believes Project Co's design for ventilation is non-compliant with the Board's Construction Requirements (BCRs), Project Co Proposal's (PCPs), SHTM Guidance and RDD FC comments.</p> <p>In addition, the Board believe the intake air change rate and the extract air change rate are non-compliant.</p> <p>From a clinical perspective, the principal concern to the Board in continuing with Project Co's proposed pressure regime design means there is an unacceptable risk of the spread of bacterial airborne infections into corridors and surrounding patient rooms (positive to the corridor)</p> <p>The Board requires the pressure regime to be balanced or negative to the corridor.</p>	Operational and infection control risk	Refer to Independent Expert Reports.



Item No.	Issues for Discussion	Detail of Issue	Risk	Technical Information
8	<b>Bedhead trunking earth bonding points</b>	All bedhead trunking installed in Group 2 Medical Locations is provided with only 2 supplementary equipotential bonding points. This is not in compliance with GN7, which requires minimum 4 for medical IT sockets (IPS sockets).	Health & safety to patients and staff.	<p><b>1. Safety</b> The equipotential bonding is required to prevent electric shock to patients, staff and visitors. The supplementary bonding conductors in Group 2 Medical Locations shall be connected to the equipotential bonding busbar for the purpose of equalizing potential differences. A minimum of 4 but not less than 25% of the number of medical IT socket outlets provided per patient location.</p> <p><b>2. Board's Construction Requirements</b> The 8.1 n) of BCRs (Minimum Engineering Standards) reference the BS 7671:2008 (IEE Wiring Regulations). Guidance Note 7 of BS 7671 states:</p> <p><b>9.12 Supplementary equipotential bonding (additional protection)</b> 710.415.2.1 In each Group 1 and Group 2 medical location, supplementary equipotential bonding shall be installed and the supplementary bonding conductors shall be connected to the equipotential bonding busbar for the purpose of equalizing potential differences between the following parts, which are located, or that may be moved into, the 'patient environment':</p> <ul style="list-style-type: none"> <li>(a) protective conductors;</li> <li>(b) extraneous-conductive-parts;</li> <li>(c) screening against electrical interference fields, if installed;</li> <li>(d) connection to conductive floor grids, if installed; and</li> <li>(e) metal screen of isolating transformers, via the shortest route to the earthing conductor.</li> </ul> <p>Supplementary equipotential bonding connection points for the connection of medical electrical equipment shall be provided in each medical location, as follows:</p> <ul style="list-style-type: none"> <li>(f) Group 1: one per patient location; and</li> <li>(g) Group 2: a minimum of four, but not less than 25 per cent of the number of medical IT socket-outlets provided per patient location.</li> </ul> <p>Currently, within Group 2 Medical Locations, bedhead trunking is provided with only 2 supplementary bonding points rather than 4.</p>



Item No.	Issues for Discussion	Detail of Issue	Risk	Technical Information
9	<b>Lack of non IPS sockets in theatres, Critical Care and Resuscitation Rooms</b>	All sockets outlets within these departments except for Cleaners outlets and a limited number of "raw power" sockets in some areas, are Medical Equipment blue sockets. No provision has been made for equipment that should be plugged into an RCB protected outlet whilst in the patient zone.  Also, no x ray sockets (dedicated socket).	Operational risk and safety - The implications being if non Medical IT equipment, e.g. mobile imaging and diagnostic equipment, pc etc are plugged into the IPS socket, this may cause the IPS system to trip and potentially lead in loss of power to life support equipment.	<p><b>1. Safety</b> The IPS sockets are used to identify early faults in life safety equipment connected directly to patients and will not disconnect power supplies in the event of fault in such equipment. The non medical equipment should not be connected to IPS sockets which would increase the likelihood of tripping circuits and therefore losing power supplies for life safety equipment.</p> <p><b>2. Good industry practice</b> Within Cat 5 areas, the good industry practice is to have IPS sockets installed on pendants only within patient environment and limited number of IPS sockets on walls for additional Medical Equipment. Non IT circuits should be provided to allow connections of other non medical equipment items of equipment, such as computers and monitors.</p> <p><b>3. Board's Construction Requirements</b> As per the 3.6.2 (Equipment Requirements) of BCRs, Project Co shall design the infrastructure suitable for all items of equipment identified in Appendix 1 (Equipment Schedule) of Schedule Part 11 (Equipment). The items of equipment identified in Appendix 1 are, but not limited to, mobile X-ray, computers and image intensifiers.  As per 9.8.3 (TN systems) of Guidance Note 7 (Special Locations) of BS 7671 (IEE Wiring Regulations), the designer shall:  <i>"In final circuits of Group 2 medical locations (except for the medical IT system), RCDs having the characteristics specified in Regulation 415.1.1 shall be used in circuits for:</i> <i>(a) the supply of movements of fixed operating tables;</i> <i>(b) X-ray units; and</i> <i>(c) large equipment with a rated power greater than 5 kVA.</i> <i>Notes:</i> <i>(i) The list of circuits (a) to (c) above is not exhaustive. This implies that the designer is not restricted to providing only medical IT final circuits in a Group 2 medical location, but should also consider the wider implications of Group 2 medical location design."</i>  The RCDs referred above are non IPS circuits and should be provided for items such as X-ray units and computers brought to patient environment.</p> <p><b>4. Project Co's Proposals</b> The FC drawing WW-SZ-SL-DT-500-010 indicates 13A twin switched socket outlet in operating theatres with only 1 no of 13A unswitched socket outlet located on the walls. The 7.2 of 4.23 (Building Services – Specifications) states that IPS sockets shall be double pole or unswitched, as follows: <b>Socket outlets fed by IPS units</b> shall be double pole or un-switched, clean earth sockets, with metal front plates, colour-coded blue, engraved in white lettering 'Medical equipment only'. If white sockets are preferred, they shall be mounted on a blue background, approximately 2 cm larger than the socket. The socket to be engraved 'Medical equipment only' in blue. Engraving shall be filled to allow clinical cleaning.</p>
10	<b>Drainage above IPS room / above IPS panels</b>	PCo have installed drainage above exclusion zones, electrical equipment and other high risk locations except above MRI rooms where this has been completely removed.	Leak may cause disruption and power outage. Risk to clinical equipment (MRI/CT) and clinical areas (theatres) the pipework is running above.	<p><b>1. Board's Construction Requirements</b> 8.14 of BCRs state that <i>"In order to minimise potential disruption to the Board due to maintenance of building services, Project Co shall where practicable route services through common spaces such as corridors and avoid through routing within department areas.</i></p> <p><b>2. Project Co's Proposal</b> Project Co submitted a derogation at Financial Close identifying the type of and location of M&amp;E services running outwith the corridor areas. Based on Project Co's derogation the Board assumed that no other services will be run through departments.</p>

Item No.	Issues for Discussion	Detail of Issue	Risk	Technical Information
11	<p><b>Protection on electrical cables</b></p> <p><b>(Cable discrimination and cable calculations)</b></p>	<p>Project Co has not submitted cable calculations through RDD for Board's review. This is required as per 4.23.2 (Mechanical &amp; Electrical Specification) Project Co Proposal. The Concern is that the selection, grouping, rating and fault levels of cables is inappropriate and non-compliant with BS 7671.</p> <p>As evidenced on site, there are several instances of cables being double and triple banked, as well as being grouped tightly together.</p>	<p>Patient Safety - The Concern is that the selection, grouping, rating and fault levels of cables is inappropriate. There could be a fire risk if cables overheat.</p>	<p>Project Co has not submitted cable calculations through RDD for Board's review. This is required as per 4.23.3 (Mechanical &amp; Electrical Specification) Project Co Proposal.</p> <p>The concern is that the selection, grouping, rating and fault levels of cables is inappropriate and non-compliant with BS 7671.</p> <p>4.23.3 (Mechanical &amp; Electrical Specification) Project Co Proposal:</p> <p><b>V24 High voltage cabling</b></p> <p>To be read with Preliminaries/ General conditions</p> <p><b>PRODUCTS</b></p> <p>310A HIGH VOLTAGE CABLES GENERALLY</p> <ul style="list-style-type: none"> <li>• Materials: <ul style="list-style-type: none"> <li>– Underground cable networks for housing developments: in accordance with ENA ER C61-2</li> <li>– 11 kV, underground industrial and commercial connections: in accordance with ENA ER C61-5</li> </ul> </li> <li>• Provide electrical power cable terminations: To BS 7107</li> <li>• Proposed high voltage cabling: Submit drawings, technical information, calculations and manufacturer's literature.</li> <li>• Spare capacity (percentage of current carrying capacity): 25%</li> </ul> <p><b>SYSTEM PERFORMANCE</b></p> <p>220A GRADING STUDY</p> <p>The calculations forming the basis of the design of the LV distribution system are theoretical based upon cable lengths measured from drawings, theoretical fault levels, voltages and impedances and Outgoing Circuit protective device data which may or may not correlate with those finally selected. Project Co. shall undertake a grading study based upon the actual installed measured characteristics of the LV distribution system and actual equipment selected.</p> <p>The study shall be undertaken under all 'worst case' conditions i.e. mains healthy, an minimal generator supply, faults etc. generators in parallel, and taking into account the effect of the C&amp;P work on fault levels.</p> <ul style="list-style-type: none"> <li>• Scope: Complete low voltage distribution system.</li> <li>• Qualifications of study author: Member of the Institute of Electrical Engineers (IEE)</li> <li>• Fault calculations: include fault impedance, and short circuit fault current analysis.</li> </ul> <p><b>V32 Low voltage cabling</b></p> <p><b>PRODUCTS</b></p> <p>310 CABLES GENERALLY</p> <ul style="list-style-type: none"> <li>• Standard: To BS 7671.</li> <li>• Proposed selection of low voltage cables: Submit drawings, technical information, calculations and manufacturer's literature. Submit British Approvals Service for Cables (BASEC) and where appropriate Loss Prevention Certification Board (LPCB) certification for ALL cables.</li> <li>• Conductor sizes (minimum): <ul style="list-style-type: none"> <li>– Sub main cables: 10 mm<sup>2</sup></li> <li>– Lighting final circuits (including CPC): 2.5 mm<sup>2</sup></li> <li>– Power final circuits (including CPC): 4 mm<sup>2</sup></li> </ul> </li> <li>• Spare capacity (percentage of current carrying capacity): 25%</li> <li>• Cable sizes as per cable schedules and distribution board schedules</li> </ul>



Item No.	Issues for Discussion	Detail of Issue	Risk	Technical Information																																								
12	Lack of tamper proof flush fitted sockets in anti ligature areas, including CAMHS	Sockets not installed as per small power layout drawings. i.e. flush fitted tamper proof sockets.	Patient Safety	<p><b>1. Safety</b>                      Tamper proof sockets / outlets are required in all anti ligature areas to prevent vulnerable patients from injuries to themselves, staff and visitors.</p> <p><b>2. Board Construction Requirements</b>                      2.3 (NHS Requirements) of BCRs refer to HBN. The paragraph 8.53 of HBN 03-01 states:  <i>"Each room should have tamper-proof mechanical and electrical services fittings and fixings. The lighting, water and electrical override controls should be located external to the bedroom."</i></p> <p>11.11 of HBN 03-01  <i>"Engineering service outlets, fixtures and fittings, including heat emitters, ventilation grilles, luminaires, drainage systems etc, are required to be of robust high-quality construction, and in all service user areas should be designed to be tamper-proof and to minimise the potential for use as ligature points. Where it is not possible to provide anti-ligature fixtures, the engineering service fixture should not be able to bear weight. All such instances should be agreed with the service user group service provider."</i></p> <p>11.13 of HBN 03-01  <i>"Appropriate tamper-proof fixtures and fittings devices should be installed to enable staff external to the room to control and isolate individually electrical power, lighting, heating and water services to each service user bedroom/en-suite area and isolation room. These devices should be located either within the adjacent lobby or corridor or at a central point elsewhere within the unit as required."</i></p> <p>SHTM 06-01  <i>"16.49 All sockets should be suitable for the local environment. While this may appear obvious, it ensures that suitable precautions (IP ratings) are made for sockets in kitchens, laboratories, plantrooms and general circulation spaces. Metal-finished sockets should be installed within a clinical risk Category 3 area and above in order to limit the effect of electromagnetic interference and the increased mechanical protection. All switch plates and socket (electrical outlets) need to be flush and stainless steel in in-patients areas."</i></p>																																								
13	Single Bedroom Ventilation air changes	Air change rates proposed by Project Co for single bedrooms are not in compliance with SHTM 03-01 and Board's comments. 4ac/h supply provided to the bedrooms instead of the required 6ac/h. The ensuite extract rate proposed in excess of 10ac/h where requirements of SHTM 03-01 is 3ac/h.	Operational and infection control risk	<p>SHTM 03-01 (2014) Part A Appendix 1: Recommended air-change rates:  <a href="#">Appendix 1: Recommended air-change rates</a></p> <table border="1"> <thead> <tr> <th>Application</th> <th>Room Use</th> <th>Pressure</th> <th>Primary Purpose</th> <th>Supply Rate</th> <th>Supply (l/s)</th> <th>Exhaust (l/s)</th> <th>General Ventilation (l/s)</th> </tr> </thead> <tbody> <tr> <td>General ward</td> <td>S/T/E</td> <td>0</td> <td>+</td> <td>0.4</td> <td>30</td> <td>18-20</td> <td></td> </tr> <tr> <td>Consultation ward</td> <td>E</td> <td>0</td> <td>+</td> <td>0.4</td> <td>40</td> <td></td> <td></td> </tr> <tr> <td>Single room</td> <td>S/T/E/N</td> <td>0</td> <td>0 or +</td> <td>0.4</td> <td>30</td> <td>18-20</td> <td></td> </tr> <tr> <td>Single room WC</td> <td>E</td> <td>0</td> <td>+</td> <td>0.4</td> <td>40</td> <td></td> <td></td> </tr> </tbody> </table> <p>Board rejection of Project Co Change / Derogation as per MM-GC-002006:</p> <p>"Following the review of PCo's derogations (WW014 &amp; 015) the Board cannot accept this proposal.</p> <p>As per the BCRs, PCo are required to provide room heat recovery with balanced ventilation at specified air change rates. Based on PCo derogations, in order to achieve balanced pressure regime (in 4 bedded room 1-L1-100), the en-suite extract would have to be in order of 36ac/h. This is in excess of SHTM recommendation of 3ac/h. Also it means that heat recovery from this air cannot be achieved.</p> <p>Can Project Co please confirm how compliance with SHTM in relation to air change rates, balanced ventilation and room heat recovery will be met."</p>	Application	Room Use	Pressure	Primary Purpose	Supply Rate	Supply (l/s)	Exhaust (l/s)	General Ventilation (l/s)	General ward	S/T/E	0	+	0.4	30	18-20		Consultation ward	E	0	+	0.4	40			Single room	S/T/E/N	0	0 or +	0.4	30	18-20		Single room WC	E	0	+	0.4	40		
Application	Room Use	Pressure	Primary Purpose	Supply Rate	Supply (l/s)	Exhaust (l/s)	General Ventilation (l/s)																																					
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Item No.	Issues for Discussion	Detail of Issue	Risk	Technical Information
14	Smoke clearance in fire fighting stairwells	As per the Non Domestic Technical Handbook and project specific Fire Strategy, all fire fighting stairwells shall be provided with appropriate ventilation for heat and smoke control. Currently only a percentage of stairwells appear to have openings for high level ventilator. No details of electrical connections including fire rated cables for fire fighting plant as per BS 8519.	Patient Safety - The implication of this is the Scottish Fire and Rescue Service may not be able to access the firefighting stairwell in a fire due to inadequate lighting levels.	The Fire Fighting Shaft / Stair will be used by the Fire Brigade to access all levels of the building to fight a fire. The fire brigade requires sufficient conditions in a stairwells to be able to access the building.  2.14.6 Heat and smoke control of Non-Domestic Technical Handbook 2011 indicates that a ventilator shall be provided for each fire fighting stair. The ventilator shall be automatically controlled, from SFRS access point, if not easily accessible.  Also, as per BS 8519, fire rated cables should be provided for the fire fighting plant.
15	Access hatches in Theatre Suites	Proliferation of Access hatches have been installed within theatre suites which is non-compliant with BCR clause 8.14 Service Routes and "Good Industry Practice".	Downtime of clinical areas – clinical clean required after hatch opened.	BCR 8.14 Access to services shall not be given in clinical areas. In order to minimise potential disruption to the Board due to maintenance of building services, Project Co shall where practicable route services through common spaces such as corridors and avoid through routing within department areas.  HBN 00-10 3.24 In operating theatres/areas, aseptic suites and laboratories, access through the ceiling should be avoided. A local risk assessment should be undertaken as this list is not exclusive.  HBN 26 CEILINGS 6.33 Modular ceilings are not acceptable in the operating theatre but may be required in associated areas for maintenance purposes. The ceiling in the operating theatre should also be able to withstand an occasional wash and have a completely sealed finish to maintain microbiological standards. If access hatches are required they should be of the sealable type.



**From:** Matthew Templeton [REDACTED]  
**Sent:** 22 June 2018 15:55  
**To:** Currie, Brian  
**Cc:** Wallace Weir; David Martin; Linsey Cormie; Graham, Iain; Greer, Graeme  
**Subject:** RE: RHSC & DCN: Notification of Delay re Flooding  
**Attachments:** 180622.MT.BC. Notification of Delay\_Flooding Information.pdf

Dear Brian,

Please find attached a letter providing further information with respect to the Notification of Delay regarding the flooding incident, in accordance with Clause 29.4 of the Project Agreement.

Regards

Matt

**Matt Templeton**

HCP

[REDACTED] [www.hcp.co.uk](http://www.hcp.co.uk)

---

**From:** Currie, Brian [REDACTED]  
**Sent:** 13 June 2018 14:01  
**To:** Matthew Templeton [REDACTED] >  
**Cc:** Wallace Weir [REDACTED]; David Martin [REDACTED] Linsey Cormie  
[REDACTED]; Graham, Iain [REDACTED] Greer, Graeme  
**Subject:** RE: RHSC & DCN: Notification of Delay re Flooding

Matthew

Please find attached a self explanatory letter in response to your Notice which we received on Monday 11th June, 2018.

We will also respond via Aconex and hard copy to your legal agents as both parties have on previous matters of this nature.

Regards

Brian

Brian Currie  
Project Director - NHS Lothian  
RHSC + DCN Site Office  
Little France Crescent  
Edinburgh  
EH16 4TJ



**From:** Matthew Templeton [Redacted]  
**Sent:** 11 June 2018 11:43  
**To:** Currie, Brian  
**Cc:** Wallace Weir; David Martin; Linsey Cormie  
**Subject:** RHSC & DCN: Notification of Delay re Flooding

Dear Brian,

Please find attached a Notice of a Delay Event and a Relief Event as a consequence of the flooding incident last week.

Regards

Matt

Matt Templeton

HCP  
[Redacted] [www.hcp.co.uk](http://www.hcp.co.uk)

The HCP Group includes HCP Holdings Limited (registered number: 03209169), HCP Management Services Limited (registered number: 03819468) and HCP Social Infrastructure (UK) Limited (registered number: 02658304), all of whom are registered in England & Wales. The registered office for these companies is 8 White Oak Square, Swanley, Kent BR8 7AG.

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\*\*\*\*\*

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22 June 2018

REF: 180622.MT.BC. Notification of Delay\_ Flooding information

Brian Currie  
Board's Representative  
Lothian Health Board  
Waverly Gate  
2-4 Waterloo Place  
Edinburgh  
EH1 3EG

**By Email and Post**

Dear Brian,

**Re-Provision of RHSC & DCN at Little France, Edinburgh.**

**FLOODING – FIRST, GROUND & BASEMENT LEVELS  
NOTICE OF RELIEF EVENT  
NOTICE OF DELAY EVENT**

We refer to our letter of 11 June 2018 notifying the Board of a Relief Event and Delay Event, and your letter dated 13 June 2018. We now provide further particulars in accordance with Clause 29.4.

**Statement of Delay Event and Circumstances**

As was set out in our earlier letter, the Delay Event is based on Clause 29.3.6, being a Relief Event. The circumstances giving rise to the event are a flooding incident at the new build facilities. On the evening of 6 June 2018, on Level 1, a failure of the domestic hot water supply pipework caused flooding to Levels 1, Ground and Basement Floors. The un-controlled release of water from the affected pipework was isolated and stopped on the morning of 7 June 2018. The flooding and cause thereof is a Relief Event under the Project Agreement, Clause 30.1.1, which includes "...flood, bursting or overflowing of water tanks, apparatus or pipes...". The extent of reinstatement that is required is addressed below.

**Records**

We intend to maintain the following records to substantiate any claim for additional time. Upon receipt of estimates for time and cost from each of the trade sub-contractors and the release of work instructions from Multiplex, Multiplex will maintain the following on behalf of Project Co:



- Extent of works affected
- Reports required from the trade sub-contractors (where relevant)
- Dated handover/completion records for relevant trades in affected areas

## Consequences

The full extent of the damage caused by the flooding is still in the process of being investigated and ascertained. Whilst investigations continue, it is already clear, that relatively substantial reinstatement works will be required to areas within the first, ground and basement floors. Subject to the conclusion of the investigations the reinstatement works may include;

- The removal and replacement of finished flooring;
- The removal and the replacement of some FF&E;
- The removal and replacement of isolated areas of plasterboard and insulation to internal walls and subsequent reinstatement of Mechanical and Electrical fittings, wall painting and making good;
- The removal and replacement of damaged ceilings and the subsequent reinstatement of final fix services (fire and smoke detection systems, ventilation grills, lighting and the like) and decorations; and
- A revised Inspection regime to re-inspect finished areas.

The foregoing activities may impact upon the completion of the Works. Currently, Multiplex has programmed to complete its Works by 31 October 2018. It is too early in the investigation phase to determine whether the foregoing activities or like activities will inevitably affect that planned completion but we would propose to provide updates to the Board under Clause 29.5 as and when further information becomes available from those trades investigating the extent of damage and reinstatement required.

Please be advised Project Co has notified matters to the project insurers, and a loss adjuster appointed by the insurers has visited the site to inspect the physical damage. The overall financial impact can only really be assessed once the nature and extent of the reinstatement works necessary are ascertained, together with the time those works will take and insurers position on cover.

## Mitigation Measures

Based on recent Board Changes and the works that Multiplex have agreed to progress without prejudice, the current completion date is, as above, being reported as 31 October 2018. Once the full extent of damage and necessary reinstatement has been established, the following mitigation options can be developed and measured against a planned 31 October 2018 completion date:

- Surveys to establish the scope of reinstatement works;
- Limited early instructions for stripping out damaged material and removal of fixtures and fittings;
- Limited early instructions for pre-ordering of bulk material before Instructions;
- Sequencing of the works to allow earliest access for the Lothian Health Board works to progress;
- Liaison with affected trades to secure necessary resource; and
- Maximising manpower as workfaces become available.

We trust that the foregoing provides the Board with an update on matters as of today's date. Further updates will be provided as and when the underlying information becomes available to us.

Yours faithfully

A large black rectangular redaction box covering the signature area.

Wallace Weir  
Project Co Representative  
For and behalf of IHS Lothian Limited





**Strictly Confidential and Commercially Sensitive** ref:- 181018 IHSL.NHSL Notices of Delay

**Without Prejudice**

To: Brian Currie  
Lothian Health Board  
Waverley Gate  
2-4 Waterloo Place  
Edinburgh  
EH1 3EG

18<sup>th</sup> October 2018

Dear Sirs

**Project Agreement dated 12th and 13th February 2015 between Lothian Health Board and IHS Lothian Limited ("Project Agreement")  
Notices of Delay, Delay Events and Compensation Events**

We refer to the Project Agreement. Unless otherwise stated, capitalised terms used in this letter shall have the meaning given to them in the Project Agreement.

In order to fulfil our obligations under the Construction Contract and Clause 29 of the Project Agreement, we hereby notify you of the delays in completion of the Works, the Delay Events and the Compensation Events all as detailed in the attached correspondence from the Contractor to Project Co dated 9 October 2018 in respect of:

- (1) 4 bed ventilation;
  - (2) Board Change 119 in respect of patient absconding;
  - (3) Board Change 133 in respect of additional security doors;
  - (4) Board Change 137 in respect of the doors in CAMHS; and
  - (5) MRI quench pipes;
- (together the "Letters").

The Letters shall be deemed to be letters from Project Co to the Board. Without prejudice to the generality of the foregoing, all references in the Letters to:

- (1) "Multiplex" shall (where the context permits) be deemed to be references to "Project Co";
- (2) "IHSL" or "Project Co" shall (where the context permits) be deemed to be references to "the Board";
- (3) Clause 29.1, Clause 29.4 or Schedule Part 16 shall be deemed to be references to Clause 29.1, Clause 29.4 or Schedule Part 16 (as the case may be) of the Project Agreement;
- (4) "NHSL Change" shall be deemed to be references to "Board Change";
- (5) "Construction Contract" shall (where the context permits) be deemed to be references to the Project Agreement.

Yours faithfully

Wallace Weir  
Project Co Representative

cc The Chief Executive, Lothian Health Board

**MULTIPLEX**

Multiplex Construction Europe Limited  
 Royal Hospital for Sick Children & Department for Clinical  
 Neurosciences Project Office  
 Little France Crescent, Edinburgh E116 4TJ  
 Tel: +44 (0)131 666 5550 W: www.multiplex.global

09 October 2018  
 Ref: DP/KS/17183/581

In the event of queries please  
 contact: Mr. Darren Pike

FAO Wallace Weir  
 IHS Lothian Ltd  
 Maclay Murray & Spens  
 c/o Dantons  
 15 Lauriston Place  
 Edinburgh  
 EH3 9EP

For the Attention of Mr. Wallace Weir

Dear Sirs

**RE-PROVISION OF RHSC AND DCN AT LITTLE FRANCE  
 4-BED VENTILATION  
 DELAY EVENT/COMPENSATION EVENT**

We refer to the above matter. As you are aware discussions continue between the Board, Project Co and Multiplex in connection with, inter alia, (a) the without prejudice works undertaken by Multiplex including the 4 bed ventilation changes (b) the further payments due to Project Co and Multiplex in connection with work including the changes to the 4 bed ventilation and (c) a revised Completion Date to apply under both the Project Agreement and Construction Contract in relation to the works.

Naturally Multiplex is keen to arrive at a settled position in connection with the foregoing issues as soon as possible.

In the meantime, and in order to protect Multiplex's position we hereby give formal notice of a Delay Event in respect of the changes instructed to the 4-bed ventilation design. We do not set out in this letter the various reasons underlying our position that the instruction to negatively/balance pressure in these areas is a change. Detailed communications have already passed between the parties in that regard and we understand that Project Co does not disagree with Multiplex.

The purpose of this letter is to notify Project Co and the Board of the impact of the change to the 4 bed ventilation on the Completion Date. Ordinarily that impact would be dealt with

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 Registered Office: One Broadgate, 1st Floor, London EC2M 2QS, United Kingdom  
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through the raising of Board Change paperwork under Schedule Part 16, by the Board and in turn Project Co. However, to date the Board and Project Co have neglected to do that.

Upon that basis, we would advise that our estimate of the impact of the change on the Completion Date is 201 days. That is the period from 26 March 2018, when the variations were put in train, through to our forecast completion of these works on 11 October 2018.

Whilst our position remains that this matter ought to have been addressed through Schedule Part 16, we are happy to provide further particulars equivalent to those arising under Clause 29.4 upon request by Project Co.

We recognise that in the event the current discussions which we advert to at the start of this letter reach a settled position then they may come to supersede and regulate Multiplex's entitlement to additional time in connection with this Delay Event. However, given the current situation Multiplex must insist on its contractual right to receive an extension of time and revised Completion Date for this Delay Event.

In that regard, 201 days from the revised date for completion of 9 July 2017 is 26 January 2018 and, subject to any further particulars requested, we ask that you now formally revise and extend the Completion Date under the Construction Contract to at least 26 January 2018. We reserve the right to revisit this estimate of delay to completion to the extent it later turns out to be less than we are entitled to.

Separately, the circumstances giving rise to the Delay Event also constitute a Compensation Event. They have generated significant additional cost for Multiplex in providing the works. We would welcome an urgent discussion in an effort to agree the relevant costs in the event the current discussions which aim to regulate Multiplex and Project Co's entitlement to time and money for such matters do not achieve that aim.

Yours faithfully



PP.  
Mr. Darren Pike  
Project Director  
Multiplex Construction Europe Ltd

Multiplex Construction Europe Limited is registered in England and Wales  
Registered Office: One Broadgate, 1st Floor, London EC2M 2QS, United Kingdom  
Company No. 03100946 VAT No. 749 323 906

**MULTIPLEX**

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09 October 2018  
Ref: DP/KS/17183/583

In the event of queries please  
contact: Mr. Darren Pike

FAO Wallace Weir  
IHS Lothian Ltd  
Maclay Murray & Spens  
c/o Dentons  
15 Lauriston Place  
Edinburgh  
EH3 9EP

For the Attention of Mr. Wallace Weir

Dear Sirs

**RE-PROVISION OF RHSC AND DCN AT LITTLE FRANCE  
NHSL Change 119 Patient Absconding  
DELAY EVENT/COMPENSATION EVENT**

We write under reference to earlier correspondence in connection with the revised Board Change 119 in respect of patient absconding. As you are aware, the Board have now instructed and approved Multiplex costs for MVC 119 on 29 August 2018. In view of this instruction and change these works will delay completion.

Whilst strictly an allowance for the necessary additional time should be dealt with under the Schedule Part 16 process, we write to notify that the Board Change will delay completion of the works.

In that regard, this letter should be treated as our notification of a Delay Event under Clause 29.4, and to avoid any doubt, notice of an event which is likely to delay completion of the works under Clause 29.1. We shall provide further written particulars equivalent to those required under Clause 29.4 in due course.

Yours faithfully



Mr. Darren Pike  
Project Director  
Multiplex Construction Europe Ltd

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— A Brookfield Company —

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09 October 2018  
 Ref: DP/KS/17183/584

In the event of queries please  
 contact: Mr. Darren Pike

FAO Wallace Weir  
 IHS Lothian Ltd  
 Maclay Murray & Spens  
 c/o Dentons  
 15 Lauriston Place  
 Edinburgh  
 EH3 9EP

For the Attention of Mr. Wallace Weir

Dear Sirs

**RE-PROVISION OF RHSC AND DCN AT LITTLE FRANCE  
 NHSL Change 133 Additional Security Doors  
 DELAY EVENT/COMPENSATION EVENT**

We write under reference to earlier correspondence in connection with additional doors. As you are aware, the Board have now instructed and approved Multiplex costs for MVC 133 (additional doors).

As noted in 'Contractors Estimate Section 1. Implementation Timetable', this change could not have been guaranteed to complete by 31 October 2018 due to the lead in period required for materials. As noted in 'Section 2. Requirement for Relief from Compliance with Obligations' Multiplex proceeded on the basis that Multiplex reserved the right to claim for an extension of time if appropriate relief/time was not granted as part of the on-going discussions about the completion date for the remainder of the works.

Approval was granted by IHSL on 18 September 2018. As noted above, due to the lead in requirement for materials, it will not now be possible to complete the works by 31 October 2018.

Whilst strictly the matter should be dealt with under the Schedule Part 16 process, the decision by the Board and IHSL to seek a more general agreement on time for completion should not prejudice Multiplex for any Delay Events.

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— A Brookfield Company —

In that regard, this letter should be treated as our notification of a Delay Event under Clause 29.4, and to avoid any doubt, notice of an event which is likely to delay completion of the works under Clause 29.1. We shall provide further written particulars equivalent to those required under Clause 29.4 in due course.

Yours faithfully



PP.

Mr. Darren Pike  
Project Director  
Multiplex Construction Europe Ltd



**MULTIPLEX**

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09 October 2018  
 Ref: DP/KS/17183/585

In the event of queries please  
 contact: Mr. Darren Pike

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 IHS Lothian Ltd  
 Maclay Murray & Spens  
 c/o Dentons  
 15 Lauriston Place  
 Edinburgh  
 EH3 9EP

For the Attention of Mr. Wallace Weir

Dear Sirs

**RE-PROVISION OF RHSC AND DCN AT LITTLE FRANCE  
 NHSL Change 137 Doors CAMHS  
 DELAY EVENT/COMPENSATION EVENT**

We write under reference to earlier correspondence in connection with the revised Board Change 137 in respect of the doors in CAMHS. As you are aware, the Board have now instructed and approved Multiplex costs for MVC 137 on 18 October 2018. In view of the lead in period for materials and the installation time required these works will delay completion.

Whilst strictly an allowance for the necessary additional time should be dealt with under the Schedule Part 16 process, we write to notify that the Board Change will delay completion of the works.

In that regard, this letter should be treated as our notification of a Delay Event under Clause 29.4, and to avoid any doubt, notice of an event which is likely to delay completion of the works under Clause 29.1. We shall provide further written particulars equivalent to those required under Clause 29.4 in due course.

Yours Faithfully,



Mr. Darren Pike  
 Project Director  
 Multiplex Construction Europe Ltd

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09 October 2018  
Ref: DP/KS/17183/586

In the event of queries please  
contact: Mr. Darren Pike

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IHS Lothian Ltd  
Maclay Murray & Spens  
c/o Dentons  
15 Lauriston Place  
Edinburgh  
EH3 9EP

For the Attention of Mr. Wallace Weir

Dear Sirs

**RE-PROVISION OF RHSC AND DCN AT LITTLE FRANCE  
QUENCH PIPE  
DELAY EVENT/COMPENSATION EVENT**

We write to notify you under Clause 29.1 and Clause 29.4 of a Delay Event in connection with the design, procurement and installation of the MRI Quench pipes by the Board's specialist contractors.

As you know the relevant works were omitted from Multiplex's scope via Board Change 105. The installation of relevant work continues and is unlikely to be completed by the dates currently being reported in that regard. That will affect Multiplex and cause a delay to completion of Multiplex's works.

We shall provide further written particulars in accordance with Clause 29.4 in due course.

Yours faithfully



Mr. Darren Pike  
Project Director  
Multiplex Construction Europe Ltd

Enc.

Multiplex Construction Europe Limited is registered in England and Wales  
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Company No. 03908946 VAT No. 749 323 906

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A Brookfield Company

### Notice of Outstanding Matters

Issued by: Arcadis LLP  
Address: 34 York Way, London, N1 9AB  
Project Co: IHS Lothian Limited  
Address: 50 Lothian Road, Festival Square, Edinburgh, EH3 9WJ  
Board: Lothian Health Board  
Address: Waverley Gate, 2-4 Waterloo Place, Edinburgh EH1 1EG  
Contractor: Multiplex Construction Europe Limited  
Address: 99 Bishopsgate, Second floor, London EC2M 3XD  
Issue date: 7<sup>th</sup> November 2018  
Works: Re-provision of RHSC and DCN at Little France  
Situated at: Little France Crescent, Edinburgh EH16 4TJ

Under the terms of the above-mentioned Project Agreement, we certify that the Works failed to achieve Actual Completion on the 31<sup>st</sup> October 2018 as notified to the IT by Project Co. The attached schedule lists the outstanding and non-compliant items noted by the Independent Tester.

To be signed by or for the issuer named above.

Signed



Enc. Schedule of Outstanding Matters



REF	SCHEDULE OF OUTSTANDING MATTERS
1	Movement Joints through Critical Areas non-compliant with requirements
2	Internal Drainage System
3	Ventilation to Isolation rooms
4	Lighting of Firefighting Stairs
5	Helipad not compliant with HBN 15-03 or CAP 1264
6	Heater batteries in Isolation room lobbies
7	Fire Protection System Compliance with SHTM 82
8	Interleave power supplies to Critical areas
9	Opening windows as part of lobby smoke ventilation >100mm
10	Theatre Scrub taps fitted at wrong height.
11	Threshold to Spiritual Care - not barrier free
12	Goods Yard Access to loading bay - constriction by compactor
13	Key Suiting ready for Handover – not ratified
14	Acoustic Testing - Certification not available
15	Medical Gas Systems incomplete - Dependency on Turnkey Works
16	Completion Documentation required by the IT incomplete
17	Handover Clean - not appropriate standard in some areas
18	Removal of site Establishment - not completed
19	Reinstatement of damage to Car park E- not completed
20	Operating Theatre requirements - not achieved in all areas
21	Building Warrant Completion Certificate - Outstanding
22	Fire Alarm altered but supporting Change - not completed
23	Water systems treatments in accordance with CIBSE Commissioning Code W and SHTM 04-01 - not completed
24	Pneumatic Tube transfer - Pipe runs through bed rooms - agreement to change not provided
25	Ductwork physical cleaning certification in accordance with SHTM 03-01 and the HVCA (2005) TR/19 – Guide to good practice.
26	Proving of isolation rooms differential pressure - not completed
27	External Signage - outstanding issues
28	Proposed change to LTHW Pipework - not ratified
29	Helipad Height Reduction - not ratified
30	Changes to Zone A Level 4 Plantrooms - not ratified
31	Changes to Link Building - not ratified
32	Changes to Gas Meter Housing - not ratified
33	Changes to Entrance Matting - not ratified
34	BREEAM Certification - not provide
35	Temperature Control / Monitoring - not provided
36	Positioning of Node Rooms in basement - not ratified
37	Changes to Curtain Tracks - not ratified
38	Changes to MRI (access) - not ratified
39	Changes to Ceiling Heights - not ratified
40	Changes to Service Yard (Crib Wall) - not ratified
41	Radiology WC Room omission not ratified
42	Changes to Over panels to Doors - not ratified
43	Changes to Standing Seam Roof - not ratified
44	Changes to Warning lights - not ratified
45	Skirting Change - not ratified



46	Changes to Bed Lift Core 3 - not ratified
47	Provision of gas store to level four - not ratified
48	Provision of shower trays and pumping - not ratified
49	Fire strategy - Sprinkler Omission - not ratified
50	Tactile sensors to anti-lig sanitary spaces - not ratified
51	OUT904 Connections - not ratified
52	Timing of the Audiology Acoustic tests - not ratified
53	Change to SHPN 40 Intercom / Isolation Suite Functionality - not ratified
54	Changes to As Built Energy Model/ Seasonal Commissioning - not ratified
55	Neutropenic ventilation change - not ratified
56	Single Bed Ventilation alteration - not ratified
57	FCU traps change - not ratified
58	Change to High Level Drainage - not ratified
59	Change to Node Room cooling - not ratified
60	IPS Room Ceilings change - not ratified
61	4-COR-007 Ceiling Height - not ratified
62	0-A1-062 Ceiling Height - not ratified
63	Group 2 Socket change not ratified
64	Omission of RIE Adult Ambulant Canopy - not ratified
65	Number Plate Recognition - Revision not ratified
66	Fire Evacuation Strategy not ratified
67	IOMRI Change Instruction - not ratified
68	Ventilation Ductwork in MRI Equipment Rooms - not ratified
69	ED Store Ventilation - CONSTRUCTION - not ratified
70	Cycle Racks change - not ratified
71	Angiography Procedures Machine Room - not ratified
72	Testing and commissioning documentation to be completed following outstanding works and current issues resolved
73	Issues with water proofing and gas proofing specification - not resolved
74	RDD items not reaching status A or B to be completed



The Scottish  
Government

Dear Colleague

## A POLICY ON DESIGN QUALITY FOR NHSSCOTLAND: 2010 REVISION

### Summary

1. This letter provides colleagues of a revised statement of the Scottish Government's Policy on Design Quality for NHSScotland ([Annex A](#)). This policy articulates the Scottish Government Health Directorates ambition for NHSScotland's asset base and to embed the need for well-designed, sustainable healthcare environments as an integral part of high quality service delivery.
2. The Policy also sets out the principles which a NHSScotland Body's strategic Design Action Plan and the supporting project-specific Design Statement should address ([Annex B](#)). Two further annexes provide reference to relevant Scottish Government Health Directorates asset-related policies and supporting guidance ([Annex C](#)) and, useful references and web links ([Annex D](#)).
3. This CEL and the attached policy statement supersedes NHS HDL(2006)58. This CEL also provides information on Design Assessment within the SGHD CIG Business Case process.

### Action

4. **Addressees should ensure that a copy of this CEL with Annexes is cascaded to all appropriate staff within their area of responsibility.**
5. **The revised Policy on Design Quality for NHSScotland and associated Mandatory Requirements take immediate effect.**

### Background

6. HDL(2006)58, issued in 2006, announced the first publication of a Policy on Design Quality for NHSScotland which provided a policy framework to implement the aims of the then Scottish Executive Health Department, supported by a 3-year Framework Agreement with Architecture and Design Scotland. This Framework Agreement has now ended and therefore a revised policy statement is required to ensure that

**CEL 19 (2010)**

**2 June 2010**

### Addresses

#### For action

Chief Executives, NHS  
Boards.  
Chief Executives, Special  
Health Boards.

#### For information

Director, Health Facilities  
Scotland.  
Chief Executive, Architecture  
and Design Scotland.  
Chief Architect, SG  
Architecture and Place.  
Head of Building Standards.  
DG Health.  
NHSScotland Strategic  
Facilities Group.  
NHSScotland Property  
Advisory Group.

### Enquiries to:

Ian Grieve  
St Andrew's House  
Regent Road  
Edinburgh EH1 3DG

Tel: [REDACTED]  
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details@scotland.gsi.gov.uk

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<http://www.pcpd.scot.nhs.uk>

the outcomes of development projects meet the Scottish Government's objectives and expectations for public investment. Support for the implementation of the design agenda will be provided by means of a coordinated, tripartite working arrangement between Scottish Government Health Directorates (SGHD), Health Facilities Scotland (HFS) and Architecture and Design Scotland (A+DS) to facilitate the procurement of well-designed, sustainable, healing environments which support the policies and objectives of NHS Boards and the Scottish Government Health Directorates.

7. The attached policy statement reflects consultation with stakeholders in the Scottish Government, Architecture and Design Scotland and Health Facilities Scotland. It provides a concise definition of policy along with details of Mandatory Requirements which must be complied with by NHSScotland Bodies. For those Special Health Boards (and Operating Divisions within) which are not actively engaged in the procurement of new healthcare premises and refurbishment of existing health care premises for the purpose of service provision, the general principles of the attached policy should be applied, such as when considering premises for lease or occupation.
8. The principle upon which this policy is founded builds upon the core principle of the 2006 policy statement - to ensure that all NHSScotland bodies fully integrate design quality and sustainable development principles throughout all stages of the healthcare building procurement process as an integral part of the commitment to deliver a high quality, safe, sustainable environment for patient care.

## Implementation

9. SGHD, A+DS and HFS have developed a range of initiatives to assist NHSScotland in addressing design quality issues in the procurement of healthcare building projects, the summary objectives of which are to:
  - raise the level of design quality achieved through infrastructure investment;
  - increase the capacity of health boards and central agencies in respect of the above; and
  - assist in sharing good practices.
10. In order to meet the above objectives, A+DS will deliver 3 main activities on behalf of SGHD.

### *Activity 1*

Engaging with partner organisations and central procurement agencies in order to assist them in their work and in raising design awareness of 'external' parties involved in delivery.

### *Activity 2*

Providing, in partnership with HFS, a co-ordinated assessment of the potential quality of proposed projects to support those responsible for decision making within the business case process.

This will involve contributing particular expertise on the aspects of design relating to Government policy on design and place making to a process administered and led by HFS who will, in addition to the administrative elements, provide particular expertise

on the aspects of design relating to functionality, particularly technical and sustainability standards developed by HFS and the Department of Health in England.

### *Activity 3*

Assisting in building a body of knowledge and evidence of good practice in both process and product across NHSScotland.

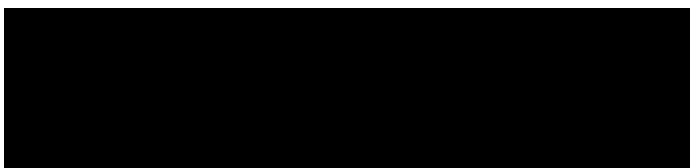
A strand of this activity is the development and management of a website, '**Healthier Places**', which has been designed to house information on good healthcare design to assist NHS Boards in the development of the project brief and to raise awareness of the good practice being developed and delivered across NHSScotland and elsewhere. In addition to providing guidance on the development of 'Design Statements' and, articles on healthcare design topics, the website holds a project resource - '**Pulse**' - a database of projects and examples of good practice.

<http://www.healthierplaces.org/>

## **Design Assessment and the Business Case process**

11. An assessment of design quality is now part of the SGHD Business Case process. All projects submitted to the SGHD Capital Investment Group for approval are now subject to an assessment of design quality and functionality, including technical and sustainability standards. This Design Assessment will take place at the Initial Agreement, Outline Business Case and Full Business Case stages of approval.
12. The Scottish Government Health Directorates' purpose in developing and implementing this process is to ensure that the outcomes of development projects meet the Government's objectives and expectations for public investment. The aim of mapping design into the Business Case process is to support the implementation of this Policy by improving the level of design quality achieved across NHSScotland and, ultimately, the outcomes achieved by doing so.
13. To assist NHS Boards in utilising good design to achieve the best outcomes from their development projects, Boards are required to develop and produce a Design Statement prior to the submission of their Initial Agreement. The Design Statement is the first control document produced for a project and should be consistent with the Board's overall vision contained within the strategic Design Action Plan.
14. Additional guidance on Design Assessment and the Business Case process has been added to the [Scottish Capital Investment Manual](#). The guidance also includes advice on the preparation of the Design Statement.

Yours sincerely,



**Mike Baxter**

Deputy Director, Capital Planning and Asset Management



# A Policy on Design Quality for NHSScotland



Scottish Government  
Health Finance Directorate  
Capital Planning and Asset Management

2010

## A POLICY ON DESIGN QUALITY FOR NHSSCOTLAND

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### Purpose

The purpose of this document is to provide NHSScotland Bodies<sup>1</sup> with a clear statement of policy on design quality. It also provides guidance on how NHSScotland Bodies can ensure that design quality is embedded within the healthcare building procurement process.

### Context

In recent years the value of good design has been increasingly recognised and a wealth of evidence based findings has demonstrated that good design adds value, not only from an economic perspective but also in terms of a range of social and environmental benefits. This capacity to add value is particularly important for healthcare environments, where the physical and psychological well-being of patients, staff and visitors is of paramount consideration.

In October 2000, the Prime Minister established a UK-wide 'Better Public Buildings' initiative to achieve a step change in the design quality of publicly procured buildings. Over the last decade, Scottish Ministers have in parallel, through their policies, sought to achieve a culture of quality in the procurement of publicly-funded buildings that embraces good design as a means of achieving value for money and sustainable development.

The Scottish Government has five strategic objectives; it is committed to creating a Scotland that is:

- wealthier and fairer;
- stronger and safer;
- healthier;
- greener; and
- smarter.

It is clear that the design quality of our built environment must, by necessity, play a vital part in our ability to meet all of these strategic objectives. Government, thus, continues to promote and to encourage investment in well-designed buildings and places in both the public and private sectors.

This document responds to Government's quality objectives within guidance and initiatives particular to NHSScotland.

Design quality is especially important in the context of healthcare building, where well-designed health buildings can help patients recover their spirits and their health and have a positive effect on staff performance and retention, as well as improving the efficiency of operational relationships and providing better value for money in the context of whole-life costs. The Scottish Government therefore recognises the importance of good building design as the physical means of delivery for a range of wider policy objectives.

The Scottish Government's Architecture and Place Division which was established to implement policy commitments, can offer advice on design and acts as the sponsor body for [Architecture and Design Scotland](#), an Executive Non Departmental Public Body established as the national champion for good architecture, design and planning in the built environment.

Health buildings can often be the places in which we may feel at our most vulnerable, whether as a patient, relative or friend. The quality of the building environment that we experience can provide us with calming reassurance or, conversely, it can accentuate our feeling of stress and unease.

Many factors can contribute to engendering a sense of ease, for instance: the first impression of the facility from the public realm, the entrance experience, the degree of natural light, brightness and airiness, colour and texture, an easily understood layout with clearly defined focal points, uncluttered signage and a clear distinction between the realms of public and private space, maintaining patient dignity.

In most health buildings, external public spaces are vitally important in that they can also provide the opportunity for positive respite for patients, visitors and staff in periods of stress. Sensitive landscaping and well-defined public space in a healthcare environment can provide far more than simply an attractive setting. Through careful design social or intimate, tranquil spaces can be created, providing an environment where people might want to sit or meet, even spaces for physical therapy and play and which further contribute to the healing process.

Scottish Ministers believe that a concern for the quality of Scotland's architecture must go far beyond the design of individual buildings. Distinctive, high quality places as well as high quality buildings are vitally important to the social, environmental and economic success of our cities, towns and rural communities.

The Scottish Government's National Outcomes set out what Scottish Ministers aim to achieve in the next ten years, and a key objective for the built environment is that "we live in well-designed, sustainable places where we are able to access the amenities and services we need".

A sustainable community is one which not only makes a positive contribution to mitigating the effects of climate change; a sustainable community is a place which is successful in the way that it continues to flourish socially and economically over time. The quality of healthcare facilities along with other public buildings and places can be a significant factor in making communities successful, because they can offer a great deal to the creation of a wider, attractive environment which people would wish to inhabit.

The overarching Purpose of the Scottish Government is to increase sustainable economic growth, and good place-making supports this Purpose in the following ways:

Good place-making can influence the economy of an area by making it an appealing place to live, to work, and to visit - It can provide environments and infrastructure which function well; link well with surrounding settlements; which attract business; and in which business can flourish;

- Good place-making can provide communities with an important cultural context, a sense of pride and belonging and, a sense of local and national identity;
- Through good design, safe, welcoming places can be created to which people would wish to return frequently, and which would have a greater chance of longevity;

- Good place-making can promote active, healthy, inclusive lifestyles by providing attractive and accessible green spaces, and through layouts which discourage car usage and which provide the right facilities within reasonable walking and cycling distance;
- Good place-making can embed community facilities into our communities in ways which are accessible and which provide a richness of opportunity for social interaction; and
- Good place-making can have a profound effect on the sustainability of our lifestyles, in respect of the impact that we have on the land and other scarce resources; how much energy we use; and, again, through reductions in car usage.

The Planning etc. (Scotland) Act 2006 requires Local Authorities to develop dynamic plans which describe a vision for the local community; establishing 'what goes where and why' in order to develop a community structure that supports strategic objectives. Health Boards are encouraged to be active participants in the development of these local development plans in order to:

- embed the principles of healthy urban development into the plan – those aspects needed to support local health promotion and help people make healthier lifestyle choices;
- embed the principle needs for the physical infrastructure needed to deliver on 'shifting the balance of care' such as the potential location of new healthcare facilities;
- establish major infrastructure strategies needed to support the delivery of the Single Outcome Agreement; and
- link the board's strategic asset management plan into the local development plan to consider both the beneficial use of public land assets and the transport implications of major changes in estate strategy.

The creation of a new or refurbished facility can bring with it the opportunity to show a positive civic presence, and the development of a high quality public building can do much to help the creation or regeneration of communities. It is thus also a matter of considerable importance that health buildings respond to the urban or rural contexts in which they sit. This includes considerations such as how they fit within historic contexts, how the approach and entrance act to welcome concerned families and friends, and how they contribute to the quality of their neighbourhoods, both in terms of the buildings themselves and the places they create around them. In considering the provision of healthcare facilities, it is important to also give careful thought to the opportunities for good 'place-making'.

Healthcare buildings play a significant part in the environment and, increasingly, patients are becoming "empowered" to demand better environments in which they receive healthcare. It is appropriate that we embrace such matters and introduce appropriate policies and initiatives in Scotland.

At the heart of this policy is the recognition that strong client commitment is required to deliver facilities that provide the high quality and sustainable caring environments we desire. We now expect NHSScotland bodies to develop their individual visions for the kind of places in which patients, staff and visitors would wish care to be provided:

- for patients - a welcoming, healing and reassuring place that supports life;
- for staff – a place that supports staff in their work and that will not constrain future work;



- for visitors – a place to meet and discuss, a place that I can leave loved ones.

These environments must be able to support the high quality healthcare services which are to be delivered within.

This aligns with the aims of the **Scottish Healthcare Quality Strategy**. The Strategy reflects the shared ambitions of everyone in Scotland whether a patient, a carer, or whether working for NHSScotland in a community, primary or acute care setting, to create high quality person-centred, clinically effective and safe healthcare services and to be recognised as being world-leading in our approach.

The aim is for everyone in Scotland to work together to ensure better health and higher quality healthcare services which are flexible and reactive to each individual circumstance. These principles are consistent with the aims of this policy, to embed the need for well designed, sustainable and safe healthcare environments as an integral part of service delivery.

**The term ‘good design’ is not merely a question of style or taste but describes what arises from the intelligent and creative synthesis of many interrelated factors such as: strategic planning of healthcare provision; social and physical regeneration; the local urban (or rural) context and forms; links to infrastructure and transport; sustainability agendas; the building’s sense of welcome; intelligibility of layout; security; unobtrusive supervision; ease of use and maintenance; efficiency; and, promotion of human dignity. It covers the way in which buildings sit within and, contribute to, their community as well as how they work and look. Successful healthcare design resolves a wide range of functional requirements efficiently whilst, at the same time, exploring the opportunities to provide an uplifting environment for patients, visitors and staff.**

Design, therefore, is just as much about process of change management as it is about what the final product looks like. Design is present in all projects - first you imagine what you are looking to achieve and test that this is possible. You then move on to sketching a limited number of possible worlds that, to varying degrees, will house and support your needs. By analysing these and making choices you narrow the options down to the world that you will build. You get the best result by using skill and a spark of creativity to make every element work hard to deliver more than one part of your vision. Therefore good design need not cost more and the difference between achieving good or poor quality outcomes is more often the result of having the right knowledge or advice, understanding, care and commitment.

**Good Design is the intelligent application of a scarce resource**

Good design can therefore be seen as largely objective. A design proposal can be evaluated through the use of appropriate tools such as Design Quality Indicators (DQIs) to assess whether the proposed building will function efficiently and effectively; whether there is clear evidence of thoughtful, imaginative and even inspirational proposals that will not only work, but will help the people within them to work and feel better; whether the proposed building will integrate with its surroundings in an appropriate manner and create a sense of place and; whether the materials, construction methods and the proposed layout will enhance long-term value for money. Indeed, Scotland’s Infrastructure Investment Plan 2008 establishes that good design is key to achieving best value from all public sector investment.

***“In developing Scotland’s infrastructure, the Scottish Government recognises that good building design should be responsive to its social, environmental and physical context. It should add value and reduce whole life costs. Good building design should be flexible, durable, easy to maintain, sustainable, attractive and***

***healthy for users and the public; and it should provide functional efficient adaptable spaces ... Equally important to the design of individual buildings is the design of sustainable places. Well-designed buildings and places can revitalise neighbourhoods and cities; reduce crime, illness and truancy; and help public services perform better”.***

Design evaluation, in particular Post Project Evaluation and Post Occupancy Evaluation, can contribute to the emerging field of “evidence-based design” which is proving a valuable tool in the design process towards both reducing costs and improving outcomes. Research has shown that evidence-based design methods, introduced early in the process of facility programming and design can improve the experience of patients who will be treated within the healthcare facility and assist in health recovery which results in improving medical outcomes, shorter bed stays, greater throughput and a reduction in patient and staff stress.

## The Way Forward

The Scottish Government has set out an ambitious agenda to modernise NHSScotland and its infrastructure. This agenda challenges NHSScotland Bodies to modernise the way in which healthcare is delivered to patients and challenges them to ensure that the infrastructure developed, deployed and maintained is capable of supporting high quality, modern patient care.

The NHS in Scotland has a vision for:

***‘an estate designed with “a level of care and thought that conveys respect”; buildings that grow from the local history and landscape, that are developed in partnership with the local community. A work of joint learning and joint responsibility that is particular to that community and that place; “not off-the-shelf show boxes”.’<sup>A</sup>***

The **Better Health, Better Care Action Plan**, published in 2007, affirms the Scottish Government’s commitment to improving the physical and mental wellbeing of the people of Scotland through supporting the provision of well designed, sustainable places. The Action Plan also articulates the Scottish Government’s vision of a mutual National Health Service, a shift to a new ethos for health in Scotland that sees the Scottish people and the staff of the NHS as partners, or co-owners, in the NHS.

These policy changes place health and wellbeing and the over-arching issue of sustainability at the centre of the lives of the people of Scotland as the NHS strives to become more accountable and patient-focused. If the commitment to create a healthier, wealthier, fairer, safer and stronger Scotland is to be realised, NHS Boards must ensure that in the context of designing new facilities, they deliver not only high quality solutions but also realise benefits for community development and the wider environment.

(Ref <sup>A</sup>: From an interview with Dr Harry Burns, Chief Medical Officer - *A Vision of Health: NHSScotland’s agenda for realising value in the developing healthcare estate*, Architecture and Design Scotland 2009)

## Frameworks Scotland

Evidence exists that the traditional approach to construction procurement fails to satisfy clients and does not generate the efficiency improvements delivered in most other industries. With regard to NHSScotland, this means available capital and revenue resources must be used more effectively, to deliver better outcomes and make the best use of ‘client-side’ skills and capacity.

Health Facilities Scotland has, on behalf of the Scottish Government and NHSScotland, led the development of a collaborative construction procurement initiative. **Frameworks Scotland – Excellence in Healthcare Construction** is a strategic and flexible partnering approach to the procurement of publicly funded construction work and complements other procurement initiatives for the delivery of health facilities in Scotland.

This partnering approach reduces the adversarial attitudes which can make it more difficult to deliver successful project outcomes. Partnering arrangements reduce waste in both the process and product streams, promote quality and also facilitate the sharing of best practice and lessons learned from one project to another.

It should be recognised by anyone involved in planning, designing and delivering NHSScotland's healthcare estate that there is currently an unprecedented opportunity and a need both to ensure and to demand well-designed, sustainable healthcare buildings. Framework Scotland therefore is and, should be, one of the primary vehicles for delivering sustainability in the construction, management and maintenance of the healthcare estate. Delivering design quality and sustainability through the Framework will require a consistent approach with the Scottish Capital Investment Manual guidance, alongside the application of and, proper attention to, AEDET and BREEAM Healthcare requirements at the appropriate stages of a project.

Further information on the Frameworks Scotland initiative can be found on the [Health Facilities Scotland](#) website.

## **The 'hub' Programme**

The **'hub' Initiative** is a major programme of the Scottish Futures Trust.

'hub' is a procurement vehicle supporting a long term programme of investment in community infrastructure for local authorities, NHS Boards and other public sector bodies across Scotland. It will provide a mechanism for delivering assets more effectively through a single partner, with continuous improvement leading to better value for money. The opportunity for a private sector delivery partner is to be part of a systemic approach to infrastructure planning and delivery in a territory over an extended time period.

'hub' will deliver projects from a core identified scope and, in future, from wider service development business cases, in particular those projects that promote joint working amongst community planning partners. Projects will focus on new build but could also include the refurbishment and asset management services of existing infrastructure.

The overarching objective of 'hub' is to improve the efficiency of community infrastructure delivery – with a particular emphasis on supporting the provision of more joint services across local authorities, health boards and other community partners. In Scotland there are good examples of joint premises development, but these tend to be one-offs and do not offer a model for the long term strategic planning of joint premises development and joint services delivery. 'hub' should provide a systematic approach to service delivery, from a model predicated on continuous improvement in both cost and quality. This can be achieved by the public sector by working in close partnership with a private sector partner, where both the public and private sector stakeholders have a financial interest in a successful outcome.

The first two Pathfinder Territories are the South East and North. More details can be found at <http://www.hubscotland.org.uk/>

It is critical that design issues are addressed regardless of the procurement method used to deliver healthcare buildings and, that the outcomes specified for these buildings in terms of the care environment are reflected in their design. However, the implementation of design quality and the procurement route used have a particular relationship and therefore the procurement method used can have a significant bearing on the development of design quality during the process. Although it can be argued that good design is independent of cost, its relationship with design management and procurement in practice needs careful examination. The National Audit Office report "[Improving Public Services Through Better Construction](#)" (March 2005) supports this view and advocates that all key stakeholders should be involved and all proposals subjected to independent challenge before key design decisions are made and that design and decision-making be based on "whole-life value".

The concept of 'evidence-based design' has already been mentioned in the context of Post Project Evaluations. There has been a historical assumption that each healthcare building has to be unique in order to fulfil the vision and aspirations of the brief which can, unfortunately, result in the repetition of mistakes, albeit perhaps unintentionally. The starting point for any new healthcare building should, logically, be the successes of one or a number of existing buildings based on a careful analysis of what constitutes the 'good' and what constitutes the 'bad'.

Also of importance is the emerging field of 'supportive healthcare design'<sup>B</sup>. Traditionally, there has been an assumption that the main requirement placed upon a healthcare facility should be the mitigation of infection or the risk of exposure to disease. Additionally, through decades of advances in medical science and technology, many healthcare designers and technicians have been conditioned to create buildings that are successful delivery platforms for new technology. By concentrating on the need for functional efficiency and the pathogenic concept of disease and health, healthcare facilities have been procured which contain environments which can be considered stark, institutional, stressful to their occupants and thus detrimental to the quality of care they are intended to provide. In spite of evidence of the major stress caused by illness and the subsequent traumatic experience of hospitalisation, there has, historically, been comparatively little emphasis on the creation of surroundings which can calm patients, reinforce their ability to cope in such environments and generally address their social and psychological needs.

The process of 'supportive design' begins by eliminating the environmental characteristics which are known to contribute to stress or can have negative impacts on outcomes and, importantly, continues by emphasising the inclusion of characteristics in the healthcare environment which research has indicated have the ability to calm patients, reduce stress and strengthen their ability to cope and promote healthy, healing processes.

(Ref<sup>B</sup>: Ulrich R S, 2000 - 'Effects of Healthcare Environmental Design on Medical Outcomes'  
Ulrich R S, 2000 - 'Evidence based environmental design for improving medical outcomes. Proceedings of the conference: *Healing By Design: Building for Healthcare in the 21<sup>st</sup> Century*', McGill University Health Centre, Montreal)

**Due to the length of time that healthcare buildings may be in use, there is potential to constrain changes in delivery practices. It is therefore vitally important that design processes are an integral part of a robust procurement mechanism in order to ensure that buildings are not only functional when constructed but are flexible and adaptable over their entire lifetime.**



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SGHD will continue to play its part in supporting and implementing wider Scottish Government procurement strategies and policies by setting these within a healthcare-specific context.

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## Policy Aims

- The purpose of this policy is to articulate the Scottish Government Health Directorates ambition for NHSScotland’s asset base and to embed the need for well-designed, sustainable healthcare environments as an integral part of high quality service delivery. It also provides guiding principles which a NHSScotland Body’s strategic Design Action Plan and the supporting project-specific Design Statement should address ([Annex B](#)) and two further annexes providing reference to relevant Scottish Government Health Directorates asset-related policies and supporting guidance ([Annex C](#)) and, useful references and web links ([Annex D](#)).
- The Scottish Government is committed through its stated Purpose to encouraging sustainability by the development of infrastructure and place: “providing sustainable, integrated and cost-effective public transport alternatives to the car as well as a planning and development regime which is joined up and geared towards achieving sustainable places and sustainable economic growth”. The Government recognises that the Scottish planning and building standards mechanisms have a role in the delivery of a high quality, sustainable physical infrastructure. However, the Government also recognises that everyone connected with the delivery of this infrastructure has a role to play in driving up standards for the planning, design and maintenance of the built and natural environment. The Scottish Government Health Directorates believe that improving the quality of our caring environments is crucial to delivering this commitment and to achieving the Government’s National Outcome of ensuring that ‘we live in well-designed sustainable places where we are able to access the amenities and services we need’. Improved caring environments also act in support of the ‘Healthier’ Strategic Objective to help people to sustain and improve their health, especially in disadvantaged communities, ensuring better, local and faster access to health care.
- **Therefore this policy statement requires that all NHSScotland Bodies, as an integral part of the commitment to deliver the highest quality of environment for patient care, ensure that design quality is fully integrated into the healthcare building procurement process and is apportioned appropriate emphasis throughout all stages of this process.**

## Scope

This policy must be considered alongside other Scottish Government Health Directorates policies and supporting guidance bearing upon NHSScotland assets including those for capital procurement, asset management, sustainable development, environmental management, fire safety, and, property transactions. Such central policy statements and supporting guidance are intended to inform the formulation and updating of an NHSScotland Body’s operational policies and of supporting guidance. Such operational policies and asset strategies are important corporate expressions of a NHSScotland Body’s intentions and as such should be a manifestation of integrated service planning and the appropriate involvement of all relevant interests.

This policy must also be considered alongside other relevant Health Directorates, Scottish Government and UK Government policies and commitments.

## Policy Statements

**Statement 1** All NHSScotland Bodies<sup>1</sup>, as clients, must commit to the integration of design quality in the procurement of healthcare building throughout all stages of the process, regardless of procurement route used.

**Statement 2** All NHSScotland Bodies must have a strategy for design quality – a Design Action Plan - consistent with and supportive of the Health Directorates and wider Scottish Government asset-related policy and supporting guidance (listed at Annex C) and, with the policy guidance contained within Annex B of this document.

**Statement 3** The SGHD must provide guidance on compliance with those aspects of statutory and mandatory requirements which are particular to the procurement, design and delivery of healthcare buildings and guidance on best practice. This will be effected through the support to be provided by Health Facilities Scotland and Architecture and Design Scotland under the tripartite working partnership with SGHD.

## Mandatory Requirements

1. Each NHSScotland Board must have a clear, articulated vision for its estate and strategy for using good design to deliver that vision – a Design Action Plan – consistent with Health Directorates and wider Scottish Government policy. The Design Action Plan must be appended to a Board's Property and Asset Management Strategy (PAMS) and reviewed annually as part of the PAMS review process.
2. Each NHSScotland Board must appoint a member of the NHS Board to act as Design Champion at a strategic level to assist in articulating and promoting the Board's design vision and, where not impractical, also a Senior Officer to act as supporting Design Champion at a technical level with knowledge and experience in capital investment procedures and expertise in technical matters.
3. All NHSScotland Bodies engaged in the procurement of both new build and refurbishment of healthcare buildings must do so in compliance with EU, UK and Scottish Government procurement policy and guidance.
4. All NHSScotland Bodies engaged in the procurement of both new-build and refurbishment of healthcare buildings must, prior to the submission to SGHD of the Initial Agreement, develop a Design Statement for each project as a means of establishing the design standards for which the project and how these will be assessed by the Board within the Business Case approvals process. The Design Statement must be consistent with the strategic Design Action Plan.
5. All NHSScotland Bodies, as clients, must ensure the development of a clear project brief which should not only describe the physical requirements of the building but should also articulate the Board's vision and aspiration consistent with the strategic Design Action Plan. The 'Design Statement' may be used or developed for to this purpose, and should be included in briefing and in the HLIP issued to prospective PSCPs
6. All NHSScotland Bodies engaged in the procurement of both new-build and refurbishment of healthcare buildings must carry out independent environmental accreditation for projects. The Scottish Capital Investment Manual requires that all new builds above £2m obtain a BREEAM Healthcare (or equivalent) 'Excellent' rating and all

refurbishments above £2m obtain a 'Very Good' rating. If the capital costs are less than £2m, projects should undertake a BREEAM pre-assessment to establish whether BREEAM Healthcare is a viable option.

7. All NHSScotland Bodies engaged in the procurement of both new-build and refurbishment of healthcare buildings must use and properly utilise the English Department of Health's Activity DataBase (ADB) as an appropriate tool for briefing, design and commissioning.

[If deemed inappropriate for a particular project and an alternative tool or approach is used, the responsibility is placed upon the NHSScotland Body to demonstrate that the alternative is of equal quality and value in its application.]

8. All NHSScotland Bodies must use Design Quality Indicator (DQI) tools as appropriate to manage their design requirements through the life of a project. The English Department of Health's Achieving Excellence in Design Evaluation Toolkit (AEDET Evolution) and associated supplementary tools such as ASPECT are recognised as the exemplars towards achieving the appropriate level of project design management.

## Monitoring

9. SGHD will monitor the integration of design quality into healthcare building procurement through the Business Case approvals process which will be facilitated through a coordinated assessment of the potential quality of proposed projects to support those responsible for decision making within the Business Case process.

This assessment will involve the contribution of particular expertise on the aspects of design relating to government policy on design and place-making from Architecture and Design Scotland and, of particular expertise on the aspects of design relating to functionality, particularly technical and sustainability standards, from Health Facilities Scotland.

10. All NHSScotland Bodies engaged in the procurement of both new-build and refurbishment of healthcare buildings must conduct thorough and, independent, Post Project Evaluations (PPEs) and Post-Occupancy Evaluations (POEs) and make available to SGHD any resulting evaluation data which will be used in the formulation of generic reports to inform future policy and disseminate nationally the lessons learned.

The planning of Post Project Evaluations and Post Occupancy Evaluations is a mandatory requirement of the Scottish Capital Investment Manual for all projects in excess of £1.5 million and should be considered best practice for all projects.

**For projects between £1.5m and £5m, the NHSScotland body's internal governance arrangements should ensure the production and reporting of PPEs and POEs. An annual summary report in respect of such projects should be submitted to the Scottish Government Capital Planning and Asset Management Division.**

**For projects in excess of £5m, PPE and POE Reports must be submitted to the Scottish Government Capital Planning and Asset Management Division. Timescales for the production and delivery of such reports will be monitored by SGHD in common with other key milestones in the project lifecycle.**

**Full Business Cases for capital projects will not be approved unless Post Project Evaluation and Post Occupancy Evaluation has been properly planned in advance and suitably incorporated into the Full Business Case.**



## Support

11. Support for the implementation of the design agenda will be provided by means of a coordinated, tripartite working arrangement between SGHD, [Health Facilities Scotland](#) and [Architecture and Design Scotland](#) to facilitate the procurement of well-designed, sustainable, healing environments which support the policies and objectives of NHS Boards and the Scottish Government Health Directorates.

<sup>1</sup> NHSScotland Bodies in the context of this document means all Health Boards, Special Health Boards and the Common Services Agency performing functions on behalf of Scottish Ministers

## Policy Guidance

A NHSScotland Body's **Design Action Plan** and supporting project-specific **Design Statement** should be consistent with and supportive of the guidance contained within this Annex and the policy and guidance documents listed at [Annex C](#).

[The following guidance aligns in part with the Scottish Government "*Construction Procurement Manual: Section 6 – Design quality in building procurement*" but with appropriate additions and amendments in order to apply to the healthcare context.]

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## Design Quality

### Establishing and evaluating design quality

#### General

Boards are required to establish design quality criteria (non-negotiable project aims and benchmarks) for all development projects in the form of a project 'design statement'. As we use buildings, for the most part, to house and support human activity, these criteria are to be built around the needs of the people who the facility will directly impact upon and further expanded to include the elements needed to deliver on the broader responsibilities of using public money – that of addressing local and national needs. The Design Statement then includes the board's proposals for self assessment of the project as it progresses, describing the key stages at which the decisions will be checked against the established design quality criteria, how this will be done and what skills and information will be needed.

Assessing design quality is not a wholly subjective activity. Many other design issues can be assessed objectively - whether a building will function efficiently and effectively; whether there is clear evidence of thoughtful, imaginative and even inspirational proposals that will not only work, but support people to feel and work better; whether it responds positively to its surroundings; whether it provides well-defined and meaningful public spaces for patients and the community; and whether the materials, construction methods and the proposed layout will enhance long-term value for money. The Scottish Government [Construction Procurement Manual: Section 6 – Design quality in building procurement](#) lists a number of key issues to be considered in evaluating a design.

General guidance on achieving value for money (VFM) in works procurement, based on seeking to achieve an optimum combination of whole life cost and quality, is set out in [Section 2 of the Scottish Executive Construction Procurement Manual](#). Evaluating and achieving consensus on quality can be facilitated through the use of formal techniques and there are a number of tools which can help. The Construction Industry Council (CIC), for example, has developed its Design Quality Indicator (DQI) to evaluate the design quality of buildings throughout the development and life cycle of a project.

#### Healthier Places Website

This website has been designed to house information on good healthcare design to assist boards in brief development and to raise awareness of the good practice being developed and delivered across NHSScotland and elsewhere. In addition to providing guidance on the development of 'design statements' and, articles on healthcare design topics, the website holds a project resource - '[Pulse](#)' - a database of projects and examples of good practice that can be used in two main ways:

- **Search by project type** : to find out about recent and current developments in NHSScotland, and elsewhere, that are of a similar type to the one being considered by the client team. This will provide basic details on the project, the key team members involved and images where available. Key design documents, such as the 'Design Statement' and Post Occupancy Evaluations will be included once they are in the public realm to allow greater learning from what has gone before. It is envisaged client teams will use this search primarily at the outset of a project to
  - Establish similar works by colleagues in other boards
  - Facilitate contact to allow shared learning

- Establish possible visit lists for the client team and key stakeholders to raise awareness and understanding.
- **Search by area** : to find photographs of different areas of the healthcare estate (such as entrance areas and consulting rooms) to raise awareness of what has been achieved elsewhere. It is envisaged client teams will use this search primarily to assist benchmarking within the 'design statement' being developed for projects.

The '**Pulse**' resource will be maintained by A+DS using project information submitted to the NHSScotland Design Assessment Process (once the Business Case is in the public realm), case studies of completed developments, and supplemented by images submitted by users of the site. NHS Boards are encouraged to upload photographs taken during visits to inspirational developments (especially those outwith Scotland) to assist knowledge transfer between project teams.

#### Achieving Excellence Design Evaluation Toolkit (AEDET Evolution)

However, healthcare building design frequently involves complex concepts which are more difficult to measure and evaluate. In order to address these specifics in a DQI context the Department of Health (England) Estates and Facilities Directorate has developed the **Achieving Excellence Design Evaluation Toolkit (AEDET Evolution)**, the latest version of which is AEDET Evolution and is a tool specifically directed towards achieving excellence in design rather than ensuring compliance with legislation, regulation and guidance. High scores in AEDET do not therefore necessarily guarantee compliance with statute.

The AEDET Evolution toolkit assists NHS Bodies in managing their design requirements from initial proposals through to post-project evaluation. It is a benchmarking tool and forms part of the guidance for PPP, joint ventures including "hub" and, conventionally funded schemes. AEDET Evolution contains evaluation criteria which ensure that design takes place within a common, industry wide framework. The toolkit enables the user to evaluate a healthcare building design in a non-technical way that covers the three key areas of **impact, build quality and functionality**. AEDET Evolution tool is complemented by A Staff and Patient Environment Calibration Tool (ASPECT).

Unpublished research into the use of AEDET Evolution and ASPECT suggests these tools are reliable, presenting high correlations between different judges using them to evaluate healthcare design. More recent independent, unpublished research into the experience of collaboration between designers and clinicians using AEDET Evolution indicates that the tool facilitates improved design quality. It achieves this by further facilitating a recursive discovery and a mutual utilisation of the considerable skills and factual knowledge of the designers and clinicians thus serving to improve their skilled performance.

AEDET Evolution uses ten key criteria that have evolved from sources including the Commission for Architecture and the Built Environment (CABE) and the Construction Industry Council (CIC) to establish an industry-wide framework for assessing design. The ten key criteria are:

##### **Uses**

Service philosophy, functional requirements and relationships, workflow, logistics, layout, human dignity, flexibility, adaptability and security.

##### **Access**

Vehicles, parking, pedestrians, disabled people, wayfinding, fire and security.



**Spaces**

Space standards, guidance and efficient floor layouts.

**Character and innovation**

Excellence, vision, stimulation, innovation, quality and value.

**Citizen satisfaction**

External materials, colour, texture, composition, scale, proportion, harmony and, aesthetic qualities.

**Internal environment**

Patient environment, light, views, social spaces, internal layout and wayfinding.

**Urban and social integration**

Sense of place, siting, neighbourliness, town planning, community integration and landscaping.

**Performance**

Daylight, heating, ventilation, air conditioning, acoustics, passive thermal comfort.

**Engineering**

Emergency systems, fire safety, engineering standardisation and prefabrication.

**Construction**

Maintenance, robustness, integration, standardisation, prefabrication, health and safety.

### Using AEDET Evolution

AEDET Evolution is a tool for evaluating the quality of design in healthcare buildings. It delivers a profile that indicates the strengths and weaknesses of a design or an existing building. It is not meant to produce a simplistic single overall score. Because of the nature of design, which inevitably involves trade-offs, it may not be possible to produce a building which would have the maximum score for all the sections. Indeed it may quite often be the case that a high score for one statement reflects a design which inevitably may be scored low on another statement. A single overall score would thus be misleading and uninformative.

AEDET Evolution can either be used by individuals or in workshops by groups. In the latter case it is probably desirable that an independent experienced user of AEDET Evolution should facilitate the group to avoid excessively lengthy debate. AEDET Evolution can be a helpful tool in enabling a group to come to a common understanding with the help of a facilitator who can moderate group discussions.

AEDET Evolution can be used at different 'scales' in evaluating the design of a healthcare building, e.g. at a building scale, a department scale or a complete site scale. The level of detailed information available may dictate the scale of the evaluation.

AEDET Evolution is designed to be used by those involved in the commissioning, production and use of healthcare buildings. In particular public and private sector commissioning clients, developers, design teams, project managers, estates/facilities managers and design champions may find AEDET Evolution a helpful and useful tool. User clients such as patient representatives and members of the general public should also be able to use AEDET albeit within a workshop environment alongside other more experienced professionals.

### When to use AEDET Evolution

AEDET Evolution can be used to evaluate existing buildings in order to compare them or understand their strengths and weaknesses.

AEDET Evolution can be used on the plans for new buildings in order to evaluate and compare designs.

AEDET Evolution can be used on “imaginary” buildings in order to set standards for preparation of a brief.

AEDET can be used at various stages during the design of healthcare buildings – as the level of detail of the information available increases it should be possible to respond to more of the statements in the tool.

### A Staff and Patient Environment Calibration Tool (ASPECT)

To complement AEDET Evolution, the Department of Health (England) Estates and Facilities Directorate has developed the [ASPECT toolkit](#). ASPECT stands for A Staff and Patient Environment Calibration Tool and is based on a database of over 600 pieces of research. That research deals with the way the healthcare environment can impact on the levels of satisfaction shown by staff and patients and on the health outcomes of patients and the performance of staff.

This research and the ASPECT toolkit itself are set out under 8 headings. ASPECT can be used as a stand alone tool, or it can be used to support AEDET Evolution to provide a more comprehensive evaluation of the design of healthcare environments.

When used to support AEDET Evolution it enables the user to score the Staff and Patient Environment Heading of AEDET Evolution in a more detailed, accurate way.

The toolkit has 3 layers which allow users to create a design evaluation profile:

- the SCORING layer on which you score;
- the GUIDANCE layer that gives more detailed help;
- the EVIDENCE layer that points to available research evidence.

### Inspiring Design Excellence and Achievements

[Inspiring Design Excellence and Achievements](#) (IDEAs) is another useful design tool published by Department of Health (England) Estates and Facilities Directorate to assist in the generation of design briefs, proposals and schemes

IDEAs was conceived and developed by the University of Sheffield as a way of utilising the latest research evidence. IDEAs starts the design of healthcare places with people – patients, staff and visitors – and responds to the emotional and functional requirements of healthcare delivery.

IDEAs deals with activities rather than individual spaces or rooms. Examples of activities that occur in healthcare places include:

- arrival
- bathing

- bed / rest
- circulating
- consulting
- shopping
- sanctuary
- socialising
- waiting

IDEAs can be used either as a standalone tool within a workshop context or as a web-enabled integrated tool by individuals.

### **Role of Health Facilities Scotland**

Health Facilities Scotland (HFS) is a division of National Services Scotland and provides operational guidance to NHSScotland Bodies on non-clinical topics such as:

- estates engineering;
- building and architecture;
- procurement;
- fire safety;
- environment;
- energy;
- property management;
- clinical waste management;
- decontamination
- legionella and other estates related pathogenics;
- hazards and safety action notices.

This assists NHSScotland in meeting the Government's policy and strategic aims and the establishment of professional/technical standards and best practices, including the promotion of new initiatives in the field of healthcare practice and management. Clearly HFS can have a pivotal role to play in generally supporting the implementation of this Policy, through the provision of supporting guidance and through their Continuous Professional Development (CPD) programme which provides essential training to NHSScotland personnel on operational issues as impacted by national policies and objectives.

**With particular regard to the objectives of this Policy, HFS will lead the agenda through the central operation of Frameworks Scotland and through the administration of the Design Assessment process now mapped into the Business Case process. HFS will provide technical expertise including those aspects of design which relate to functionality and, particularly, technical and sustainability standards. This will underpin the strands of work identified to support the design agenda in NHSScotland through the coordinated tripartite working relationship between HFS, SGHD and A+DS and with NHSScotland stakeholders.**

### **Role of Architecture and Design Scotland (A+DS)**

Architecture and Design Scotland has been established by Scottish Ministers as the National Champion for Good Architecture, Design and Planning in the built environment. Its aim is to operate within the Scottish Government's policy framework on architecture and design, as well as in partnership with a range of bodies in the private and public sector to help turn the aspirations of policy into reality.

The aim is to raise the quality of new development, so that high standards of layout and design are the rule, not the exception. Overall, the development of well designed and

attractive cities, towns and villages will support the Scottish Government's National Outcomes for the built environment.

These Outcomes are designed to ensure that Scotland has the infrastructure, the physical services, the economic ability, the healthy environment, the cultural references and the social networks that allow our current and future generations to achieve their potential in a balanced manner.

SGHD and A+DS have developed a range of initiatives to assist NHSScotland in addressing design quality issues in the procurement of healthcare building projects, the summary objectives of which are to:

- raise the level of design quality achieved through infrastructure investment;
- increase the capacity of health boards and central agencies in respect of the above; and
- assist in sharing good practices.

In order to meet the above objectives, Architecture and Design Scotland will deliver 3 main activities on behalf of the Scottish Government Health Directorates.

#### **Activity 1**

Engaging with partner organisations and central procurement agencies in order to assist them in their work and in raising design awareness of 'external' parties involved in delivery. This will be done through actions such as:

- assisting in the development of policy and guidance relating to the procurement of, and design quality in, the built estate;
- participation in steering groups such as those developed for Frameworks Scotland and in the development of strategies and processes (such as team selection and KPIs) for central procurement agencies. Also assisting, as requested by such central teams, in providing advice to client teams on matters effecting design quality, particularly pertaining to preparation for the assessment described in 2 below; and
- assisting Health Facilities Scotland (HFS) and others in the development of training and awareness sessions.

#### **Activity 2**

Providing, in partnership with HFS, a co-ordinated assessment of the potential quality of proposed projects to support those responsible for decision making within the Business Case process.

This will involve contributing particular expertise on the aspects of design relating to government policy on design and place making to a process administered and led by Health Facilities Scotland who will, in addition to the administrative elements, provide particular expertise on the aspects of design relating to functionality, particularly technical and sustainability standards developed by HFS and the Department of Health in England.

#### **Activity 3**

Assisting in building a body of knowledge and evidence of good practice in both process and product across NHSScotland, through:

- the development and management of the web-based project resource, '[Pulse](#)';



- the development of case studies of projects on the ground;
- providing dedicated support to 'demonstration projects' where ambitious parties are taking on particular aspects of work, particularly around cross-sectoral working; and
- identifying and commissioning targeted pieces of work by relevant specialists to inform, test, and develop concepts and tools to support Health Boards and their stakeholders in their delivery of good design.

### **Role of the Scottish Futures Trust**

The Scottish Futures Trust is an independent company, established by the Scottish Government with a responsibility to deliver value for money across all public sector investment. SFT operates at arms length from the Government but works closely with the public sector to seek and deliver improved value for tax payers.

Currently the Scottish Government and other public sector bodies in Scotland invest some £5billion annually on infrastructure. By any measure this is a substantial amount of money and spend on investment is recognised to be a strong contributor to economic growth. In today's tight financial environment, improving the value for money of this spend, and finding innovative ways to finance infrastructure investment to enhance economic growth are imperative and are SFT's primary functions.

Recommendations from Audit Scotland, the National Audit Office and others have included the requirement for many of the services that SFT is now providing. The company brings focused commercial and financial skills in infrastructure financing, procurement and delivery into the public sector. SFT retains and grows this knowledge within infrastructure-investing organisations across the public sector.

SFT is leading the £1.25 Schools Investment Programme and has developed a National Housing Trust to deliver an initial £130million of housing. SFT is also involved in a wide range of major transport and accommodation infrastructure projects and by the end of 2010/11 SFT's portfolio of projects are expected to be valued at more than £7billion.

In relation to this policy SFT is responsible for managing the 'hub' programme. Their remit includes:

- Enabling the establishment and development of hub groups
- Help motivate change
- Help promote the strategy and disseminate best practice
- Steer the implementation of the procurements
- Develop processes, procedures, supporting documentation and guidance
- Support the drive for continuous improvement
- Manage the administration of the enabling fund
- Develop and implement methodology for benefits evaluation

SFT may also get involved in an advisory or validation role on other projects, and therefore has an interest across all healthcare work.

## NHSScotland Design Champions

The Scottish Government Health Directorates requires that NHS Board Chairs are responsible for nominating a member of the NHS Board and a Senior Officer to take on the roles of Design Champions for the Board. The Senior Officer should have knowledge and experience in capital investment procedures and expertise in technical matters. Both must be in a position to influence the overarching policies, procedures and ethos of the organisation, albeit in their own manner.

A Design Champion should be:

- well respected and an excellent communicator who is able to promote the need for good design to a wide variety of audiences, both within the Health Board and externally. Both appointees should be able to persuade colleagues and the wider community of the benefits of well designed healthcare buildings;
- a consensus builder, able to bring together the various stakeholders both within the local authority and the wider community; and
- able to see the 'bigger picture' and help develop a 'vision'.

The Design Champions, ideally, are in a position to influence the work undertaken by the Health Board but it is important that the roles are not created for status but, for action.

- The role of the Design Champion is not project specific but is to advocate design quality and to ensure that mechanisms are in place within the NHS Board to deliver the design agenda. NHS Design Champions will be supported, where possible, by Architecture and Design Scotland through ad hoc requests for assistance.

Design Champions will be expected to work with all the necessary disciplines. The role of the Design Champion is expected to include a responsibility to ensure that:

- the building promotes civic pride;
- patients and staff are consulted and their views addressed;
- the building fits into the local surroundings and settings;
- the building is fit for purpose;
- the building takes on board modern technology;
- the design considers sustainability issues;
- quality is questioned throughout the process; and
- there is support for resisting change which reduces quality and VFM.

The Design Champion should ensure that:

- aspirations for design quality underpin all projects undertaken across the NHS Board;
- a Board Design Action Plan is produced and delivered;

- a Design Statement is produced for all development projects establishing the design quality criteria for that project, the key points which these criteria must be given value and profile and, the process by which the board shall assess the developing project against those criteria. **The Design Champions must ensure that appropriate skills are utilised in the self assessment. Depending on their own background and role, this may be either by their own personal actions and involvement or through the appointment of others with appropriate skills;**
- an assessment is made of the current environment for patients, staff and visitors;
- the Achieving Design Excellence Evaluation Toolkit (AEDET) is used throughout a project where appropriate;
- the evaluation of tenders is based on VFM and not lowest cost;
- budgets and timetables are realistic;
- the Board has the correct skill mix to deliver the design agenda; and
- the scheme includes the full involvement of the local community and the support of clinical and other staff.

The Design Champion will raise the profile of design excellence by:

- encouraging the selection of designers with a proven track record of good design or design awards;
- promoting awareness of national and international best practice in healthcare design;
- encouraging schemes, either refurbishments or new build, to be put forward for local and national competitions and awards;
- maintaining a forum for regular review and feedback to the Board; and
- recognising the support, guidance and initiatives available.

It is important that NHS Boards acknowledge the fact that the role of Design Champion is one that requires a considerable amount of time. Design Champions are required to understand what constitutes good design across a range of different and, sometimes very technical, disciplines and the amount of time required to do so can easily be underestimated.

### **Maintaining design quality on site**

There is a risk that, once a project moves on to site, the client may underestimate the effort which will continue to be required to maintain design quality. Any shortcuts taken at this stage can put the overall design quality of the project at risk. The client's design advisers must be retained throughout the construction process in order to monitor the quality of design and finishes.

These advisers should also ensure that design aims are not sacrificed in the management of change during the running of the project. If design standards and quality thresholds are clearly defined, then the review process throughout the delivery stage should provide sufficient safeguards against quality dilution. A structured process of quality checks during construction is important to ensure that what has been agreed is actually being provided. All partners should be involved in these checks as the risks of unsupervised changes on site

can affect a wide range of matters, such as the provision of resource areas necessary for facilities management and the quality of finishes, which in turn may affect both cleaning and maintenance.

## Public Space

It is important that public space is not considered as an afterthought. New public buildings need to be responsive to their contexts, both in terms of their scale and form, and in the materials they use. It is not enough to simply respond to the appearance of surrounding buildings; it is important to also think in terms of the integrity of surrounding public spaces. In the creation of new public buildings, it is important that the design team is perceptive of the buildings' relationships to the maintenance or improvement of existing public spaces or the potential for new public spaces.

The creation of public buildings can also give something positive to the public realm rather than simply create residual areas around them, and clients may wish to consider whether the location of a building is sufficiently sensitive to merit the inclusion of an urban design specialist on the team. An approach is required which gives due consideration to the way in which the spaces created by buildings will be used, and to the needs of users in terms of accessibility, safety, lighting, shading, shelter, orientation, views, surfaces, seating, planting, and maintenance.

## Transport and car-parking

NHSScotland Bodies are required by Scottish Government policy to co-operate with local authorities, regional transport partnerships and other stakeholders in the planning and implementation of local and regional transport strategies towards ensuring that through integrated transport policies NHSScotland facilities, in particular new developments, are accessible to all by public transport, walking and cycling. NHSScotland Bodies operational policies should take into account the strategy for internal NHSScotland systems and car parking. The organisation's Travel Plan is the integral document to addressing these goals.

**Detailed guidance can be obtained from [Health Facilities Scotland](#).**

It is important to realise the need to adopt a robust design strategy for on-site car parking and people movement which is consistent with the NHS Body's Travel Plan. The design strategy should address:

- space utilisation;
- traffic and pedestrian flow;
- access for short-stay visitors, mobility-impaired persons and late night/shift workers;
- wayfinding and markings;
- landscaping;
- security, technology and lighting.

The availability of parking for both cars and cycles can influence transport choices for those using a facility. All new and re-development proposals should be designed for safety and the



convenience of all users. Good design and layout of a development can significantly improve the ease of access by non-car modes, for example:

- entrances to be as close as possible to pedestrian routes and bus stops; and
- links to cycle networks, with secure parking near the main entrance.

Proposals should be specifically tailored to local circumstances, aspirations and priorities, for example speed management strategies, attractive green space and landscaping, in order to bring a wide range of social and community benefits and improve quality of life. Design of public transport facilities should be user friendly and attractive as well as functional to encourage and retain modal shift.

### Use of the arts in healthcare

There may be scope for the involvement of artists or craftsmen in a project. When successfully implemented, artworks can help to create more distinctive and attractive buildings and urban spaces and enhance the public's experience of an architectural space. In a healthcare perspective, artwork can have an even more positive effect. NHSScotland can benefit in many ways from the adoption of the arts in healthcare programmes including better patient environments and an improvement in staff morale. It is recognised that art in healthcare can benefit the NHS through the promotion of user and staff involvement in the design of the healthcare environment and can subsequently have an impact on health outcomes. There is growing evidence that patient recovery rates and stress levels are improved by the adoption of appropriately selected art in healthcare programmes. The integration of art can also assist in improving the communication of health information and the redesign of services. The involvement of staff, patients, artists and local communities at the earliest stages of the design process for new buildings and refurbishments can result in innovative, creative solutions.

It is important to also realise that a person's perception of environmental stimuli is influenced by their feelings or emotional state. Although scientific research has produced evidence that emotionally appropriate art can improve certain patient outcomes, there is also evidence that inappropriate styles and subject matter can have an opposite effect. This is especially pertinent to psychiatric patients, who, by nature of their illness can be vulnerable to disturbing interpretations of visual arts, thus exacerbating their condition.

The use of art in a healthcare setting need not be restricted to the visual arts. Other arts activities which involve music, performing arts, storytelling and patient workshops can have therapeutic benefits and can have great value in certain healthcare environments. Art-related therapy, e.g. dance, music, drama or art creation, is recognised as an integral psychological and creative tool for the improvement of physical and mental well-being.

Some NHS Boards retain the services of "artists in residence". However, Boards may also wish to seek specialist advice from public art agencies with regard to including artwork within a project.

Boards may wish to consider allocating a specific budget for the inclusion of artwork as an integral element of a project. However, care should be taken to ensure that any resulting expenditure is proportionate to the benefits and is appropriate to the building's status and function, in order to avoid subsequent criticism of the project for inappropriate use of public funds.

Traditional building procurement allows for a detailed design to be developed prior to building contracts being issued. However, under Public Private Partnerships (PPP) projects contractual commitments are made with the private sector partner before the detailed design is complete and thus once contractual agreements are in place any additions or changes to them will incur significant additional costs. The requirements of the design are defined in advance by identifying the outputs required which in turn set the framework for the design, within which more detailed specifications for the services to be provided can be accommodated. **To ensure that the arts are incorporated into both the building and maintenance contracts they must be part of the output specifications.**

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## Design quality in building procurement

### Key issues

- Good design is not an alternative to value for money (VFM), but is integral to its achievement. A good building project must also contribute to the environment in which it is located, deliver a wider range of social and economic benefits and be adaptable to accommodate the needs of future users. An enhanced built environment which incorporates principles of good design can improve the quality of life of those who use and work in public buildings. Throughout the life of a building, design excellence can improve the standard of public service delivery, make it more efficient and contribute to staff recruitment and retention. Good design can ensure that capital costs are competitive and that savings can be achieved on running costs through reduced maintenance, energy and operating costs without compromising the attractiveness and quality of the building. **Therefore investing in good design can make the most beneficial and effective use of resources, can add value and represents a sound investment in the future. High quality building design is therefore a key mechanism in providing VFM in the provision of healthcare services.**
- As the aim of any procurement exercise should be to achieve Value for Money, it is recommended that the "most economically advantageous" evaluation be employed. Value for Money is defined as the optimum combination of whole life costs and quality (or fitness for purpose) to meet the customer's requirements and can be taken to be largely analogous with "most economically advantageous".
- Using an evaluation based on the "most economically advantageous" offer gives the procuring organisation the opportunity to take factors other than price into account when awarding contracts.
- **Good design is not merely a question of visual style or personal perception but arises from the careful synthesis of many interrelated factors including architectural vision, functionality and efficiency, structural integrity and build quality, accessibility, security, sustainability, lifetime costing, flexibility in use and a sense of space in the community.**
- Clients must be clear about the level of funds available for a project from the outset and ensure that their aspirations for quality are underpinned by realistic and affordable assumptions.
- Clients must carefully assess and define their priorities before appointing design consultants.
- The process must allow for effective consultation with all stakeholders to establish a clear, well-defined brief.
- Sufficient time and resources should be allocated towards establishing the client's design quality aspirations.
- Post Project and Post Occupancy Evaluations of building programmes are mandatory for major projects and any lessons learned must be shared with the Scottish Government and other NHSScotland bodies.
- Quality Based Selection (QBS) is a structured procedure for selecting a design team and professional advisers. Design competitions are a means to primarily select specific design ideas or outline design ideas for a project, rather than the design team personnel.

- All public sector appointments, irrespective of the client's preferred nature of competition or reference to any other guidance on design competitions, must be consistent with EU procurement rules in terms of process and outcome. Generally, public sector clients must ensure that design team appointments follow the procedures described in [Section 3](#) of the works procurement guidance part of the Scottish Government Construction Procurement Manual. **However, in the NHSScotland context, detailed guidance on the appointment of consultants, conditions of contract and contract guidance in should be sought from [Health Facilities Scotland](#).**
- The role of an informed client is vital in ensuring the successful delivery of the project within the agreed timescale and budget and to the required standards and requirements of all users.

### Achieving good design

From the outset, clients must be clear about the level of funds available for a project and ensure that their aspirations for quality are underpinned by realistic and affordable assumptions through establishing the right budget. These quality matters and functional requirements must then be set out in a clear and thorough project brief. In order to monitor and control the procurement, design and construction processes, procedures and responsibilities should be clearly defined (and assigned). Ideally, designers should engage in challenging and constructive dialogue with the client, building users and those involved in supplying and manufacturing materials, goods and services. All concerned should work to a realistic and robust timetable, which gives the design team enough time to develop and achieve a good solution.

An informed, demanding and committed client is vital in ensuring that aspirations for quality are maintained throughout the procurement, design and construction processes.

By nature of their complexity, healthcare buildings can be expensive to manage and maintain due the imposition of build cost constraints during the procurement process in order to adhere to a short-term financial hurdle. The influence of design is fundamental to the successful outcome of a project not only in terms of how the building will deliver its intended functions but also its long-term operational efficiency. An appropriate level of investment in the design stage early in the process incurs a comparatively small capital outlay but ultimately influences the revenue streams associated with the operation of the facility and also influences the successful provision of the services to be delivered. **It is therefore imperative that the process recognises the need to address the whole-life cycle of the building and the integral part that good design can play in mitigating potential future financial and operational penalties imposed by the adoption of short-term vision. Whole-life costing must be the standard for investment decisions. Those involved in the making of such decisions will be ultimately judged on the lifetime VFM of their decisions rather than whether they managed to get a project past the initial financial hurdle.**

Healthcare facilities and the associated equipment used therein must be designed to support all the people who are likely to use them in order to operate effectively. It is therefore vital that all potential users of a proposed facility – staff, public and patients – are involved early in the design process and throughout its progress. Additionally, stakeholders such as regulators, professional bodies, community bodies, etc, should also be engaged throughout the process as this has the potential to provide a valuable source regarding the projected use of the facility, the processes which will be undertaken therein and how the facility's users will work or interact with it. Early user involvement in the design process can help ensure that a planned facility will support the people who are to use it.



The standardisation of systems and processes to be carried out within a proposed facility, layouts, room orientation, human interfaces, wayfinding and even storage can provide many benefits for patients, staff and visitors. Standardisation can help reduce mental workload and thus reduce errors, can make errors and departures from normal working easier to detect and can allow the transfer of skills and staff between departments with reduced training needs. Thus standardisation in conjunction with a wider engagement with users and stakeholders can also enhance safety.

**The Scottish Government Health Directorates requires that NHS Boards appoint Design Champions at Board and Senior Officer level to consolidate a commitment to the championing of good design.**

### Evaluating good design

Design evaluation can be structured around a number of key design issues. To support the continual improvement of the construction and procurement process, Post Project Evaluations (PPEs) and Post Occupancy Evaluations (POEs) of building programmes are mandatory for major projects with a cost in excess of the delegated limits and are an integral requirement of the [Scottish Capital Investment Manual](#). However, it is recognised that all projects would benefit from such evaluation and any lessons learned should be shared with the Scottish Government and other NHSScotland bodies in order to inform best practice and future policies. Independent PPEs should be carried out before the break up of the design team to review the success of the project against its original objectives, its performance in terms of time, cost and quality outcomes and whether it has delivered value for money.

Guidance on Post Project Evaluations and Post Occupancy Evaluations can be found within the [Scottish Capital Investment Manual](#).

Post-Occupancy Evaluations have a significant role. The key advantage of POEs is the opportunity to achieve improvements in the ways future buildings will support operational objectives. Participants often identify areas where design improvements could be made and ways in which buildings and equipment could be used more cost effectively. These may only be minor, but they could produce significant benefits to future designs. The process of evaluation can provide important feedback on whether resources are being targeted at the most important areas. This can also enable poorly functioning or seldom used features to be eliminated from future designs and the repetition of mistakes to be avoided.

The nature of PPE and POE reports must be set out and agreed at the start, and project sponsors must ensure that provision is made for the independent preparation of both when setting budgets and timetables.

PPEs and POEs can be valuable in the formulation of “evidence based design” methodology. As has been stated in the preambles to this policy document, the field of “evidence-based design” is proving a valuable tool in the design process towards both reducing costs and improving outcomes. Research has shown that evidence-based supportive design methods, introduced early in the process of facility programming and design can have significant impact on the design of physical environments which can affect patient medical outcomes and care quality. An important impetus for the growing international awareness of healthcare facility design has been mounting scientific evidence that certain environmental design strategies can promote improved outcomes whereas other approaches can worsen patient health.

## The Business Case

The Business Case process must include statements of expectation for design quality. Discussions with professional advisers at the earliest stage will assist in determining and defining design priorities and setting project objectives. Consideration of the design issues must continue throughout the entire process.

Detailed mandated guidance on the preparation of the business case is contained within the [Scottish Capital Investment Manual](#).

## Design Assessment

An assessment of design quality is now part of the SGHD Business Case process. All projects submitted to the SGHD Capital Investment Group for approval are now subject to an assessment of design quality and functionality, including technical and sustainability standards. This **Design Assessment** will take place at the **Initial Agreement**, **Outline Business Case** and **Full Business Case** stages of approval.

There are two complimentary areas of consideration in the design of healthcare buildings. These can broadly be described as healthcare specific design aspects – the areas generally covered by guidance issued by Health Facilities Scotland - and general good practice in design considering the human experience of being in and around buildings. These are brought together in this process and in the collaboration between Health Facilities Scotland and Architecture and Design Scotland in the NHSScotland Design Assessment Group which reports to the SGHD Capital Investment Group. This process forms part of the coordinated tripartite working relationship with SGHD and A+DS.

The Scottish Government Health Directorates' purpose in developing and implementing this process is to ensure that the outcomes of development projects meet the Government's objectives and expectations for public investment. The aim of mapping design into the Business Case process is to improve the level of design quality achieved across NHSScotland and, ultimately, the outcomes achieved by doing so.

[CEL 19 \(2010\)](#) which announces this Policy also announces commencement of this requirement and its incorporation into the Scottish Capital Investment Manual. The SCIM also addresses the Scottish Government's sustainability objectives in the context of the [Business Case Guide](#).

## The Design Statement

To assist NHS Boards in utilising good design to achieve the best outcomes from their development projects, Boards are required to develop and produce a Design Statement prior to the submission of their Initial Agreement. The Design Statement is the first control document produced for a project and should be consistent with the Board's overall vision contained within the strategic Design Action Plan.

The design statement is a means of setting out a Board's objectives in a series of agreed statements of intent and subsequently then describing a benchmark for how the physical result of the project will help deliver those investment objectives but not by giving a pre-determined design outcome, rather a view of what "success" might look like.

NHS Boards should also use the completed Design Statement as:

- a **briefing tool** to describe the design intention, or design vision, supplemented by more detailed briefing materials such as schedules of accommodation, key adjacencies and room data sheets as and when prepared;
- a **communication tool** to communicate the direction of the project to stakeholders and allow some early view of the benefits to assist both in building momentum/obtaining buy-in and in allaying the concerns that often accompany the commissioning of a new facility;
- an **advertising tool** to build confidence in the market in the direction and, by showing preparedness, viability of the project; and to motivate the market to bring its best and most appropriate skills to the table (in terms of the vision described).

Further guidance on the development and use of Design Statements can be found within the [Scottish Capital Investment Manual](#) and on the [Healthier Places website](#).

### Fire safety

Fire safety legislation and standards generally state that all people should be evacuated from a building in the event of fire. In terms of healthcare premises, this is not the case due to certain circumstances. Fire in a hospital or other healthcare building can be especially serious because of the difficulties and dangers associated with the emergency evacuation of patients, many of whom will be highly dependent. Therefore in such buildings the concept of progressive horizontal evacuation is the norm and is cited as so within the [Technical Handbooks to the Building \(Scotland\) Regulations 2004](#). However, because of other special requirements particular to fire safety in healthcare buildings, guidance and recommendations contained in NHSScotland Fire Safety Management guidance, including NHSScotland Firecode, which is additional to the mandatory requirements set out in the Technical Handbooks to the Building (Scotland) Regulations 2004, must be adhered to. This additional guidance is ratified by the [Scottish Government Health Directorates' Fire Safety Policy](#). The requirements of NHSScotland Firecode must be considered throughout the design process in addition to the requirements of the Building (Scotland) Regulations 2004. NHSScotland Firecode is published by [Health Facilities Scotland](#).

Clients must ensure that there is close collaboration between all those who have an interest in the fire safety provisions of the proposed premises at the earliest stage in the design and, be satisfied that all such premises comply with all statutes bearing upon fire safety.

### Designing for equality

NHSScotland, as a provider of services, is subject to equality legislation which requires the provision of services which are accessible to everyone. In a healthcare environment, it is important to recognise the complexity and the number of difficulties with which patients, staff and visitors may have to cope on a day-to-day basis. Sensory impairments, perceptual problems, reduced mobility, chronic pain, communication barriers, are but a few. Informed planning and design plays an important role in enabling people of all abilities access to services and facilities. It is therefore essential that the concept of "access and egress for all" is incorporated early in the design process and throughout its progress and that best practice guidelines are followed. By considering equality issues early in the design process, costs associated with addressing equality issues can be minimised which would inevitably prove more onerous if addressed retrospectively.

Egress for all in the case of an emergency must also be considered during the design process. Everyone rightly expects that if they are in a public building when an emergency occurs they should be subject to evacuation procedures which come into force to ensure their safety. However, in healthcare buildings there may be many persons who, by nature of their presence there or otherwise, may be particularly vulnerable. In particular, in larger healthcare buildings such as hospitals it will not be possible to ascertain the number of people who may have an impairment, let alone the type of impairment, or the number of people who may have cognitive or communication or language difficulties. Addressing the needs of all in the context of emergency egress early and throughout the design process will have significant benefit towards the procurement of a facility which ensures the safety of patients, staff and the general public.

To assist NHSScotland bodies in complying with the current equality and diversity legislative framework, the Scottish Government has produced an [Equality and Diversity Impact Assessment Toolkit](#) which was issued under cover of [NHS HDL \(2005\)9](#).

### Designing for dementia

There are over 65,000 people living in Scotland who have dementia and they, in common with other people with cognitive impairment, are users of healthcare facilities on a day to day basis across the country. Most people with dementia (60-80%) live in the community, and many of them have multiple health centre and hospital appointments and admissions in any year. As with designing for equality, designing for people with dementia embraces the concept of 'inclusive' design which tries to ensure that the built environment does not present insurmountable barriers to those who use it. Users will include people with physical, sensory and cognitive impairments, which may be progressive, intermittent or permanent and may also include people who may have temporary disabilities

**Considering equality issues and the needs of those with dementia throughout the design process will benefit everyone, including people who use wheelchairs and walking aids, have other types of impairment, older people and families.**

The University of Stirling Dementia Services Development Centre published guidance on designing for dementia in 2007. '**Best Practice in Healthcare Design for People with Dementia**' is a resource pack on dementia-friendly design which reflects a growing awareness of the need to create caring environments that meet the needs of people with dementia. Many of the features identified are the result of researched case studies and/or international best practice. The Dementia Services Development Centre at the University of Stirling has a specialist online library and information service and holds a large collection of documents relating to care of people with dementia: [www.dementia.stir.ac.uk](http://www.dementia.stir.ac.uk) .

A component of the dementia resource pack is a **Dementia Design Checklist** prepared by Health Facilities Scotland and intended for use across all healthcare properties. It covers areas of healthcare premises, including primary care premises and those operated by independent contractors, where people with dementia are likely to attend as patients or visitors. Although the Checklist has been developed primarily for use in existing buildings it can provide a useful reference throughout the project design development process. The Dementia Design Checklist is available from the Health Facilities Scotland website: [www.hfs.scot.nhs.uk](http://www.hfs.scot.nhs.uk) .

### Role of the Client

The key role of the client is to develop a clear, well-defined brief. At the beginning of the project, the client will need to establish the nature and scale of what is required. Clients should establish the views and aspirations of all stakeholders, and their aims will become the



reference point throughout the design and construction stages and can be used to test the overall success of the project over the long term. As with any building project, the initial stages are vital and a period when the most value can be added. Providing sufficient time and resources for strategic thinking will produce dividends in the long run. An informed and motivated client is critical to the success of a project.

As part of their responsibilities, the client must:

- fully develop a client strategy which has identified the need for the building whilst setting and securing a budget for the project. Understand that the budget cannot be finally established until the brief is settled;
- set a realistic and achievable timetable allowing sufficient time for consultation, brief development and for design;
- involve their Design Champion throughout the briefing and project delivery and listen to their comments;
- allocate sufficient time and resources to establish the client's design quality aspirations and set out clear benchmarks which the client must reinforce through all stages of the process;
- consider the skills and experience required of individual client team members, assess in-house skills and, where necessary, engage external consultants;
- where appropriate, appoint a Client Design Adviser to aid in the preparation of the brief and the assessment of the schemes that come forward through any competitive design process;
- consult with stakeholders to establish a clear, well-defined brief;
- be informed and demanding about operational requirements and quality objectives to get the best possible outcome from the procurement process;
- articulate the Board's requirements not only through the use of DQIs but in a clearly expressed brief that establishes and communicates their vision for the development;
- show commitment to achieving a well-designed and constructed project by giving design quality a high percentage in the assessment of bids and publishing that ratio. Make sure that bidders understand that poor or mediocre developments are not acceptable;
- establish clear and effective routes for communication between the Client Team and the bidding Design Teams during the bidding process so that the Board's needs and aspirations can be more fully discussed and incorporated into the designs that are brought forward;
- choose a Delivery/Design Team which is committed to achieving the best quality possible within the agreed budget and timetable; allow sufficient fee budgets for the work that the designers must do;
- not allow design time to be squeezed in order to recover time lost in the programme for other reasons – good design takes time; and

- carry out Post project Evaluations (PPEs) and Post Occupancy Evaluations (POEs) and ensure that the reports from these are available to SGHD for formulation of generic reports which can properly feed back into future procurement processes.

## Project Brief

A vital factor in achieving high quality design is that clients have a firm and well-developed view of what they want, before appointing design consultants, and that this is clearly stated in project briefs. A well-developed brief, with common consensus on operational and quality priorities, is essential for the provision of better design. A rigorous approach to this stage of work will significantly improve the client's capacity to deliver a quality project.

On the other hand, proceeding with sketchy and under-investigated assumptions can be detrimental to the outcome of the project. Statements that set out the client's aspirations on design in terms of matters such as character and durability should be incorporated into briefs.

**Detailed guidance can be obtained from [Health Facilities Scotland](#).**

## Healthcare Associated Infection (HAI)

Of particular importance in the context of healthcare buildings is the need for the Project Brief to incorporate policy, guidance and best practice in relation to reducing Healthcare Associated Infections (HAI). It is vitally important to have a clear understanding of how the briefing, planning, design, procurement, construction, commissioning and ongoing maintenance of our healthcare property can contribute to the prevention and control of HAI. Guidance to ensure that prevention and control of infection issues are identified, analysed and planned for at the earliest stage of the provision of new or refurbished healthcare facilities is contained within Scottish Health Facilities Note 30 (SHFN 30): 'Infection Control in the Built Environment: Design and Planning', published by [Health Facilities Scotland](#). Additionally, Health Facilities Scotland has developed a system which aims to assess and manage the risk of infection in the built healthcare environment called HAI-SCRIBE, an acronym for Healthcare Associated Infection System for Controlling Risk in the Built Environment. HAI-SCRIBE has been designed as an effective tool for the identification and assessment of potential hazards in the built environment and the management of these risks. The tool should be applied from the design and planning stages of a project through to the occupation and operation of the facility.

## Sustainability

The project brief should also contain statements on the client's desired approach to sustainability. Integral to the design and procurement process, a commitment to sustainable design can bring real benefits in terms of reduced running costs and quality of environment for users. Further general guidance on achieving sustainability in construction procurement is set out in [Section 7 of the Scottish Executive Construction Procurement Manual](#).

Construction of new NHSScotland premises also provides an ideal opportunity to significantly reduce an organisation's environmental footprint. Designing the building and the processes that will be carried out within it with the aim of minimising the whole life costs and environmental impact of the facility can cut costs, improve client satisfaction, improve the healthcare body's public image and help deliver the nation's environmental objectives.

A NHSScotland Body, when setting specifications and letting contracts, should emphasise and promote environmentally preferable features in both the construction and the operation/running of buildings and, in the organisation of the services delivered within them,

to ensure sustainability over the projected property lifespan. The decision making criterion for selection of components and equipment should take into consideration the whole life costs and the environmental impact by setting out all the operational and physical components and risk aspects that contribute to these. Environmentally preferable solutions should be preferred unless there is clear evidence that their adoption would have outweighing disadvantages elsewhere.

To assist NHSScotland Bodies in delivering sustainable solutions and embedding energy efficiency into healthcare building projects, Health Facilities Scotland has developed a **Sustainable Development Strategy for NHSScotland** which provides a framework for sustainability issues in NHSScotland, including new builds and refurbishments. The use of this guidance in the preparation of Business Cases is a requirement of the Scottish Capital Investment Manual. Further useful guidance is also available within the Scottish Ecological Design Association Design Guides on design and detailing for more sustainable construction: **Design and Detailing for Deconstruction; Design and Detailing for Airtightness** and; **Design and Detailing for Toxic Chemical Reduction in Buildings**.  
<http://www.seda.uk.net/guides/>

The Project Brief should also cite the use of the exemplar Environmental Management System, GREENCODE, through which NHSScotland Bodies can continually aim to improve the environmental performance of their property and, the exemplar energy efficiency guidance, EnCO<sub>2</sub>de, which aims to ensure that everyone involved in procuring, managing and using healthcare buildings and equipment thinks about the implications of energy use.

### Activity DataBase (ADB)

Activity DataBase (ADB) is the briefing, design & commissioning tool for both new-build and refurbishment of healthcare buildings. It is a briefing and design package with an integrated textual and graphical database, an interface with AutoCAD and an extensive graphical library - the complete tool for briefing and design of the healthcare environment.

ADB is produced by the Department of Health in England and is mandated for use in Scotland by the Scottish Government Health Directorates as the preferred briefing and design system for NHSScotland (see Mandatory Requirement 7 of this Policy). It has been developed to assist in the construction, briefing development, design and alteration of healthcare facilities.

Spaces designed using ADB data automatically comply with English planning guidance (such as Health Building Notes (HBNs) and Health Technical memoranda (HTMs) as ADB forms an integral part of the English guidance publication process. Whilst Scottish users can create their own project-specific briefs and designs using ADB's extensive library of integrated graphics and text which includes room data sheets, room layouts and departmental room schedules, extreme care should be taken to ensure that such data generated by the package are consistent and compliant with Scottish-specific guidance\* such as Scottish Health Planning Notes, Scottish Health Facilities Notes (SHFNs) and Scottish Health Technical Memoranda (SHTMs) as published by Health Facilities Scotland.

\* In the near future, all technical guidance will be available from the 'Space for health web resource. The Space for Health website will provide a single portal to the knowledge and expertise of the four UK health organisations. It will draw together the technical guidance published by HFS, the DoH and their equivalents in Northern Ireland and Wales. Further information is available from Health Facilities Scotland.

## The Design Team

### Design Team selection

There are several methods of selecting the appropriate design team for a project, including Quality Based Designer Selection (QBS) which is a structured procedure for selecting a design team and, design competitions, which primarily select specific design ideas or outline designs for a project, rather than the design team personnel.

Where **Frameworks Scotland** is the chosen project procurement method, the design team will form part of the Principal Supply Chain Partner's (PSCP) delivery team and the members of the design team will have been assessed during the process of selecting the PSCP from the Framework. Although the design team will be managed by the PSCP they will work closely with the NHS Client in a collaborative fashion in delivering the design. (Further detail of the PSCP Appointment Process is available in the **Frameworks Scotland** section of the [Health Facilities Scotland website](#)).

The Scottish Government [Construction Works Procurement Guidance: Section 3 – Procurement Strategies and the Appointment of Consultants and Contractors](#) provides general information on some of the different procurement strategies available and the consultancy roles and professional advice that may be required at the various projects stages. Further general advice can be found on the [Office of Government Commerce website](#).

**In the NHSScotland context, detailed guidance should be sought from [Health Facilities Scotland](#), and, for 'hub' projects, [Scottish Futures Trust](#).**

Regardless of the procurement strategy adopted, the appointment of a design team, consultants, professional advisers, etc, should be based upon the principles adhered to in Quality Based Selection methodology, outlined below. The [Royal Institute of British Architects \(RIBA\)](#), together with the [Construction Industry Council](#), has published a booklet of Guidance for Clients to Quality Based Selection.

### Quality Based Designer Selection (QBS)

QBS looks for an appropriate balance of design skills, experience, innovation, and an ability to perform on schedule to the required standards and within budget. A client, or client committee, selects a team based upon a weighted scoring of a list of relevant factors, including technical capacity, resources, previous experience of similar projects, deliverability of the design and partnering arrangements, aimed at determining which design team is most able to handle the project successfully and deliver a high quality result.

Throughout a building project, designs will be developed through constant dialogue with the design team, so it's essential that a key selection consideration is inter-personal skills; the client must feel that it has the ability to work with the designers.

It is essential to know that a design team's claimed expertise is actually currently available. The question of whether a design team has completed major quality projects within the past five years may give a more fair comparison between long established and new design teams. It is important to ensure that the principal designer responsible for successful past projects is present for the interview, and such individuals should be named in the contract if that design team is successful.



## Design competitions

A competition to select an outline design, rather than the design team members, requires the client to have a well-developed brief for the project. Design competitions may be appropriate where there is either a unique problem that will benefit from a wide range of design approaches being explored (along with likely considerable public interest - which may be the case on a major new public building) or where the competition promoter wishes to encourage the development of new talent.

## Procedure for appointing the Design Team

All public sector appointments, irrespective of the client's preferred nature of competition or reference to any other guidance on design competitions, must be consistent with EU procurement rules in terms of process and outcome.

The appointment or competition must therefore:

- strike the correct balance between quality and price to achieve whole-life VFM;
- evaluate the quality and price aspects against clear, unambiguous and pre-determined criteria;
- assess the technical and financial capacity of the design team (including design partnership arrangements) to deliver the project to the required standards of quality as well as the project on time and within budget; and
- maintain a full and transparent record of all aspects of the competitive process from start to conclusion, including the evaluation of the pre-qualification questionnaires as well as the selection and award stages.

Generally, as Public Sector clients, NHS Bodies are required to ensure that design team appointments follow the procedures described in [Section 3](#) of the works procurement guidance part of the Scottish Government Construction Procurement Manual. **However, in the NHSScotland context, detailed guidance should be sought from [Health Facilities Scotland](#).**

## Design Team selection criteria

Selection criteria should include design ability, aspiration, financial status, insurance provisions and technical capacity; the last of these enables consideration to be given to resources, technical suitability and past performance. This stage also aids production of an objective and transparent short list of the most suitable organisations, from all those that expressed interest in providing design services.

## Selection criteria at the bidding stage

The award criteria enables a further qualitative assessment to be made of the specific proposals for the project - not just technical merit of the design proposals but also other aspects of successful delivery such as proposed team-working, management arrangements, and project team organisation.

Where design partnerships are proposed - perhaps to combine the innovative skills of a new or small design practice with the experience and resources of a longer-established designer - the award criteria enables the client to assess the ability of both parties to fulfil their responsibilities and to evaluate the compatibility of working cultures and practices. Visits to

the design offices of all candidates, including those forming partnerships, should follow a consistent approach and involve the same personnel.

NHSScotland Bodies, as clients, should consider the benefits to be accrued from requesting an Interim Bid Submission from bidders, particularly in a PPP or joint venture (such as 'hub') initiative context. This should be based upon clearly specified requirements within the Invitation To Negotiate (ITN) documentation and should be undertaken at an approximate mid-point stage through the period from release of OJEU to the return of ITN documentation with clear expectations on outputs from bidders that are measured but, not too cumbersome, perhaps structured by means of the use of the AEDET Evolution design evaluation tool.

Client organisations should consider the merits of visiting completed buildings by the shortlisted teams to investigate both their past work and allow the opportunity to meet previous clients and hear their experience of working with the team. Although this does take some time, the investment is small in comparison to the necessary investment of time and resources in the new project, and the potential learning in terms of the bidding teams ability and working relationships is invaluable.

### **Relation of selection criteria to budget considerations**

The qualitative criteria adopted at the selection and award stages should be appropriate for the individual project and weighted to suit the circumstances. It is important that these aspects aren't considered in isolation but should be assessed as part of the VFM evaluation which takes account of fee proposals. Section 3 of the Scottish Government Construction Procurement Manual describes other aspects of appointing consultants, including the various ways of paying for professional services. In circumstances where *ad valorem* (usually percentage) fee structures are appropriate, consideration must always be given to the application of an abatement or capping mechanism in order to contain fee costs at a fair and appropriate level.

Criteria used during selection and award stages must be applied consistently by all of those involved in that stage of the procurement procedure. In other words, once selection and award criteria are established, individual members of a sift or tender evaluation panel must not apply different criteria. Furthermore, once selection criteria are established, they should be made available to candidates. Award criteria must be set out in either the OJEU contract notice or the contract documents; however it is recommended that criteria be advertised in the OJUE notice to demonstrate the client's commitment to valuing quality in the selection and hence assist in attracting similarly ambitious teams.

## Scottish Government Health Directorates asset-related policies

### Scottish Capital Investment Manual for NHSScotland [NHS CEL 19 (2009)]

Scottish Government Health Directorates  
[http://www.sehd.scot.nhs.uk/mels/CEL2009\\_19.pdf](http://www.sehd.scot.nhs.uk/mels/CEL2009_19.pdf)

### Provision of Single Room Accommodation and Bed Spacing [NHS CEL 48 (2008)]

Scottish Government Health Directorates  
[http://www.sehd.scot.nhs.uk/mels/CEL2008\\_48.pdf](http://www.sehd.scot.nhs.uk/mels/CEL2008_48.pdf)

### Fire Safety Policy [NHS CEL 25 (2008)]

Scottish Government Health Directorates  
[http://www.sehd.scot.nhs.uk/mels/CEL2008\\_25.pdf](http://www.sehd.scot.nhs.uk/mels/CEL2008_25.pdf)

### Environmental Management Policy for NHSScotland [NHS HDL(2006)21]

*(Currently under review)*  
 Scottish Government Health Directorates  
[http://www.sehd.scot.nhs.uk/mels/hdl2006\\_21.pdf](http://www.sehd.scot.nhs.uk/mels/hdl2006_21.pdf)

### Sustainable Development Strategy for NHSScotland [NHS CEL 15 (2009)]

*(Currently under review)*  
 Scottish Government Health Directorates  
[http://www.pcpd.scot.nhs.uk/PDFs/CEL2009\\_15.pdf](http://www.pcpd.scot.nhs.uk/PDFs/CEL2009_15.pdf)

### NHSScotland Property Transactions [NHS HDL(2001)15]

*(Currently under review)*  
 Scottish Government Health Directorates  
[http://www.sehd.scot.nhs.uk/mels/HDL2001\\_15.htm](http://www.sehd.scot.nhs.uk/mels/HDL2001_15.htm)

### Property Management Policy and Other Related Matters [NHS HDL(1999)44]

Scottish Government Health Directorates  
[http://www.sehd.scot.nhs.uk/mels/1999\\_44.pdf](http://www.sehd.scot.nhs.uk/mels/1999_44.pdf)

## Supporting guidance

### Scottish Capital Investment Manual website

Scottish Government Health Directorates

### Capital Planning and Investment website

Scottish Government Health Directorates

### Healthier Places website

A project resource to assist clients in the development of design statements, the briefing of projects and in learning from what is being achieved across NHSScotland and elsewhere.

[www.healthierplaces.com](http://www.healthierplaces.com)

### IDEAS

A design tool to aid NHS clients and their architects and design consultants to develop their briefs and design ideas.

<http://ideas.dh.gov.uk/>

### Achieving Excellence in Design Evaluation Toolkit (AEDET)

The AEDET Evolution toolkit evaluates a design by posing a series of clear, non-technical statements, encompassing the three key area of Impact, Build Quality and Functionality.

[http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_082089](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_082089)

### A Staff and Patient Environment Calibration Tool (ASPECT)

ASPECT is a tool for evaluating the quality of staff and patient environments in healthcare buildings and can be used as a stand-alone tool or in conjunction with AEDET to provide a more comprehensive design evaluation of healthcare environments.

[http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_082087](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_082087)

[Activity Database](#)

The briefing, design & commissioning tool for both new-build and refurbishment of healthcare buildings.  
<http://adb.dh.gov.uk/>

[Brief Introduction to the Planning System](#)

<http://www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Policy/>

[NHSScotland Fire Safety Management / NHSScotland Firecode](#)

[Health Facilities Scotland](#)

[NHSScotland Asset Management System](#)

[Health Facilities Scotland](#)

[GREENCODE](#)

[Health Facilities Scotland](#)

[EnCO<sub>2</sub>de](#)

[Health Facilities Scotland](#)

[Scottish Health Facilities Note 30: Infection Control in the Built Environment: Design and Planning](#)

[Health Facilities Scotland](#)

[HAI-SCRIBE: HAI System for the Control of Risk of Infection in the Built Environment](#)

[Health Facilities Scotland](#)

[NHSScotland Property Transactions Handbook](#)

*(Currently under review)*

Scottish Government Health Directorates



## Useful references and web links

### General

#### Health Facilities Scotland

Provides operational guidance to NHSScotland healthcare bodies on non-clinical topics including: building and architecture, procurement, property management, estates engineering, energy & environment.

<http://www.hfs.scot.nhs.uk/>

#### Architecture and Design Scotland

The Scottish national champion for good architecture, design and planning in the built environment. This site incorporates sections relating to specific programmes of activity including; [Scottisharchitecture.com](http://Scottisharchitecture.com) a network of digital resources relating to architecture and the built environment and [SUST - Sustainable Design in Architecture and the Built Environment](#) – which aims to raise awareness of the importance of a sustainable approach to design in the built environment by providing increased access to guidance, tools and techniques for clients, design teams and community-based groups.

<http://www.ads.org.uk/>

#### Space for Health

Space for Health provides a single ‘front door’ portal to the knowledge and expertise of the four UK health organisations. It draws together the technical guidance published by HFS, the DoH and their equivalents in Northern Ireland and Wales.

*Note: As of publication of this Policy, Space for Health is under development – further information should be sought from [Health Facilities Scotland](#).*

<http://www.spaceforhealth.nhs.uk/>

#### University of Stirling Dementia Services Development Centre

The Dementia Services Development Centre promotes good practice for those working in the field of dementia care including guidance on designing for dementia.

<http://www.dementia.stir.ac.uk/>

#### Centre for Architecture and the Built Environment

The UK government's advisor on architecture, urban design and public space.

<http://www.cabe.org.uk/>

#### Construction Industry Council

The representative forum for the professional bodies, research organisations and specialist business associations in the construction industry.

<http://www.cic.org.uk/>

#### Art in Healthcare

A forward-looking arts-in-health organisation formed from Paintings in Hospitals Scotland and the Friends of Paintings in Hospitals Scotland.

<http://www.artinhealthcare.org.uk/>

## Scottish Government links

#### Scottish Government Built Environment

The provision of planning guidance and advice, construction procurement guidance and technical advice for Scottish Government Directorates and other bodies.

<http://www.scotland.gov.uk/Topics/Built-Environment>

#### Scottish Government Architecture and Place Division

Promoting and encouraging better architecture.

<http://www.scotland.gov.uk/Topics/Arts-Culture/arch/intro>

#### Scottish Government Construction Procurement Manual

Provides the Scottish Government Directorates, Executive Agencies and most sponsored bodies (as well as the Scottish Parliament Corporate Body and the Forestry Commission in Scotland) with mandatory policy and procedures for understanding construction works projects.

<http://www.scotland.gov.uk/Publications/2005/11/28100404/04066>

### Scottish Government Sustainable Development

Sustainable development is integral to the Scottish Government's overall purpose - to focus government and public services on creating a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth.

<http://www.scotland.gov.uk/Topics/Environment/SustainableDevelopment>

### Scottish Government Capital Planning and Asset Management website

Responsibility for the Health Directorates capital planning policy and strategy for NHSScotland and advice on all asset management matters impacting upon the Scottish Government Health Directorates responsibilities for NHSScotland.

<http://www.pcpd.scot.nhs.uk/>

### Scottish Government Capital Planning and Investment website

Policy and guidance on planning NHS capital developments including those developed through public private partnerships.

<http://www.pfcu.scot.nhs.uk/>

## **Department of Health (England) links and publications**

### The architectural healthcare environment and its effect on patient health outcomes

A research project funded by the Department of Health and led by Professor Bryan Lawson and Dr Michael Phiri of the University of Sheffield School of Architecture, in collaboration with John Wells-Thorpe. The document is available for purchase from The Stationery Office, ISBN 011322480X.

<http://www.tsoshop.co.uk/bookstore.asp?Action=Book&ProductId=011322480X>

### The Healing Environment

English Department of Health report which looks at the components of a healing environment and the effect on patients and staff.

[http://www.dh.gov.uk/en/Managingyourorganisation/Leadershipandmanagement/Healthcareenvironment/Browse/DH\\_4116478](http://www.dh.gov.uk/en/Managingyourorganisation/Leadershipandmanagement/Healthcareenvironment/Browse/DH_4116478)

## **Other references**

### OGC Procurement Guide 09: Design Quality

Office of Government Commerce 2004

Part of the OGC Achieving Excellence Procurement Guides

<http://www.ogc.gov.uk/assets/images/cp0069.pdf>

A guide to quality based selection of consultants: a key to design quality  
Published 1998, £15.00 ISBN 1 898671 14 1

Construction Industry Council recommends this Guide as an inclusive guide and method for delivering construction clients with the consultants services they require and to realise the real economies and benefits to be had from good design.

<http://www.cic.org.uk/services/publicationsCIC.shtml>

# SCOTTISH CAPITAL INVESTMENT MANUAL

## Introduction



## 1 Introduction

The Scottish Capital Investment Manual (SCIM) provides guidance in a NHS context on the processes and techniques to be applied in the development of all infrastructure and investment programmes and projects within NHSScotland.

It provides guidance on the cyclical process of project development from inception at the service planning stage, to post project evaluation of service benefits realised once a new building is occupied. The guidance not only covers issues around investment appraisal, financial (capital and revenue) affordability and procurement, but also the project management and governance arrangements required to support the development of such programmes and projects.

The principles set out in SCIM are applicable to the development of all infrastructure and investment schemes regardless of their size or complexity; and shall be applied by all NHSScotland Bodies (including Integration Joint Boards, and similar, requiring NHS investment support). It will thus provide an audit trail and assurances that appropriate steps have been followed in the investment decision making process. These principles are also recommended as good practice for service planning purposes when investment may not be the intended outcome.

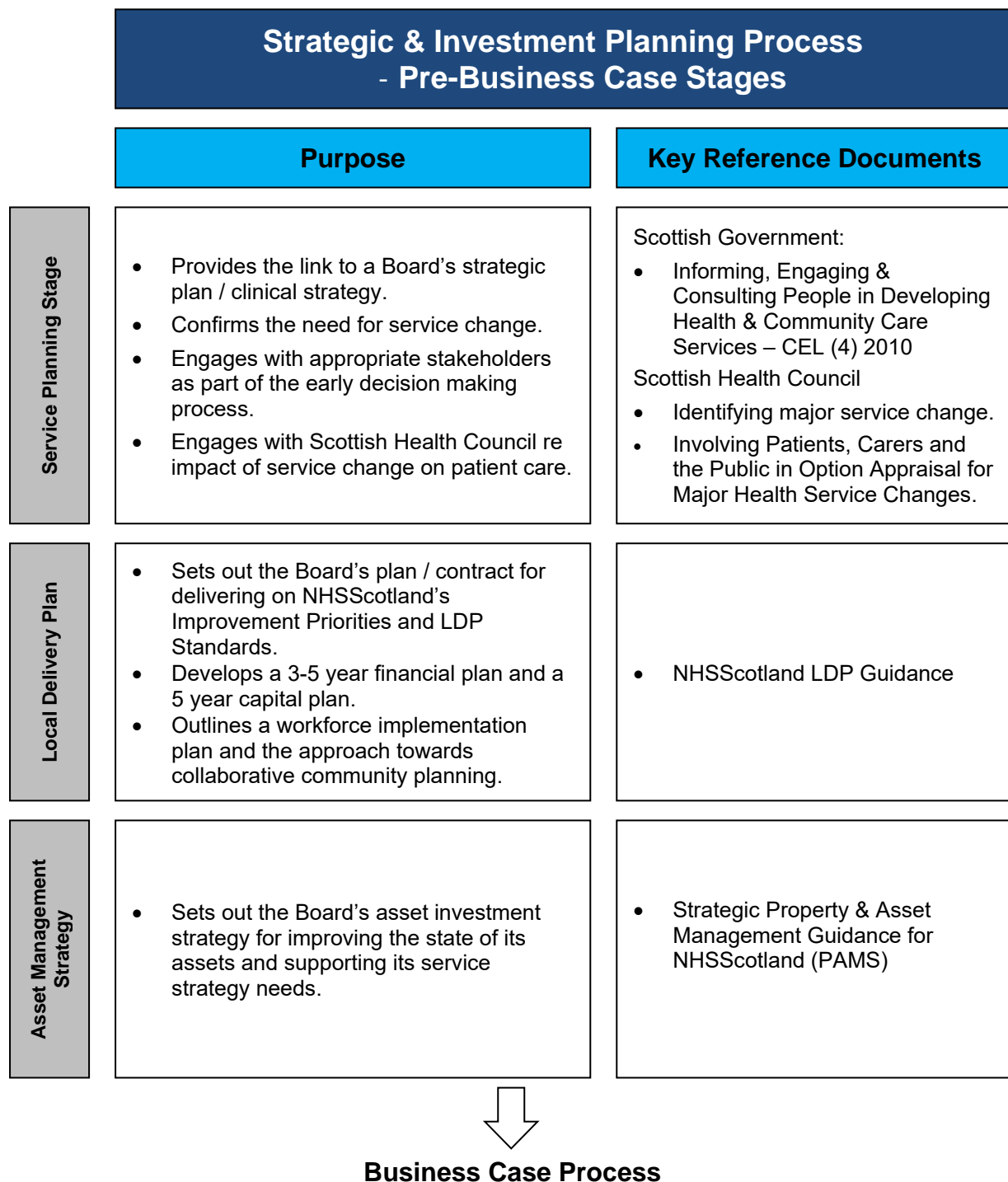
The SCIM has been revised to update the practices and processes associated with the development and approval of capital and revenue funded projects within NHSScotland. These changes mainly result from the development of improved approaches and techniques which support the development of investment schemes across NHSScotland.

In developing the revised SCIM recognition has been made of the guidance that currently exists on a Scottish, UK and international basis (particularly from Australia and New Zealand), with a view to drawing together best practice that can be applied within an NHSScotland context.



## 2 Links to the Strategic Planning Process

The business case process forms the link between formative service planning stages, and investment decision making towards implementation of a project. The strategic context and purpose of these pre-business case planning processes is described below:



### 3 Overview of the Business Case Process

A quality business case process brings together the necessary evidence in support of the need for investment and provides assurance, (to stakeholders, the public and Scottish Ministers), that the best value solution has been identified for delivering the project's objectives, benefits and declared outcomes. There are four main stages, the purpose of which is described in the following diagram:

Strategic & Investment Planning Process - Business Case Stages		
	Purpose	Key Reference Documents
Strategic Assessment	<ul style="list-style-type: none"> <li>• Describes the scope of a new proposal.</li> <li>• Informs Scottish Government of the project.</li> <li>• Gains consensus &amp; support from stakeholders.</li> <li>• Highlights service need &amp; benefits.</li> <li>• Demonstrates priority over competing projects.</li> </ul>	<ul style="list-style-type: none"> <li>• Strategic Assessment guide (ref. New SCIM website)</li> </ul>
Initial Agreement	<ul style="list-style-type: none"> <li>• Sets out current arrangements from which change will take place.</li> <li>• Provides the evidence base supporting the need for change &amp; benefits to be realised.</li> <li>• Sets out the initial benefits realisation plan</li> <li>• Reviews alternative strategic / service solutions against investment objectives</li> <li>• Identifies a preferred strategic / service solution(s).</li> </ul>	<ul style="list-style-type: none"> <li>• Initial Agreement guide (ref. New SCIM website)</li> </ul>
Outline Business Case	<ul style="list-style-type: none"> <li>• Confirms status of the Strategic Case</li> <li>• Economic appraisal of alternative options for implementing the preferred strategic / service solution(s)</li> <li>• Identifies a preferred &amp; affordable option.</li> <li>• Sets out the arrangements for delivering the preferred option and realising benefits</li> <li>• Confirms a readiness to proceed to procurement.</li> </ul>	<ul style="list-style-type: none"> <li>• Outline Business Case guide (ref. New SCIM website)</li> </ul>
Full Business Case	<ul style="list-style-type: none"> <li>• Confirms that management, commercial, funding and financial arrangements are in place to deliver the project</li> <li>• Sets out the contractual details of the project which the Board is being asked to sign-off</li> </ul>	<ul style="list-style-type: none"> <li>• Full Business Case guide (ref. New SCIM website)</li> </ul>

### 3.1 The Business Case Stages

Further details of the main focus of the four business case stages are described below:

The overarching purpose of the **Strategic Assessment** stage is to briefly outline the need for service change and describe early thoughts on the potential benefits to be gained from such an investment. It will become an integral component of a Board's Property & Asset Management Strategy (PAMS), used to identify its own priorities for investment. It will also present an outline of the proposal to Scottish Government who will consider it against other competing investment needs before giving its support for a project to proceed to Initial Agreement stage.

The **Initial Agreement** stage will provide the evidence behind the need for investment and demonstrate that the proposal is a good thing to do. It will identify the preferred strategic / service solution(s) for realising the project's investment objectives and expected benefits. It shall only be developed once a proposal's Strategic Assessment has been incorporated into the Board's PAMS and demonstrated to be an investment priority over other competing investment needs.

The **Outline Business Case** stage will identify the preferred option for implementing the strategic / service solution confirmed at Initial Agreement stage. It will demonstrate that the preferred option will deliver the necessary service change, optimise value for money, and be affordable. It will also set out the supporting commercial and management arrangements to be put in place to successfully implement that option.

The **Full Business Case** stage will set out the agreed commercial arrangements for the project whilst also confirming that it remains value for money, is affordable, and that the organisation is ready to proceed towards implementation of that option. It will be developed within the final procurement phase of the project and record the detailed assessment and/or negotiations with potential service providers / suppliers prior to the formal signing of contracts.

### 3.2 Scalability and Delegated Authority

The business case process is intended to be scalable and flexible to ensure that the analytical effort is fit for purpose and matches the scale and type of decision required. The level of detail required will be dependent upon the scale, risk and nature of the investment proposal. It should, however, meet the expectations and information needs of Scottish Government's Capital Investment Group who can be consulted for further advice on these expectations.

The following sets out the current delegated limits with regards to business case submission and subsequent approval process for all NHSScotland bodies. It is supported by CEL 32 (2010) Annex C:

NHS Board	Delegated Limit (£m)	Approval Process		
		Capital Value <£1m	Capital Value £1-5m	Capital Value >£5m
Borders	1.0	FBC approved locally	SA, IA & FBC to CIG	SA, IA, OBC & FBC to CIG
Dumfries & Galloway	1.0			
Orkney	1.0			
Shetland	1.0			
Western Isles	1.0			
Special Boards and NSS	1.0			
Ayrshire & Arran	1.5		SA, IA & FBC to CIG above D.L.	
Fife	1.5			
Forth Valley	1.5			
Highland	1.5			
Grampian	3.0			
Lanarkshire	3.0			
Tayside	3.0			
Greater Glasgow	5.0			
Lothian	5.0			

All hub & NPD projects will require a Strategic Assessment, Initial Agreement, Outline Business Case, & Full Business Case (all requiring Scottish Government approval).

Further details, including the approval process for IM&T projects, and delegated authority for approvals is available on the Scottish Government's SCIM website.



### **3.3 Responsibility for Producing the Business Case**

The 'ownership' and responsibility for the investment planning process rests with the NHSScotland body developing or leading the development of the programme/project in question.

Issues of governance are dealt with in the Management Case of each business case stage. Most projects are likely to need a Senior Responsible Officer, Project Director and Senior Project Manager; however, smaller or less complex projects may not need separate individuals for these roles. The suitability and capability of individuals for these roles is discussed in the Management Case of the Outline Business Case.

Under no circumstances should responsibility for the direction and lead production of the business case be 'outsourced' to external consultants. However, external consultants could be considered to support the project where the necessary skills and resources are not available in house.

Similarly, the production of the business case should not be regarded as an adjunct to the project manager's role, and a hurdle to jump for approval purposes. Instead, it must be viewed as a fundamental part of the overall investment planning process, which requires advice and guidance from business managers, clinicians, users and technicians involved in the scheme.

### 3.4 Stakeholder Engagement and Communication

The Scottish Health Council rightly advocates the importance of involving patients, carers and the public in the planning process leading to changes in local health services, and guidance is available on their website on how this should be managed at service planning stage. There is also a requirement across the Scottish public sector to optimise collaboration and co-production between public bodies and this should be demonstrated at all stages of investment planning.

Experience shows that a combination of workshops and meetings are a useful way of engaging stakeholders in a project's planning and decision making processes. Opportunities for such events should be determined locally, which may include some or all of the following:

1. Strategic Assessment (SA) stage: reviewing the needs and scope of the proposal in order to complete the SA template.
2. Initial Agreement (IA) stage: developing the service model; confirming the need for change; identifying the investment objectives, benefits to be realised and risks to be managed; reviewing alternative solutions; and confirming the preferred strategic solution.
3. Outline Business Case (OBC) stage: carrying out an option appraisal exercise to confirm the preferred option; developing proposals for service change arrangements, benefits realisation, risk management, etc.
4. Full Business Case (OBC) stage: reviewing submitted commercial offers / tenders to agree on the preferred contractor / commercial partner.
5. Design Assessment process: agreeing the design statement and assessing the developing design at OBC & FBC stages.
6. Service Benefits Evaluation: covering a review of benefits realised, user feedback on the new facility, and the impact of any service change.

Any such event should be planned ahead and carefully managed to ensure that outcomes are optimised and continued support for the project is maintained.

### 3.5 Project Assurance

In respect of Scottish Government funded projects and programmes, the two main models of independent project assurance are Gateway Reviews and Key Stage Reviews.

Gateway reviews are managed by Scottish Government's Programme and Project Management Centre of Expertise (PPM-CoE) and all Key Stage Reviews are managed by Scottish Futures Trust (SFT). Further details of the Gateway Review process are available on the Programme and Project Management Centre of Expertise website.

It is mandatory for PPM-CoE to be able to consider all programmes and projects for Gateway Review with a total budget of £5m+ inclusive of fees and VAT. All NPD (and similar) and hub projects will undergo a Key Stage Review.

The Scottish Government also reserves the right to instigate an early stage review on any major change initiatives

A diagram is available on the new SCIM website which describes how the business case process aligns with both the project assurance and the design development stages - the 'SCIM process and outcomes' diagram.

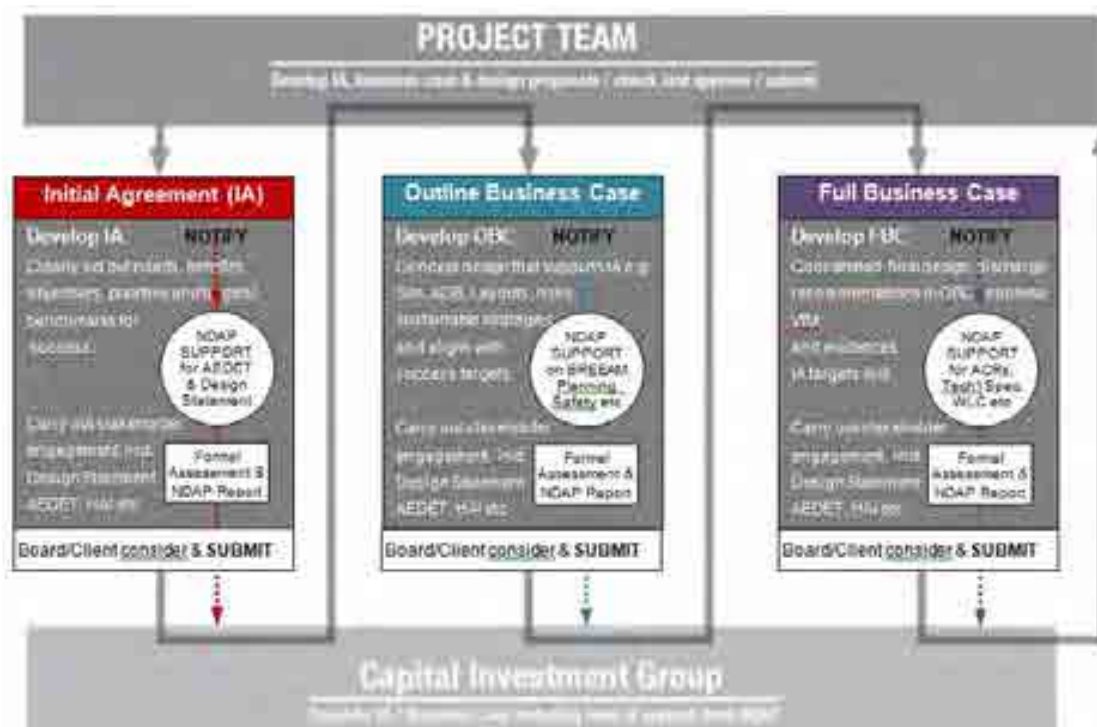
## 4 Links to Design Process

The assessment of design quality is an integral part of the business case approval process which aims to ensure that the outcomes of design development projects meet the Government's strategic objectives and expectations for public investment.

The requirement to refer projects to the NHSScotland Design Assessment Process applies to all projects that are to be considered by the Capital Investment Group (CIG). It is expected however that Boards will develop 'design statements' and utilise the self assessment methodologies on all development projects.

The Design Statement, which is to be produced by the Boards for each project prior to the submission of the Initial Agreement (IA), is central to the consideration of design matters within the business case approvals process as it is this document that establishes the design criteria against which the project will be assessed. The benchmarks set by the Board will also be assessed to ensure that they are in line with the expectations established in national policy.

The following flow diagram shows the key NDAP activities and information flow at each Business Case stage. Early engagement and dialogue with Project Teams in NDAP is key to reducing surprises / risks at the Formal Report stage.





# RIBA Plan of Work 2020 Overview



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## Foreword

Since 2013, when the RIBA Plan of Work had its first major overhaul in its 57 year life, the RIBA has been gathering feedback from the construction industry.

As with anything that has undergone significant change, the RIBA Plan of Work 2013 needed to be used and evaluated, and we have been listening to users to inform how we modify the core guidance to even better meet the needs of project teams. We see this update as a clarification of the 2013 structure but with a closer, more contemporary, fit.

In June 2019 the UK Government committed to be net zero carbon by 2050, and the RIBA, along with a large proportion of the construction industry, believe that to meet this target we must design and construct new projects and undertake refurbishments that do not need to be retrofitted again before 2050. The RIBA have set a deadline of 2030 to do this, and for this to be successful the industry must be attempting it on all projects now.

The biggest addition to the new RIBA Plan of Work comes in the form of the new sustainably project strategy. This challenges design teams to design with a focus on sustainable outcomes from the outset of the project. These outcomes and associated targets should be defined and agreed with the client during Stage 1 briefing, reality-checked throughout the design and construction process, and finally verified in Stages 6 and 7 post occupancy evaluation. The definition of sustainable outcomes and associated metrics, together with current tools for measurement and verification, are included in the RIBA Sustainable Outcomes Guide.

In addition to the sustainability changes, this update has concentrated on improving the guidance in relation to the planning process, procurement and information requirements at each stage. Most importantly we have set out detailed stage descriptions and new guidance on core project strategies which can be found in chapter 6.

The RIBA Plan of Work is still the definitive design and process management tool for the UK construction industry and is gaining traction internationally too. This update brings into focus the trends and innovations that are changing the construction industry and provides space for these to thrive on our projects while ensuring a simple and robust framework remains in place.

My thanks go to those named at the end of this publication that have dedicated their time as volunteers over the past few years to produce this new and indispensable guide.



Professor Alan M Jones  
RIBA President 2019-21

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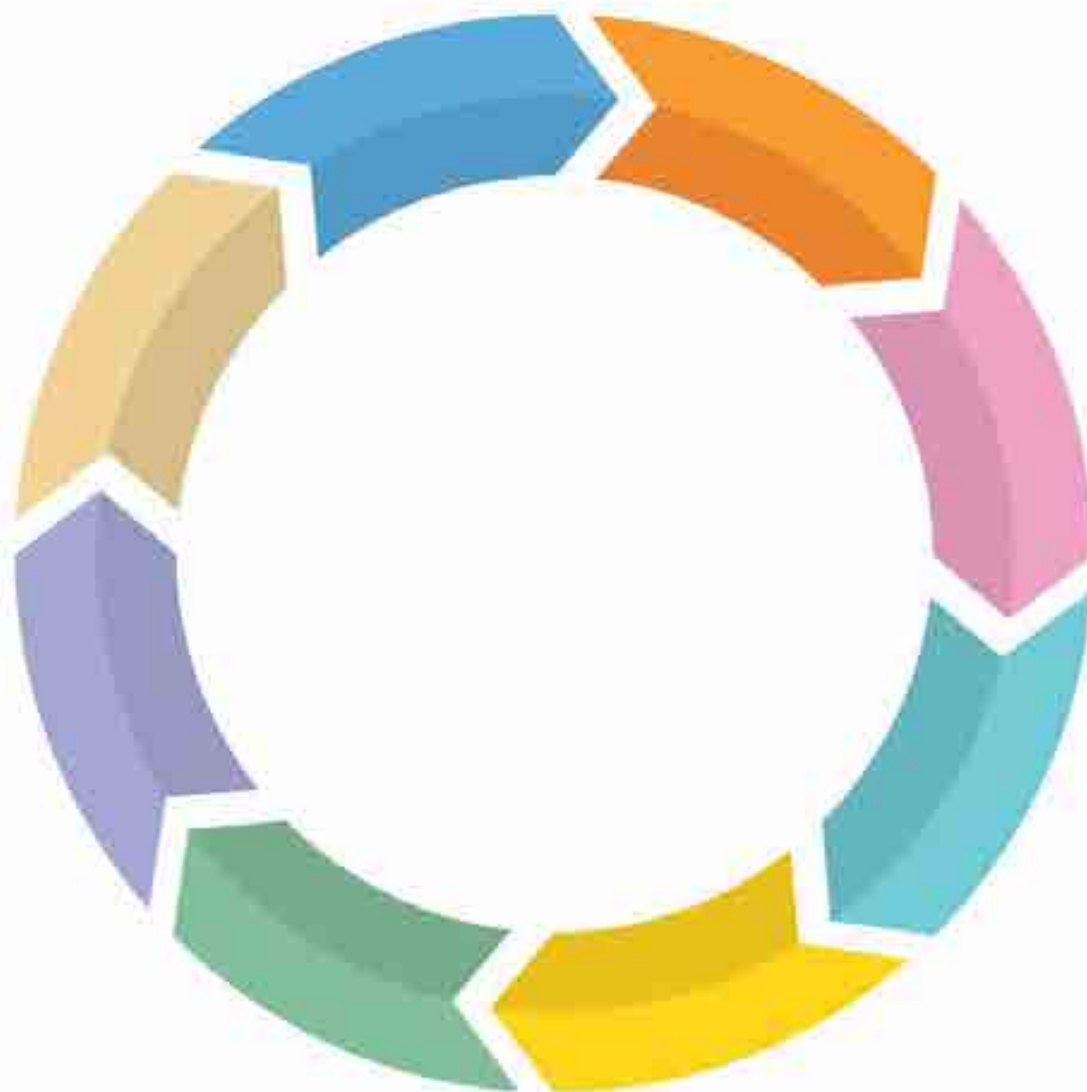
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## Introduction

The RIBA Plan of Work was initiated in 1963 to provide a framework for architects to use on projects with their clients, bringing greater clarity to the different stages of a project. It has evolved over the years to reflect changing trends in project approaches and has become an industry-wide tool.

The RIBA Plan of Work received its first major overhaul in 2013. It was updated to be suitable for use with any form of procurement, reflecting its primary role in mapping the design process between briefing and construction. The core design stages remained fundamentally intact, but were supplemented by a Stage 0, acknowledging the need for greater strategic consideration at the start of a project, and Stage 7, to reflect the use and life span of a building. A (Town) Planning task bar was created for dealing with the planning process, a Programme task bar acknowledged that some stages might need to overlap, depending on the procurement route, and a Procurement task bar set out tendering tasks during the design process would be necessitated by the choice of procurement route.

The past five years have seen further changes in the construction industry. Digital innovation continues to transform many aspects of project workflow, arguably moving towards a paradigm shift rather than a tweaking of more traditional ways of working. Modern methods of construction, including volumetric modular, are transforming the residential sector, pointing to new future business models. Changes in project drivers – ranging from delivering best value to an increased awareness of ethics – continue to add to the complexities of maintaining a coherent and consistent approach to the project process. Sustainability, including the rise of circular economy considerations, continues to grow in importance. A core challenge for the design team is how to meet changing client requirements while navigating this wide range of topics – from compliance with regulations, to clearing the increasingly important ethical bar, through to global best-in-class approaches.

Alongside the complexity of absorbing and responding to this diverse range of topics, project teams must deliver their projects as they have always done. They must first set the strategic scene, then apply the management overlay for the project, covering the development of the brief, the design of the building in response to the brief (including engineering and specialist inputs) and coordination of information before the process of manufacturing and construction commences. They must work as a team to deliver on time and to budget through to handover, when the baton is taken over by those dealing with maintenance or tasked with resolving users' day-to-day issues.

Adding to the complexity of this process, the rate of technological change is accelerating, requiring ongoing reviews and incremental improvements in the way that projects are undertaken. As we enter an era of continuous innovation, a core challenge for project teams is the need to constantly hone their ways of working, to maintain both their competitiveness and the quality of their design output.

The RIBA Plan of Work is not intended to be a contractual document. It defines what outcomes the project team should achieve at each stage, but it does not define who

should undertake the core tasks. Project specific contractual documents are required to bring clarity and consistency to the issues of what information is required, who will produce it and when it needs to be extracted from the design process for use in procurement or discussions with stakeholders.

Despite the ongoing transformation in how buildings are designed, built, maintained and used, the RIBA Plan of Work continues to be a resilient and relevant process map. It remains applicable to a wide range of project approaches and project scales. However, feedback from various clients and project teams has shown a need for greater clarity on how and when a number of aspects of the RIBA Plan of Work are applied to projects. Consistent use of the RIBA Plan of Work across different projects will help to provide everyone in the industry with confidence that their workflow will be robust as they move from one project to the next. Of course, any client is welcome to interpret the RIBA Plan of Work in their own way and to set their own overlay of tasks or documents. In a world of continuous change, bringing clarity to each stage allows everyone involved to develop their own innovations, without the perpetual need to discuss the strategic aspects of who should do what when.





PART



Background

## 1 CHAPTER ONE

# What is a plan of work?

In many countries there is no formal set process for designing a building. 'The way to do it' is unwritten and unrecorded, with informal processes handed down from one generation of professionals to the next. Regardless of where in the world a building is required, the core tasks are broadly the same:

- Agree appointments with the professional team
- Develop a brief with the client
- Create concept designs options
- Coordinate the design
- Prepare a planning application
- Apply for planning consent
- Develop a set of construction information
- Prepare a tender
- Obtain consents required prior to construction
- Award a Building Contract
- Construct the building
- Inspect the construction as it progresses
- Hand over the building.

When buildings are designed using repeatable, consistent and intuitive processes, this informal approach works – for example, when a clear process for briefing and design is aligned to a consistent means of obtaining statutory consents and where a single procurement route is consistently used. As the design process becomes more complex, influenced by many factors – such as new forms of procurement, modern methods of construction or new drivers, for example sustainability and maintainability – this approach becomes unsustainable. Without a process map, different members of the project team will have different versions of the 'right way to do it', making it inevitable that the project will be undertaken inefficiently.

There are several design process maps, or plans of work, used throughout the world to guide clients through briefing, design and construction, handover and beyond. In most countries, the process maps are set by the professional institutes or by sector bodies. Figure 1 illustrates some of these. Some have pre-design stages, some do not. Some go beyond completion of construction, others do not. All have construction as a single stage.

There are several key differences between these international plans of work:

- Some incorporate tendering stages, while others are procurement agnostic, focusing on the design rather than procurement process.
- The number of design stages varies from two to four. This underlines the challenges in the design process and the need to divide design into a number of coherent stages, each with a clearly defined purpose, prior to construction commencing.
- Few consider the importance, and benefit, of good briefing, including identifying the need for a building at the outset and how to use feedback from previous projects to inform the brief.



- Not all consider the life of the building beyond construction. However, some are beginning to address this, and how the design process and the building's handover processes impact on a building's performance.

Although each of these plans of work is different, they all have the same goals: to provide the project team with a road map for promoting consistency from one stage to the next, and to provide vital guidance to clients undertaking perhaps their first and only building project.

	Pre-Design		Design				Construction	Handover	In Use	End of Life
	0	1	2		3	4	5	6	7	
<b>RIBA (UK)</b>	Strategic Definition	Preparation and Brief	Concept Design	NOT USED	Developed Design	Technical Design	Construction	Handover & Close Out	In Use	NOT USED
<b>ACE (Europe)</b>	0	1	2.1	2.2	2.3	2.4	3		4	5
	Initiative	Initiation	Concept Design	Preliminary Design	Developed Design	Detailed Design	Construction	NOT USED	Building Use	End of Life
<b>AIA (USA)</b>			-		-	-	-			
	NOT USED	NOT USED	Schematic Design	NOT USED	Design Development	Construction Documents	Construction	NOT USED	NOT USED	NOT USED
<b>APM (Global)</b>	0	1	2		3	4	5	6	7	
	Strategy	Outcome Definition	Feasibility	NOT USED	Concept Design	Detailed Design	Delivery	Project Close	Benefits Realisation	NOT USED
<b>Spain</b>			-		-	-	-			
	NOT USED	NOT USED	Proyecto Básico	NOT USED	NOT USED	Proyecto de Ejecución	Dirección de Obras	Final de Obra	NOT USED	NOT USED
<b>NATSPEC (Aus)</b>		-	-	-	-	-	-		-	
	NOT USED	Establishment	Concept Design	Schematic Design	Design Development	Contract Documentation	Construction	NOT USED	Facility Management	NOT USED
<b>NDIC (NZ)</b>		-	-	-	-	-	-		-	
	NOT USED	Pre-Design	Concept Design	Preliminary Design	Developed Design	Detailed Design	Construct	NOT USED	Operate	NOT USED
<b>Russia</b>			-	-	-	-	-			
	NOT USED	NOT USED	AGR Stage	Stage P	Turnkey Stage	Construction Documents	Construction	NOT USED	NOT USED	NOT USED
<b>South Africa</b>		1	2	3	-	4	5			
	NOT USED	Inception	Concept and Viability	Design Development	NOT USED	Documentation	Construction	Close Out	NOT USED	NOT USED

Figure 1: Comparison of international plans of work



## 2 CHAPTER TWO

# The changing nature of the project team

The relationship between the client team and the design team has become more complex over recent years, as the industry wrestles with different ways to improve procurement. The interface between the design team and the construction team has also become more complex, as aspects of building design are increasingly being carried out by specialist subcontractors. The harnessing of modern methods of construction is complicating this crucial project relationship further. These increasing complexities add to the burden of work for the lead designer, requiring greater management of issues outside the boundaries of the design team.

The client team might comprise an individual or, on the largest of projects, several practices and individuals. The client team are not responsible for undertaking any design work, but must compile the **Project Brief** and review the design during and at the end of each stage. Many client teams employ external professional advisers, others have in-house teams to guide them through each project stage.

The design team has not fundamentally changed over the years, comprising the architect, structural and building services engineers and the cost consultant, although it is commonplace for other specialist consultants, such as acousticians or fire engineers, to contribute to the development of the design.

The construction team are responsible for manufacturing, assembling or constructing a building, including the logistics and contractual relationships connected with this.

Although the composition of the project team has remained broadly unaltered over the years, there are various ways in which the members can be connected contractually. This is shaped by the **Procurement Strategy**. Ultimately, there is no right or wrong approach to procurement. Each client must assess the pros and cons of different procurement strategies and decide which one will work best for them.

### The client team

The client is the commissioning entity for a project. Without a client there is no project. Clients come in many forms, ranging from consumers who want to convert their attics, to developers with billion-pound estates and who commission major buildings on a regular basis. When considering who might be in the client team, it is essential for the client to consider that – regardless of their experience, the project size or the business sector – the client team will have to undertake the following broad tasks:

- Set out the **Client Requirements** and consider whether a building project is the best means of achieving the **Client Requirements**
- Develop the **Project Brief**, including functional requirements, the **Project Budget** and **Project Outcomes**
- Agree on the most appropriate **Procurement Strategy**, and when the construction team will join the project team
- Appoint the design team, with appropriate knowledge, skills and experience





- Establish the **Project Programme**
- Review and comment on key aspects of the design as it progresses, including signing-off finishes and fittings to be used in the project
- Sign off the **Stage Report** at the end of each stage
- Make payments to the design team, construction team and any client team members as the project progresses, in line with the relevant contracts
- Manage stakeholder relationships and **Project Risks**

The client is central to the decision making process at every stage, but the extent to which they are involved is a matter of preference.

Some clients like to be central to the decision-making process, including the nitty-gritty decisions. Others are happy to delegate decision making and to follow the recommendations of their professional advisers or construction teams. The client will need to consider their role in decision-making when assembling the client team to ensure they have the expertise required.

An RIBA Client Adviser might assist the client in the early project stages, to give them impartial advice and to help them frame the **Project Brief** and select the design team.. Each client needs to determine what roles will be required to assist them through each project stage. In order to have the requisite skills to carry out the core tasks set out above, the client team might comprise the following roles:

- RIBA Client Adviser
- project manager
- client representative
- cost consultant
- contract administrator (employer's agent)
- information manager
- Plan for Use / Soft Landings champion
- additional client monitoring team

The client may also employ other specialist consultants into the client team to provide focused advice on a particular area. These may include:

- health and safety adviser
- sustainability adviser
- legal adviser
- financial adviser
- representatives from funders
- security adviser
- construction advisers
- operational adviser
- asset information adviser
- BREEAM adviser

This list is not exhaustive and will vary from client to client and from project to project, depending on the unique drivers and risks associated with each site and brief. The crucial difference between these advisers and those in the design team, is that these advisers have no design responsibilities though they may have design skills. While they may set

constraints or strategies, it is ultimately the role of the design team to produce a design that meets the requirements set by the client team, unless agreed otherwise.

### RIBA Client Advisers

RIBA Client Advisers are selected by the Royal Institute of British Architects from its membership for their all-round procurement expertise, design experience, business knowledge and track-record of delivering results in construction projects. A RIBA Client Adviser is usually an experienced architect and professional practitioner (but not the one designing the building) working in the client team, independent of the design team, monitoring and helping the client to follow a robust decision making process from the very start and throughout the project.

[www.architecture.com/working-with-an-architect/client-adviser](http://www.architecture.com/working-with-an-architect/client-adviser)

### The design team

The design team are responsible for the design of the building and for producing the information required to manufacture and construct it. The design team is led by the lead designer, who is responsible for coordinating the inputs and information from each team member. Anyone who designs, engineers or contributes advice or information that will be used as part of the design process needs to be in the design team. However, this does not include the preparation of the **Client Requirements** or **Project Brief** which are developed by the client team. On smaller projects some designers may start in the client team to help develop the **Project Brief** then become part of the design team.

The core members of the design team typically comprise:

- lead designer
- principal designer (usually a sub-function of the lead designer role)
- designers: architect, interior designer and landscape architect
- engineers: civil and structural and building services engineers
- cost consultant
- construction advisor
- specialist consultants

Many specialist consultants – with detailed knowledge and experience of a particular subject – may be involved in the design of a building. The need for their input will depend on the **Project Brief** and the experience and skills of the core design team members. Specialist consultants might include:

- fire engineer
- acoustic consultant
- security consultant
- façade engineer
- sustainability consultant
- specification consultant
- BIM consultant



Not every member of the design team is a designer, but all design team members actively contribute to the development of the design. For example:

- the cost consultant's advice shapes the development of the design
- the sustainability consultant might determine the energy source for the project
- the fire engineer's calculations might dictate how the design of an atrium space is developed
- the acoustic consultant might help to determine the specification for glazing adjacent to a railway
- the security consult might configure the arrangements in an entrance hall

### Principal Designer

In the UK, the principal designer is a statutory role under the Construction (Design and Management) Regulations 2015. The principal designer's role is to plan, manage, monitor and coordinate health and safety in the pre-construction phase of a project. The intent of the Health and Safety Executive (HSE) is for designers to take responsibility for the health and safety aspects of their design, including any implications for maintenance and operation, and to ensure that a Principal Designer takes responsibility for coordinating health and safety in the design process.

The RIBA Plan of Work includes the need to prepare a Health and Safety Strategy. This is the responsibility of the principal designer (usually the lead designer), although they may be supported by a health and safety adviser.

See HSE publication L153: *Managing Health and Safety in Construction* (HSE Books, 2015) for more information.

### The construction team

The construction team are contracted under the **Building Contract** to undertake the construction works.

In the past, construction teams would directly employ the labour required to build a project. Most building contracts are now let to teams who manage the construction process using limited or no direct labour. Building work is subcontracted in packages to subcontractors experienced in particular aspects of the project, for example for cladding, partitions, electrical or landscaping work. As the industry shifts towards the manufacturing and assembly of modular components, or sub-assemblies, new tasks are required of the construction team.

The role of the construction team includes the following tasks:

- Ensure that the building is constructed safely, with health and safety at the heart of the process.
- Secure the site and arrange shared items of plant, such as craneage or hoists.
- Liaise with the statutory authorities in relation to temporary requirements, such as for cranes, office accommodation and site welfare facilities, and seek approval for these as required.
- Prepare the **Construction Programme**.

- Divide the work into packages (considering any interfaces) and tender it to the most appropriate subcontractors and specialist subcontractors.
- Procure the work of subcontractors and specialist subcontractors.
- Manage and coordinate the construction work of the different subcontractors.
- Deliver the completed project in line with the time, cost and quality requirements of the **Building Contract**, as well as meeting all statutory requirements
- Assess and manage construction risks.

The construction team need a range of skills additional to those of the subcontractors, to assist with procurement, to manage construction and to facilitate logistics. Roles within the construction team might include:

- principal contractor
- commercial team
- procurement team
- package managers
- design manager
- information manager
- construction programmer
- construction managers
- logistics team.

## Stakeholders

**Project Stakeholders** are any party outside the project team who might influence the direction of the design or create a project constraint. Both the client team and design team may need to engage with different **Project Stakeholders**. Stakeholders might include:

- planning departments
- building control teams
- utilities companies
- community groups
- environmental bodies
- specialist interest groups
- insurance and warranty providers

They generally have no contractual relationships with the project team. As such, anticipating, managing and responding to the range of opinions or requests can be challenging. Preparing a **Project Stakeholder** plan can help to: clarify who the key stakeholders are; how they are being managed, who is the key contact within the project team; whether information is required for sign-off or consent; and how constraints or risks are to be managed. In certain instances, the client might include key **Project Stakeholders** as project partners or develop another means of better managing their involvement and contributions.





# Industry Feedback on the RIBA Plan of Work

## 3 CHAPTER THREE

# Industry feedback on the RIBA Plan of Work

Following the substantial update of the RIBA Plan of Work in 2013, the RIBA maintained a schedule of common queries arising from its use. The schedule recorded the day-to-day enquiries and issues encountered in the application and interpretation of the RIBA Plan of Work. Comments were received from a wide range of users, including clients, industry bodies, other designers and, of course, architectural practices.

This intelligence-gathering and listening exercise revealed several areas where tweaks to the Plan and the accompanying guidance were deemed necessary, to bring greater clarity to certain topics and resolve ambiguities about how the Plan of Work is used. In most instances, more detailed guidance on these topics is available from other sources; however, these sources are not as widely used as the RIBA Plan of Work. In response to this feedback, this publication provides comprehensive guidance on the application of the RIBA Plan of Work, to ensure there is consistency across the construction industry.

This chapter presents the key observations arising from the feedback received on the use of the RIBA Plan of Work. Some of the trends observed – for example, the scheduling of specialist subcontractors' design work at Stage 5 – are a consequence of the RIBA Plan of Work 2013 being interpreted differently than intended. Others – such as submitting a planning application at the end of Stage 2 – have required additional guidance for clients, to make sure the best project outcomes can still be achieved when industry deviates from the RIBA Plan of Work core tasks.

This chapter has been placed towards the beginning of this publication to allow these key observations to be understood, and so make it clear why the RIBA Plan of Work has been updated. It is essential that those who have been using the RIBA Plan of Work read this chapter to see where they may have misinterpreted the Plan and what measures they might take if they are not using it as intended.





## Stage 0

Stage 0 is about determining the best means of achieving the client's requirements. An open mind is required because a building might not be the most appropriate solution.

### Common misapplication 1

Certain clients use Stage 0 to prepare a detailed brief.

#### Recommendation

Stage 0 should be strategic in nature, defining the **Business Case** and **Client Requirements**. Depending on the circumstances, the stage can range from being a very quick review to being a long and protracted process involving many consultants. For Stage 0 to deliver the best outcome for the client, the crucial consideration for the client is what skills need to be brought to the client team. Different projects, each with a unique site and brief, bring different challenges and so require different skills. Developing the **Business Case** might require strategic thinking, management consulting expertise, whole life analysis, sustainability guidance, financial modelling or design thinking. Selecting the right team to deal with the strategic considerations is crucial. Once the outputs from the stage proceed to Stage 1, a building project has been set up and different skills will be needed.

### Common misapplication 2

Design team services regularly commence at Stage 0.

#### Recommendation

The Stage 0 team should be very different in composition to the Stage 1 team. The design team should not generally be appointed until Stage 2 as design work does not commence until then. On some projects, however, design thinking might be required to help address strategic considerations. If the client needs design thinking to unlock a project's strategic challenges, they might consider employing an RIBA Client Adviser to provide strategic advice, to help them navigate the early stages and provide continued support throughout the project.

### Common misapplication 3

In many scenarios, high-level spatial requirements are set that are not affordable within the envelope of the **Project Budget**.

#### Recommendation

It is important that the **Client Requirements** are aligned with the **Project Budget** during this stage. If the likely accommodation required to deliver the outcomes is unaffordable, there is no point in proceeding to Stage 1.





## Stage 1

Stage 1 is about developing the detail of the brief and making sure that everything needed for the design process is in place before Stage 2. This includes ensuring that the brief can be accommodated on the site.

### Common misapplication 1

**Feasibility Studies** undertaken at Stage 1 are seen as the start of the design process.

#### Recommendation

**Feasibility studies** are carried out as part of the briefing process to verify whether a site can accommodate the client's needs, or to test a particular aspect of the brief, allowing the brief to be honed as required. Where a number of options demonstrate that a number of approaches are feasible for a given site, they should not be narrowed down or appraised at this stage. Instead, the feasible options should be subjected to the more detailed rigor of the design process that commences at Stage 2. If the client has appointed an RIBA Client Adviser, they will be able to carry out the **Feasibility Studies**. This creates a cleaner boundary between the client team's work at Stage 1 and the commencement of the design work at Stage 2. If the client team does not have the skills required to conduct **Feasibility Studies**, they might consider appointing a designer early, to carry out the **Feasibility Studies**, as part of the client team. This can bring continuity to Stage 2. While design thinking may be applied at Stage 1, this is not in the creation of the design of the building; that starts at Stage 2.

### Common misapplication 2

The briefing process is often rushed, to allow Stage 2 to commence earlier.

#### Recommendation

An inadequate briefing process can result in delay during Stage 2, as the design team will have to undertake additional iterations of the design to tease out and resolve briefing issues. It is usual for the brief to iterate at Stage 2, in response to the design proposals. However, it is essential that, at the end of Stage 1, the brief covers any topics that the client wishes the design team to consider, including **Project Outcomes**, exemplar projects, **Spatial Requirements** and how these link to the **Project Budget**, and any topic or objective that would better inform the design process. The better the brief, the more engaged the design team can be in developing the best solution. RIBA Client Advisers can support the client in developing a clear and robust **Project Brief** in Stage 1, that will provide the design team in stage 2 with all the project requirements.





### Common misapplication 3

Clients are framing information requirements for projects around traditional 2D deliverables. Increasingly, this adds waste to the design process and may discourage design teams from leveraging more value from their federated model or other innovative ways of working.

#### Recommendation

The new challenge for Stage 1 is to define the **Information Requirements** for each project stage. This includes considering the use of new digital survey techniques that might assist the design process, the need for **Asset Information** at handover, and how new technologies might create better and faster design processes. Experienced clients might have the skills to set these new deliverables themselves. Less experienced or one-off clients can look to the design teams bidding for the project to suggest optimum proposals or might appoint the lead designer, an RIBA Client Adviser or an information manager to assist them during the development of the brief. As digital transformation takes hold in the construction industry, there is no right or wrong approach. However, if this topic is not considered at the start, the design process can easily become inefficient and less productive than traditional ways of working, when the converse should be true.



## Stage 2

Stage 2 is about getting the design concept right and making sure that the look and feel of the building is proceeding in line with the client's vision, brief and budget. The key challenge of this stage is to make sure that the tasks that are undertaken are geared to meeting the stage objectives. Going into too much detail too early can pivot the design team's effort away from setting the best strategy for the project; but if there is too little detail, Stage 3 becomes inefficient.

### Common misapplication 1

An increasing number of private sector clients are submitting planning applications near the beginning of Stage 3; developers often need to understand at an early stage what the costs of developer contributions required from the local authority will be - as they may affect the viability of a project.

#### Recommendation

While submitting an early planning application may bring clarity regarding developer contributions including section 106 or community infrastructure levy obligations, it creates several **Project Risks**. The RIBA recommends this approach is only followed by experienced clients who are aware of the risks and can manage them effectively.

### Common misapplication 2

Focus has been on what level of detail is required in the BIM (building information modelling) model during this stage, rather than on the tasks required to underpin the detail in the model.

#### Recommendation

Determining where the boundary between Stages 2 and 3 lies is one of the most complex tasks for a project team. The RIBA Plan of Work requires a robust **Architectural Concept** to be produced. However, this can be done in different ways. A core challenge at Stage 2 is determining what tasks and **Information Requirements** are required to achieve the stage outcomes. In some instances, the intuitive skills of the designer will be enough to develop an **Architectural Concept**. In other situations, a detailed analysis may be required to test the design that has been produced. For example, some clients may be satisfied by 'rule of thumb' calculations for the stairs and toilets of an office building and for light touch engineering inputs. Others may wish greater certainty in the design, requiring detailed calculations for these elements. There is no right or wrong approach. It is essential that the lead designer focuses the design team on the tasks that support and underpin the stage goals and which will make the design as resilient as possible as it progresses into Stage 3, when the level of work by the engineering teams and any specialists needs to accelerate.



### Common misapplication 3

Many clients request comprehensive BIM models, along with detailed 2D information and other data-driven outputs, during this stage, without considering whether it is the right information to deliver the stage outcomes.

#### Recommendation

Clients need to consider what information is required to deliver the stage outcomes. Will their outcomes be best served by the production of large quantities of 2D information during this stage? 3D technologies, including VR and augmented reality, are no longer gimmicks. They are valid ways of undertaking **Design Reviews** and their use should be considered alongside the need for traditional deliverables. Part 4, chapter Nine: *Setting Information Requirements* looks at the complexities of defining what information should be produced for each project stage.



## Stage 3

The purpose of Stage 3 is to spatially coordinate the design before the focus turns to preparing the detailed information required for manufacturing and constructing the building. The information at the end of this stage needs to be coordinated sufficiently to avoid all but the most minor of iterations at Stage 4 and to make sure that the planning application is based on the best possible information.

### Common misapplication 1

It is commonplace for the concept design to continue to be iterated during Stage 3. This diverts the design team from undertaking the core tasks for the stage.

#### Recommendation

The **Architectural Concept** should be concluded and signed off at Stage 2, along with the **Project Brief**. The project should not proceed to Stage 3 if any **Spatial Requirements** or room adjacencies remain inconclusive. During Stage 3, **Change Control Procedures** should be used to manage functional changes to the **Project Brief** and the **Architectural Concept**. Minor aspects of the scheme may need to be adjusted in response to the design tasks being undertaken. For example, a core might have to be rearranged to suit the final toilet and riser layouts.

### Common misapplication 2

It is common to start Stage 4 before the design is **Spatially Coordinated**; for example, where the engineering design is one step behind the architect's information.

#### Recommendation

The Stage 3 design needs to be **Spatially Coordinated** to allow each design team member to work independently at Stage 4, or for the design of specialist subcontractors to be integrated into the coordinated design. Similarly, all of the **Project Strategies** and any other project information should be coordinated.

### Common misapplication 3

The number of specialists being used on projects is increasing, but in many instances the timing of their contributions are not timed properly. The right contributions are produced, but at the wrong stage.

#### Recommendation

The majority of **Project Strategies** (produced by specialist consultants) should be coordinated and concluded by the end of Stage 3, ready to be embedded into the Stage 4 design information. Allowing work on **Project Strategies** that do not require further development for construction or **Facilities Management** purposes to stray into Stage 4 can be disruptive to the Stage 4 design process. The lead designer should review the schedules of services for specialist consultants and comment on what tasks are proposed and when these will be undertaken, being alert to any tasks that may disrupt the Stage 4 design process.





### Common misapplication 4

Under some procurement routes, Stage 3 deliverables are being used for tender purposes. However, while this information is coordinated, it is unlikely to contain sufficient detail to allow robust tenders to be prepared. For example, specifications will not be ready, the scope of work might be incomplete and detailed drawings will not have been prepared.

### Recommendation

The project team should consider what adjustments to the design process, including the early delivery of Stage 4 information, might improve the design team's effectiveness for procurement purposes. For example, being able to provide the scope for a particular work package or the detail design for a complex aspect of the project, such as the cladding, will reduce the contractor's need for assumptions, providing a more accurate tender return.



## Stage 4

Stage 4 is about developing the information required to manufacture and construct the building. This requires information from the design team and the specialist subcontractors employed by the contractor, regardless of which procurement route is used.

### Common misapplication 1

There is a tendency for design work by specialist subcontractors to be allocated to Stage 5, including any reviews of this information by the client team.

### Recommendation

Specialist subcontractors' design work should be allocated to Stage 4. The intention of the RIBA Plan of Work is that Stage 5 comprises solely the manufacturing and construction of the building, along with any associated inspections and reporting and the resolution of **Site Queries**. On the majority of projects, Stage 4 and Stage 5 will run concurrently and a contractual 'firewall' will occur midway through Stage 4. For example, on a two-stage design and build project, the client may be content to sign the **Building Contract** after the major packages have been secured; however, on a traditional project, the design team's work should be substantially complete prior to the **Building Contract** being signed, with the specialist subcontractor design completed after the contractor has been appointed. By keeping all design work within Stage 4, the lead designer is able to prepare a Stage 4 Design Programme that covers all elements of the design team's and specialist subcontractors' design work.

### Common misapplication 2

Setting boundaries between the design team's and the specialist subcontractors' design responsibilities is not considered at the outset. As a result, there may be ambiguities in what the design or construction teams have allowed for in their pricing.

### Recommendation

Where to position the interface between the design team and the specialist subcontractors is a core project decision. However, this is not the same as selecting the procurement route and the two must not be confused. It is possible for a traditional project to include a number of performance-specified (descriptive) elements, as opposed to the more expected prescriptive specification on traditional projects, and for a design and build project to have predominately descriptive specifications. The value brought by the design team delivering **Prescriptive Information** will vary depending on the building type and the outcomes the client is seeking to achieve. Many clients will prefer products visible on completion to be specified by the design team, allowing others to be selected by the contractor. Many specialist subcontractors have design skills beyond those of traditional designers and so can add value to the design process. With this in mind, the **Responsibility Matrix** needs to be set up at Stage 1, acknowledging that it can be updated if necessary as the design progresses.



### Common misapplication 3

The use of offsite manufacturing and other modern methods of construction is only being considered first at Stage 3 or even Stage 4.

#### Recommendation

The RIBA is witnessing an increased interest in offsite manufacturing and other modern methods of construction. However, these technologies need to be considered at Stage 2 and be embedded into the design from the outset. The RIBA recommends that if a client wishes the design team to embrace a specific modern method of construction, this should be implicit in the **Project Brief**. Where this is not a specific requirement, the RIBA suggests that the design team, perhaps in consultation with a construction adviser, considers different ways of building when preparing the Stage 2 **Construction Strategy**.



## Stage 5

Stage 5 is when the building is manufactured and constructed.

### Common misapplication 1

Design activity undertaken after construction has started is being considered Stage 5 design activity, or Stage 4 design work is delayed until Stage 5.

### What should happen/recommendation

With the exception of resolving **Site Queries**, there is no design activity at Stage 5. It is likely that Stages 4 and 5 will overlap, as dictated by the **Project Programme** and the **Procurement Strategy**. However, it should be clear in the professional services agreements that the production of information required for manufacturing and constructing the building, including the design work of the design team and the specialist subcontractors (including the review of this information), is a Stage 4 activity.

### Common misapplication 2

The information that will be handed over at the end of Stage 5 is not considered at the outset.

### Recommendation

The information handed over at the end of Stage 5 is changing. It can now range from 2D general arrangement information (perhaps derived from the design team's latest federated model through to a multi-disciplinary model containing specialist subcontractor information and a wealth of data for asset management, maintenance or in-use purposes. Those setting the **Information Requirements** need to consider what information is required for the effective use of the building. Even the smallest of projects has **Building Systems** that need to be operated effectively to enable the building to perform as expected. It can be difficult to define these **Information Requirements** at the outset, when standards and software are moving at pace, and it may be necessary as the project progresses to check that the contractual commitments will meet the client's information needs.

### Common misapplication 3

Although alternative models to traditional procurement model have been in use for some time, they do not necessarily provide clarity on who is to inspect the ongoing construction works.

### Recommendation

The client needs to consider how much inspection is required on a project. Exactly who is responsible for inspecting the building for compliance with the **Building Contract** will vary from project to project, as will the need for the design team to respond to **Site Queries**. These relationships need to be properly considered and necessary roles identified during Stage 1.







## Stage 6

By Stage 6 the building will be in use and the emphasis of the project team will have switched to closing out any defects and completing the tasks required to conclude the **Building Contract**.

### Common misapplication 1

As a project nears completion, there is a tendency for the construction team to be focused on finishing the physical aspects of the building, and on certifying **Practical Completion** in order to conclude Stage 5, possibly at the expense of handover activities to ensure that the client can use the building optimally.

### Recommendation

For the handover of the building to be successful, and to ensure that the building performs as planned, the Plan for Use Strategy should be considered in greater detail at each stage. Handover activities set out in the Plan for Use Strategy might occur during Stage 5, to ensure that the objectives are met. The end of Stage 5 continues to be defined as when the **Practical Completion** certificate is issued: the point where the building is legally ready for occupation. However, it is acknowledged that handover activities need to start before this date and continue beyond it. These include activities to help the client move in, such as the preparation of a **Building Manual**. Making sure that the building is performing as anticipated after occupation requires a light touch **Post Occupancy Evaluation** to be undertaken.

### Common misapplication 2

**Post Occupancy Evaluation** come in different guises and the term is being used to describe very different types of activity leading to confusion; collecting feedback from the project team is very different to assessing whether the building's energy performance is as planned.

### Recommendation

At Stage 1, the Plan for Use Strategy needs to be clear regarding expectations. Immediately after **Practical Completion**, it is essential to hold a **Project Performance** session with the project team, to gather their views before they disappear to their next projects. The **Aftercare** tasks that will help the building perform as planned have a different timeline – the building needs to have been in use for some time before seasonal **Commissioning** can take place or the data required to analyse performance outcomes can be collated.



## Stage 7

This is the period when the building is in use, lasting until the building reaches the end of its life.

### Common misapplication 1

It is common to see Stage 7 referenced in professional services contracts. However, by the end of Stage 6, those involving in briefing, designing, manufacturing and constructing the building will have completed their tasks.

### Recommendation

The work of the project team concludes with the closing out of the **Building Contract**. If tasks are to be undertaken beyond the end of Stage 6, they need to be properly set out in separate professional services contracts. Appointments to complete the **Aftercare** activities, such as detailed **Post Occupancy Evaluation**, or providing longer term client advice should be in place.

### Common misapplication 2

There are different views on how the end of a building's life relates to the circular processes of the RIBA Plan of Work. In certain industries, the work required at the end of a building's life is extensive and prolonged, justifying an additional project stage beyond Stage 7.

### Recommendation

When the client is considering what to do when a building no longer fulfils the client's needs or at the end of a building's life, they are, in essence, commencing a new Stage 0 process. For example, the client might first assess whether refurbishment, repurposing or extension of the building is possible. If they conclude that none of these is viable, then the building will be disassembled, with its constituent parts reused or recycled. With the end of Stage 7 in mind, some clients may include relevant considerations in the **Project Brief**. For example, they may ask the design team to produce test fits for other possible uses, or to make sure that the means of disassembling the building are clear in the **Construction Strategy** at Stage 2. These tasks will become more commonplace as circular economy principles take hold in the construction industry.



PART



RIBA  
Plan of  
Work  
2020

# 4 CHAPTER FOUR

## Using the RIBA Plan of Work

The RIBA Plan of Work comprises eight stages, which are designed to act together to inform the briefing, design, construction, handover and use of a building. The RIBA Plan of Work can be used by a client at the outset of a project, to help them set up their project, or by any project team member during the project, as a constant point of reference – to remind them of the core tasks that should be undertaken at any particular stage. In addition to understanding the outcomes of each stage, it is crucial to recognise how the RIBA Plan of Work facilitates the progression of several priorities, defined here as **Project Strategies**, through the RIBA stages.

Part 1 of this publication has explained the background to the RIBA Plan of Work and outlined some key changes made to the stages in this edition. Part 2 provides more detail on the structure and content of the Plan and the associated **Project Strategies**.

The majority of the RIBA stages work on a standalone basis. However, achieving successful outcomes at one stage relies on achieving successful outcomes at the stage before. It is foolhardy to believe that where the outcomes from one stage are poor, they can be recovered in the next stage. For example:

- a poor **Project Brief** is likely to lead to poor design outcomes
- a poor design will not achieve exemplary **Project Outcomes**
- designs that are not **Spatially Coordinated** in Stage 3 will result in unnecessary iterations in Stage 4
- poor information in Stage 4 will create an unnecessary volume of **Site Queries**
- lack of foresight on maintenance in the early stages will make maintenance difficult.

In many instances, there will be cross-cutting issues that flow from one stage to another, or information produced by one party that is crucial to another at the next stage. In this regard, while each stage acts independently, the RIBA Plan of Work has been constructed as a whole. Anyone using it should be cautious about changing the strategic tasks in any stage as this will potentially have an impact on the outcomes of the next.

### Capitalised terms

The RIBA Plan of Work contains a number of capitalised terms. These are the core procedures, processes and tools. As crucial aspects of the RIBA Plan of Work, their intentions and purposes need to be clear – the glossary in Part 4 of this publication defines in greater detail the meaning of each term.





# 5

## CHAPTER FIVE

# The RIBA Plan of Work task bars

Running across the RIBA Plan of Work stages are a number of tasks bars that explain the key aspects of each stage.

It should be noted that the **Project Strategies** that need to be worked thorough on most projects are covered in detail in chapter Six.

The RIBA Plan of Work tasks bars now comprise the following.

## Stage Outcome

The stage outcomes are high-level statements of the core outcomes to be expected at the end of each stage.

## Core Tasks

The core tasks are key activities that should be completed if the stage outcomes are to be achieved. The lists are neither exhaustive nor chronological, but are high-level summaries of the tasks. Supported by the capitalised terms (set out in detail in Part 4), the core tasks explain the thrust of activities that can be expected during each stage.

The tasks in this task bar are undertaken by the project team, having been distributed among the client team, design team or construction team as appropriate, under professional services contracts or the **Building Contract**.

## Core Statutory Processes

Any construction project must adhere to statutory requirements set out in planning and health and safety legislation, and the **Building Regulations**. This task bar lists the core statutory tasks that would be expected to be carried out at each project stage. Clients who are undertaking their first construction project will need members of the project team to provide detailed explanations of these requirements.

Crucially, this task bar acts as a reminder that engagement with external stakeholders is a crucial part of the project process. The **Project Programme** needs to be clear regarding any statutory requirements, such as the proposed date for submitting a **Planning Application**.

## Procurement Strategy

The **Procurement Strategy** task bar underlines that the RIBA Plan of Work is procurement neutral. There are two reasons for this. First, a number of different procurement routes are followed in the UK: while traditional procurement is still widely used, design and build forms of building contract are common amongst developers. Second, each **Procurement Strategy** engages with the design process differently during Stages 2 to 4.

It is, therefore, not possible to include specific procurement tasks in the RIBA Plan of Work. However, this task bar illustrates strategically when the construction team would be expected to become involved in the project for each typical procurement route. Procurement does not impact on the core tasks that need to be undertaken as part of the RIBA Plan of Work. However, it may require adjustments to the **Information Requirements** and will certainly be influential in determining the **Project Programme**. It can also have a major impact on the **Design Programme** for Stage 4, and how it overlaps with the **Construction Programme** of Stage 5. These topics are all covered in detail Part 3, chapter Nine.

It should be noted that the **Procurement Strategy** also determines how the design team will be appointed. However, the design team always need to be appointed before the start of Stage 2, regardless of the procurement route or who employs them.

Further guidance on the Procurement Strategy is included in chapter Eight.

## Information Exchanges

During each stage a large quantity of information will be exchanged between project team members and with external stakeholders. However, a crucial goal at each project stage is to ensure that, at the end of the stage, all information required for a client to sign off a stage is captured properly within a set of documentation. This serves two purposes. First, the information delivered at the end of one stage becomes the basis for the next stage, so it needs to be clear at the end of the stage what information will be used by the relevant project team members at the next stage. Second, the information produced at the end of a stage represents a wide range of decisions, made by the client, that will influence how the next stage progresses. These range from the agreement of the **Procurement Strategy** and determination of the **Information Requirements**, to decisions deriving from **Design Reviews** by the client team or external stakeholders, such as planners. As such, it is crucial that the information exchanged at the end of a stage not only includes the information required for the next stage, but also records the basis on which this information was determined.

## Project Strategies

**Project Strategies** are a crucial component of any project. As well as helping to tease out specific briefing issues, they enable design team members and, where necessary, specialist consultants to contribute effectively to the design process by allowing the lead designer to coordinate their contributions within the development of the broader design. They are an effective way of ring-fencing core aspects of the project, allowing the decision-making processes for each aspect to be clearly defined. **Project Strategies** can be appended to the **Stage Reports**, with a summary included within the main body of the text and, if necessary, a higher level statement in the executive summary.

**Project Strategies** need to be coordinated with the design work of the design team as a whole. Because of this, most **Project Strategies** need to be concluded at the end of Stage 3. This will allow their contents and recommendations to be absorbed into the Stage 4 information for each **Building System**. However, where specialist consultants have produced such **Project Strategies**, they might still be available to assist in honing the Stage 4 information.



Some **Project Strategies** will continue to evolve through and beyond Stage 4. It is crucial to understand how each **Project Strategy** will be developed during this stage and by whom, noting that the **Procurement Strategy** will determine who employs the design team.

In chapter Six, key tasks relating to the following **Project Strategies** are set out next to the main descriptions of each of the RIBA Plan of Work stages:

## Conservation Strategy

For use on conservation projects of any size or complexity the Conservation Strategy helps to map the approach that the project team can take when dealing with historic buildings, with an emphasis on managing the effect of the heritage protection measures that currently apply to 'designated assets', such as listed buildings, buildings in a conservation area and scheduled monuments. Each case and situation will be different and there is no set of hard and fast rules - it is more important to adopt an attitude of respect for the past, based on an open-minded approach to the variety of opportunities and problems that will be encountered.

## Cost Plan Strategy

The **Cost Plan** represents the anticipated construction cost of the building and, as such, it represents only a portion of the **Project Budget**. The **Cost Plan** used to be prepared at the end of Stage 2 or Stage 3. At the outset, the **Cost Plan** can be based on industry norms for similar building types adjusted to take account of market conditions, project abnormalities, Project Risks and contingencies. As design information is developed, an elemental **Cost Plan** is prepared. Essentially, this breaks down the cost for the building into the different **Building Systems**.

## Fire Safety Strategy

The Fire Safety Strategy forms an integral part of the design and must be integrated from the point at which a building project is identified and will continue through the ongoing **Asset Management** of the building, providing a golden thread of fire safety information. A high-level **Site Appraisal** to determine the fire safety suitability against the **Client Requirements** informs the viability of the project through **Feasibility Studies**. Layers of fire safety are integrated into the design as the project develops then constructed and managed in use in accordance with the Fire Safety Strategy and maintenance requirements.

## Health and Safety Strategy

The Health and Safety Strategy needs to be considered early on in the project because it is key to securing the safe construction, occupation, maintenance and future re-use or demolition of the project. The client's role is fundamental to this, to establish and maintain a health and safety-conscious approach to delivery of the project from the outset. The Health and Safety Strategy should set clear health and safety objectives.

## Inclusive Design Strategy

Accessibility and inclusion for people with disabilities is a firm policy of Government and the aspirations and expectations of the general public. Its achievement is dependent upon



the availability of barrier free environments and supportive mechanisms in delivering content and managing resources. The sooner that inclusion is considered the more effective and more cost effective it becomes. Alongside meeting Part M of the Building Regulations, buildings must also comply with the Equality Act, which gives legal protection from discrimination in the workplace and in wider society, on the grounds of age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, sexual orientation, also known as the protected characteristics. The Inclusive Design Strategy should consider all of these and be developed at the outset and implemented over the building's useful life.

## Planning Strategy

Planning legislation, policy and procedure is an ever increasingly complex part of the development process. Good planning is inseparable from good design and vice versa. Assessing planning issues should not be left to Stage 3 but be evaluated from the outset of every commission. For example, will the Client Requirements be acceptable under planning policy? If not, there is no value in developing design solutions for a proposal that is unlikely to gain consent. The Client Team must ensure adequate resources are allocated and appointments are made to managing planning issues throughout the project. This applies to both pre and post planning submission.

## Plan for Use Strategy

Plan for Use is the RIBA's interpretation of the Soft Landings Framework produced by the Usable Buildings Trust and BSRIA. Its aim is to encourage a more outcome-based approach to briefing, design, construction, handover and aftercare throughout the construction industry. The Plan for Use Strategy is central to this focal shift. Plan for Use has three basic components:

- Set realistic and measurable targets
- Complete Plan for Use activities
- Evaluate building performance and feed back lessons learned

Additional guidance on the Plan for Use Strategy can be found in the RIBA Plan for Use Guide (2020), created for this version of the RIBA Plan of Work.

## Sustainability Strategy

The Sustainability Strategy acts as a guide to the delivery of sustainable buildings. It provides a framework that can help project teams to take ownership of their buildings' performance. The onus is on project teams to develop targets through the **Sustainability Outcomes** and deliver verified building performance through the Plan for Use Strategy.

This approach embeds key sustainability principles into the overall RIBA Plan of Work, while allowing the targets, benchmarks and **Sustainability Outcomes** to evolve and intensify in their ambition and urgency, as they must over the coming years.

Additional guidance on the Sustainability Strategy and **Sustainable Outcomes** can be found in chapter Seven.





# 6

## CHAPTER SIX

# The RIBA Plan of Work Stages and Project Strategies



The eight stages of the RIBA Plan of Work have been devised to help anyone involved in a building project, from an experienced designer through to a client undertaking their first project. While the RIBA Plan of Work acts as the basis for professional services or building contracts, it is not intended to be contractual; it does not set out in detail who does what at each stage, nor does it define the detail around the many topics covered in this publication. However, anyone undertaking a building project should be alert to the strategic aims and broad outcomes of each stage set by the RIBA Plan of Work, which are based on industry consensus.

The RIBA Plan of Work focuses on the briefing, design, manufacturing, construction, handover and use of a building project. However, it is procurement neutral reflecting the diversity of procurement routes used today and acknowledging that procurement requires tweaks, not transformation, of the design process.

The RIBA Plan of Work also acknowledges that tasks undertaken during any stage might have an impact on the performance of the building and on the successful delivery of the requirements set out by the client. For this reason, Stage 7 reflects the activities carried out after the handover of the building and well into a building's life, even though on the majority of projects the Building Contract and the involvement of design team and the contractor will have concluded at the end of Stage 6. Stage 7 is arguably the most important stage in a building's life. During this stage, its performance impacts on whole life costs and, importantly, on the environment. The performance of future buildings can only be improved if feedback is gathered from buildings in use. Regardless, the project team designing and constructing the project increasingly need to deliver information for asset or facilities management purposes.

While the RIBA acknowledges that major transformations in the way buildings are briefed, designed and constructed are upon us, it is not anticipated that future innovations will alter the RIBA Plan of Work methodology. The RIBA Plan of Work is proving resilient to the changes happening around it. The refinements made in this version make the stages clearer and, regardless of the innovation happening around it, the RIBA Plan of Work will continue to be an invaluable tool for those involved in the briefing, design, manufacturing, construction, maintenance and use of buildings.

There is no standard timescale for a project and project teams will need to set out a project programme appropriate to the scale and complexity of the project. Figure 2 below illustrates a timeline of the stages and likely overlaps of certain stages, this should be read in conjunction with the RIBA Plan of Work 2020 Template which sets out when the tendering activities take place on different procurement routes. In this example the planning application takes place at the end of stage 3 and work has paused during this process.

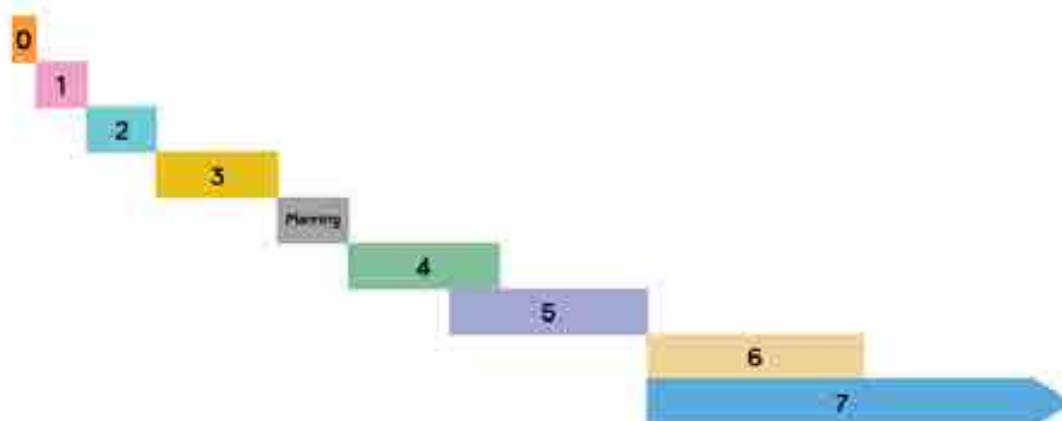


Figure 2: Example Project Programme for each stage of the RIBA Plan of Work 2020



# RIBA Plan of Work 2020 Template





# RIBA Plan of Work 2020

The RIBA Plan of Work organises the process of briefing, designing, delivering, maintaining, operating and using a building into eight stages. It is a framework for all disciplines on construction projects and should be used solely as guidance for the preparation of detailed professional services and building contracts.

### Stage Boundaries:

Stages 0-4 will generally be undertaken one after the other.

Stages 4 and 5 will overlap in the **Project Programme** for most projects.

Stage 5 commences when the contractor takes possession of the site and finishes at **Practical Completion**.

Stage 6 starts with the handover of the building to the client immediately after **Practical Completion** and finishes at the end of the **Defects Liability Period**.

Stage 7 starts concurrently with Stage 6 and lasts for the life of the building.

### Planning Note:

**Planning Applications** are generally submitted at the end of Stage 3 and should only be submitted earlier when the threshold of information required has been met. If a **Planning Application** is made during Stage 3, a mid-stage gateway should be determined and it should be clear to the project team which tasks and deliverables will be required. See **Overview** guidance.

### Procurement:

The RIBA Plan of Work is procurement neutral - See **Overview** guidance for a detailed description of how each stage might be adjusted to accommodate the requirements of the **Procurement Strategy**.

- Employer's Requirements
- Contractor's Proposals

### Stage Outcome

at the end of the stage

### Core Tasks

during the stage

**Project Strategies** might include:

- Conservation (if applicable)
- Cost
- Fire Safety
- Health and Safety
- Inclusive Design
- Planning
- Plan for Use
- Procurement
- Sustainability

See **RIBA Plan of Work 2020 Overview** for detailed guidance on **Project Strategies**.

### Core Statutory Processes

during the stage:

Planning  
Building Regulations  
Health and Safety (CDM)

### Procurement Route

Traditional  
Design & Build 1 Stage  
Design & Build 2 Stage  
Management Contract  
Construction Management  
Contractor-led

### Information Exchanges

at the end of the stage

	0 Strategic Definition	1 Preparation and Briefing	2 Concept Design
<b>Stage Outcome</b> at the end of the stage	The best means of achieving the <b>Client Requirements</b> confirmed  If the outcome determines that a building is the best means of achieving the <b>Client Requirements</b> , the client proceeds to Stage 1	<b>Project Brief</b> approved by the client and confirmed that it can be accommodated on the site	<b>Architectural Concept</b> approved by the client and aligned to the <b>Project Brief</b>  The brief remains "live" during Stage 2 and is derogated in response to the <b>Architectural Concept</b>
<b>Core Tasks</b> during the stage	Prepare <b>Client Requirements</b> Develop <b>Business Case</b> for feasible options including review of <b>Project Risks</b> and <b>Project Budget</b> Ratify option that best delivers <b>Client Requirements</b> Review <b>Feedback</b> from previous projects Undertake <b>Site Appraisals</b>	Prepare <b>Project Brief</b> including <b>Project Outcomes</b> and <b>Sustainability Outcomes</b> , <b>Quality Aspirations</b> and <b>Spatial Requirements</b> Undertake <b>Feasibility Studies</b> Agree <b>Project Budget</b> Source <b>Site Information</b> including <b>Site Surveys</b> Prepare <b>Project Programme</b> Prepare <b>Project Execution Plan</b>	Prepare <b>Architectural Concept</b> incorporating <b>Strategic Engineering</b> requirements and aligned to <b>Cost Plan</b> , <b>Project Strategies</b> and <b>Outline Specification</b>  Agree <b>Project Brief Derogations</b>  Undertake <b>Design Reviews</b> with client and <b>Project Stakeholders</b>  Prepare stage <b>Design Programme</b>
<b>Core Statutory Processes</b> during the stage:	Strategic appraisal of <b>Planning</b> considerations	Source pre-application <b>Planning Advice</b>  Initiate collation of health and safety <b>Pre-construction Information</b>	Obtain pre-application <b>Planning Advice</b>  Agree route to <b>Building Regulations</b> compliance  Options: submit outline <b>Planning Application</b>
<b>Procurement Route</b>	Appoint client team	Appoint design team	Appoint contractor
<b>Information Exchanges</b> at the end of the stage	<b>Client Requirements</b> <b>Business Case</b>	<b>Project Brief</b> <b>Feasibility Studies</b> <b>Site Information</b> <b>Project Budget</b> <b>Project Programme</b> <b>Procurement Strategy</b> <b>Responsibility Matrix</b> <b>Information Requirements</b>	<b>Project Brief Derogations</b> <b>Signed off Stage Report</b> <b>Project Strategies</b> <b>Outline Specification</b> <b>Cost Plan</b>

Core RIBA Plan of Work terms are defined in the RIBA Plan of Work 2020 Overview glossary and set in **Bold Type**.



<p>3</p>  <p><b>Spatial Coordination</b></p>	<p>4</p>  <p><b>Technical Design</b></p>	<p>5</p>  <p><b>Manufacturing and Construction</b></p>	<p>6</p>  <p><b>Handover</b></p>	<p>7</p>  <p><b>Use</b></p>
<p>outcome of Stage 0 may be the decision to initiate a project and Stage 7 covers the ongoing use of the building →</p>				
<p>Architectural and engineering information <b>Spatially Coordinated</b></p>	<p>All design information required to manufacture and construct the project completed</p> <p>Stage 4 will overlap with Stage 5 on most projects</p>	<p>Manufacturing, construction and <b>Commissioning</b> completed</p> <p>There is no design work in Stage 5 other than responding to <b>Site Queries</b></p>	<p>Building handed over, <b>Aftercare</b> initiated and <b>Building Contract</b> concluded</p>	<p>Building used, operated and maintained efficiently</p> <p>Stage 7 starts concurrently with Stage 6 and lasts for the life of the building</p>
<p>Undertake <b>Design Studies, Engineering Analysis</b> and <b>Cost Exercises</b> to test <b>Architectural Concept</b> resulting in <b>Spatially Coordinated</b> design aligned to updated <b>Cost Plan, Project Strategies</b> and <b>Outline Specification</b></p> <p>Initiate <b>Change Control Procedures</b></p> <p>Prepare stage <b>Design Programme</b></p>	<p>Develop architectural and engineering technical design</p> <p>Prepare and coordinate design team <b>Building Systems</b> information</p> <p>Prepare and integrate specialist subcontractor <b>Building Systems</b> information</p> <p>Prepare stage <b>Design Programme</b></p> <p>Specialist subcontractor designs are prepared and reviewed during Stage 4</p>	<p>Finalise <b>Site Logistics</b></p> <p>Manufacture <b>Building Systems</b> and construct building</p> <p>Monitor progress against <b>Construction Programme</b></p> <p>Inspect <b>Construction Quality</b></p> <p>Resolve <b>Site Queries</b> as required</p> <p>Undertake <b>Commissioning</b> of building</p> <p>Prepare <b>Building Manual</b></p> <p>Building handover tasks bridge Stages 5 and 6 as set out in the <b>Plan for Use Strategy</b></p>	<p>Hand over building in line with <b>Plan for Use Strategy</b></p> <p>Undertake review of <b>Project Performance</b></p> <p>Undertake seasonal <b>Commissioning</b></p> <p>Rectify defects</p> <p>Complete initial <b>Aftercare</b> tasks including light touch <b>Post Occupancy Evaluation</b></p>	<p>Implement <b>Facilities Management</b> and <b>Asset Management</b></p> <p>Undertake <b>Post Occupancy Evaluation</b> of building performance in use</p> <p>Verify <b>Project Outcomes</b> including <b>Sustainability Outcomes</b></p> <p>Adaptation of a building (at the end of its useful life) triggers a new Stage 0</p>
<p>Review design against <b>Building Regulations</b></p> <p>Prepare and submit <b>Planning Application</b></p> <p>See <b>Planning Note</b> for guidance on submitting a <b>Planning Application</b> earlier than at end of Stage 3</p>	<p>Submit <b>Building Regulations Application</b></p> <p>Discharge pre-commencement <b>Planning Conditions</b></p> <p>Prepare <b>Construction Phase Plan</b></p> <p>Submit form F10 to HSE if applicable</p>	<p>Carry out <b>Construction Phase Plan</b></p> <p>Comply with <b>Planning Conditions</b> related to construction</p>	<p>Comply with <b>Planning Conditions</b> as required</p>	<p>Comply with <b>Planning Conditions</b> as required</p>
<p>Pre-contract services agreement</p> <p>Preferred bidder</p>	<p>Tender</p> <p>Appoint contractor</p> <p>ER CP</p> <p>Appoint contractor</p> <p>CP</p> <p>Appoint contractor</p> <p>CP</p> <p>Appoint contractor</p>			<p>Appoint <b>Facilities Management</b> and <b>Asset Management</b> teams, and strategic advisers as needed</p>
<p>Signed off <b>Stage Report</b></p> <p><b>Project Strategies</b></p> <p>Updated <b>Outline Specification</b></p> <p>Updated <b>Cost Plan</b></p> <p><b>Planning Application</b></p>	<p><b>Manufacturing Information</b></p> <p><b>Construction Information</b></p> <p><b>Final Specifications</b></p> <p><b>Residual Project Strategies</b></p> <p><b>Building Regulations Application</b></p>	<p><b>Building Manual</b> including <b>Health and Safety File</b> and <b>Fire Safety Information</b></p> <p><b>Practical Completion</b> certificate including <b>Defects List</b></p> <p><b>Asset Information</b></p> <p>Verified <b>Construction Information</b> is required, verification tasks must be defined</p>	<p><b>Feedback on Project Performance</b></p> <p><b>Final Certificate</b></p> <p><b>Feedback</b> from light touch <b>Post Occupancy Evaluation</b></p>	<p><b>Feedback</b> from <b>Post Occupancy Evaluation</b></p> <p>Updated <b>Building Manual</b> including <b>Health and Safety File</b> and <b>Fire Safety Information</b> as necessary</p>



## Stage 0: Strategic Definition

**Outcome:** The best means of achieving the **Client Requirements** confirmed.

The primary goal of Stage 0 is strategic – to ratify that a construction project, or otherwise, is the best means of achieving the **Client Requirements**. For example, a client wishing to expand its workforce has a range of options for accommodating the additional staff, including implementing new ways of working, adopting a more efficient space plan, subleasing premises or desk spaces close by, carrying out a refurbishment, building an extension or commissioning a new building.

Stage 0 is not about design or the practical details. It focuses on making the right strategic decisions and capturing them in a **Business Case**. The stage involves considering the pros and cons, **Project Risks** and **Project Budget** for a range of options and, where necessary, carrying out **Site Surveys** and corresponding planning appraisals, before undertaking a comparative analysis and recommending and ratifying the best option for delivering the **Client Requirements**.

The **Project Risks** consider any circumstances which would affect the delivery of the **Client Requirements** for each option, taking into account that, beyond this stage, substantive costs could be incurred. Examples might include onerous stakeholder constraints that could delay the delivery date, or a costly services diversion that could make an option unviable. The **Project Budget** – the funds the client has available for all aspects necessary to achieve the **Client Requirements** – will need to be considered for each option. This will include professional fees and, where relevant, land acquisition costs. The high-level **Spatial Requirements** relevant to any option may need to be determined as these can significantly influence the estimated construction cost, rents or other costs.

Increasingly, Stage 0 is about gleaning **Feedback** from previous similar projects and gathering insight from **Project Stakeholders**, making sure that lessons are learned. Knowledge gained in this way can help the briefing process, improve design quality and make the building perform better.

Stage 0 should not be regarded only as a first step – it is also the logical next step after Stage 7 in the circular RIBA Plan of Work process. When the end of a building's life is reached, it must be refurbished, repurposed for another use or deconstructed.

Detailed tasks for Stage 0 need to align with the complexity of the challenge and the diversity and demands of the options being considered for the **Business Case**.



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**Who:** Only the client team is involved at this stage. The client team may seek advice from a wide range of professional advisers, such as RIBA Client Advisers to help them develop the **Client Requirements** and **Business Case** that will achieve these.

**Recommendations:** The process of developing the **Client Requirements** and the corresponding **Business Case** should involve all key **Project Stakeholders** within the client body.





## Stage 0: Strategic Definition

### Project Strategies Tasks

<b>Conservation</b>	<p>Identify <b>Project Outcomes</b> and define <b>Client Requirements</b> in relation to conservation. (e.g. minimising harm to historic fabric, preservation or conservation or bring into active use).</p> <p>Begin initial <b>Site Appraisals</b> including investigations and research, to identify significance, sensitivity, and conservation-related <b>Project Risks</b> (for example, protected wildlife, materials containing lead and asbestos) which may affect the delivery of the <b>Client Requirements</b>. This may include establishing historic status (conservation area, listed building or scheduled ancient monument), meeting statutory authorities and reviewing the existing conservation management plan.</p> <p>Define whether any specialist conservation expertise is needed in the client team.</p>
<b>Cost</b>	<p>Prepare a rough order of cost estimate, which captures a very high-level calculation of the <b>Project Budget</b> to meet the <b>Client Requirements</b> including high level <b>Spatial Requirements</b>, taking into consideration any <b>Project Risks</b>. The estimated construction cost might only be stated in terms of estimated cost per square metre or by reference to the estimated cost of a functional type (school place, bed space, etc.) and taking account of <b>Feedback</b> from previous similar projects. The estimated construction cost may be used to form the initial <b>Project Budget</b> figure as part of the <b>Business Case</b>, with the addition of professional fees and land acquisition costs.</p> <p>Define whether any specialist cost consultancy expertise is needed in the client team.</p>
<b>Fire Safety</b>	<p>Undertake <b>Site Appraisals</b> to determine the high level fire safety suitability of the site against the <b>Client Requirements</b> including high level <b>Spatial Requirements</b>, particularly in relation to access and facilities for the fire service and means of escape.</p> <p>Identify relevant current and emerging global, European, national and local fire-related trends, policy and legislation.</p> <p>Review <b>Feedback</b> from previous projects.</p> <p>Define whether the client team require any specialist fire safety expertise.</p>
<b>Health and safety</b>	<p>Gather existing health and safety information about a site or existing building, including relevant information from the <b>Health and Safety File</b> for existing buildings, to identify any significant risks to health and safety (e.g. the presence of asbestos or confined spaces).</p> <p>Take account of client duties under the Construction (Design and Management) Regulations 2015 (CDM Regulations) and their essential role in securing the safe delivery of a project to ratify the best means of achieving the <b>Client Requirements</b>.</p> <p>Review <b>Feedback</b> from previous projects (e.g. the efficacy of the cleaning and maintenance strategy or provisions for work at height).</p> <p>Define whether any specialist health and safety expertise is needed in the client team.</p>





<b>Inclusive design</b>	<p>Identify <b>Project Outcomes</b> and <b>Client Requirements</b> in relation to inclusive design.</p> <p>Undertake an access and inclusion audit of the existing site or environment to identify any <b>Project Risks</b> which may affect the delivery of the <b>Client Requirements</b> for inclusive design.</p> <p>Identify relevant current and emerging global, European, national and local inclusive design-related trends, policy and legislation.</p> <p>Review <b>Feedback</b> from previous projects.</p> <p>Define whether any specialist inclusive design expertise is needed in the client team.</p>
<b>Planning</b>	<p>Undertake a strategic planning appraisal of the site and its immediate and wider context, identifying the planning policy context, site designations, site history, an existing building's listed or scheduled status and related <b>Project Risks</b> which may affect the acceptability and viability of the <b>Client Requirements</b> including high level <b>Spatial Requirements</b> to <b>Project Stakeholders</b> including the planning authority and statutory consultees.</p> <p>Review <b>Feedback</b> from previous Planning history (i.e. any previous applications, refusals and approvals).</p> <p>Define whether any specialist planning expertise is needed in the client team to provide strategic advice on planning considerations.</p>
<b>Plan for Use</b>	<p>Explore opportunities for links to other projects or programmes to achieve economies of scale and improve efficiency, and review the implications for the scope of the <b>Client Requirements</b> and the <b>Business Case</b>.</p> <p>Review opportunities and <b>Project Risks</b> associated with potential future changes of use, operating hours and specific user or tenant requirements that might affect in-use performance.</p> <p>Review <b>Feedback</b> from previous or similar projects or the existing asset.</p> <p>Integrate operation, maintenance and whole life cost considerations into both the <b>Client Requirements</b> and the <b>Business Case</b>.</p>
<b>Sustainability</b>	<p>Develop high level, measurable, ambitious and unambiguous project <b>Sustainability Outcomes</b> to define the <b>Client Requirements</b>, following initial consultation with internal <b>Project Stakeholders</b>.</p> <p>Undertake a <b>Site Appraisal</b> of sustainability opportunities and constraints of potential sites and building assets.</p> <p>Identify relevant current and emerging global, European, national and local sustainability-related policy and legislation.</p> <p>Review relevant <b>Post Occupancy Evaluation Feedback</b> from previous projects (e.g. energy use).</p> <p>Review whether development is necessary to deliver the <b>Client Requirements</b> as one of the <b>Business Case</b> options considered.</p>



## Stage 1: Preparation and Briefing

**Outcome:** **Project Brief** approved by the client, and confirmed that it can be accommodated on the site.

If Stage 0 has determined that a building project is the best means of achieving the **Client Requirements**, the client team begin the briefing process during Stage 1. The **Client Requirements** for the project are considered in more detail, in connection with a specific site or sites, and the outcomes recorded in the **Project Brief**.

The **Project Brief** will contain guidance on the **Project Outcomes**, **Sustainability Outcomes** and **Quality Aspirations**. These may influence how the client, design and construction teams are assembled to form the project team, as part of the **Procurement Strategy**, and may dictate the core milestones in the **Project Programme**. Some clients give detailed, prescriptive briefing guidance, while others leave such considerations to the design team.

This stage is about developing the information that the design team will need to commence the design process at Stage 2. **Feasibility Studies** might be required in order to tease out the full range of briefing considerations and to demonstrate that the **Spatial Requirements** can be accommodated on the site. In some instances, several options might be prepared, but these options should not be vetted and appraised at this stage. **Feasibility Studies** are not part of the design process. For example, illustrative masterplan visions might be prepared in order to determine and shape the brief, and to tease out decisions that will be required on certain topics, but they are not part of the design process itself. As there is a direct correlation between cost and a building's area, the **Spatial Requirements** do need to be tested against the **Project Budget**.

The design team, with appropriate knowledge, skills and experience to deliver the **Project Outcomes**, needs to be selected, ready for Stage 2 to commence. On smaller projects, this team may already have been appointed to develop the **Project Brief**.

As the construction industry uses more digital tools and nudges towards greater uptake of whole life considerations, the information landscape is becoming more complex. The **Information Requirements** are therefore set at Stage 1, including whether the design team will deliver **Prescriptive Information** or **Descriptive information** in Stage 4. A **Responsibility Matrix** also needs to be prepared so that it is clear what tasks will underpin the production of information and who will undertake them. The matrix needs to focus on the boundaries between Stage 2 and Stage 3 tasks, and between the design team and any specialist subcontractors at Stage 4. A **Project Execution Plan** should be prepared, and a **Digital Execution Plan** will allow the design team to set out how they will produce the information.

A comprehensive set of **Site Information** needs to be sourced, including **Site Surveys**, ready for Stage 2 to commence.



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**Who:** Stage 1 involves only the client team. The skills required will vary depending on the specific needs of the client and the project. Developing the **Project Brief** and the other outputs of this stage are skills that can be provided by specialists, such as RIBA Client Advisers who can also assist on selecting the design team. The **Feasibility Studies** might need architectural skills, and engineers or surveyors may be necessary to assess key **Project Risks**

**Recommendations:** It is important to recognise that Stage 1 is not a design stage. This stage is about layering detail and requirements into the **Project Brief**, before the design process commences at Stage 2.





## Stage 1: Preparation and Briefing Project Strategies

<b>Conservation</b>	<p>Undertake specialist <b>Site Surveys</b> and appraisal of conservation area and research historic <b>Site Information</b> and assess the building's listed or scheduled status.</p> <p>Identify specialist conservation <b>Project Stakeholder</b> interest, undertake consultation and respond to <b>Feedback</b> in the <b>Project Brief</b>.</p> <p>Use <b>Feasibility Studies</b> to test the <b>Client Requirements</b> in relation to conservation and discuss options with the local authority, Historic England and amenity societies.</p> <p>Assess the impact of the project on significance and draft a statement of significance to inform the <b>Quality Aspirations, Project Brief, Procurement Strategy</b> and <b>Project Programme</b>.</p> <p>Identify the conservation knowledge, skills and experience required in the design team (e.g. conservation architect), include it within the <b>Responsibility Matrix</b> and appoint specialist consultants.</p>
<b>Cost</b>	<p>Prepare order of cost estimates to test the feasibility of achieving the emerging <b>Project Brief</b> including the <b>Quality Aspirations</b> and <b>Project Strategies</b> when carrying out <b>Feasibility Studies</b>.</p> <p>Breakdown the cost of elements or categories to highlight any areas which may cause significant cost-related <b>Project Risks</b>. (e.g. likely foundation type) and consider the risk profile of potential market changes and inflation impact.</p> <p>Agree the <b>Project Budget</b>.</p> <p>Identify the cost consultant expertise required in the design team, include it within the <b>Responsibility Matrix</b> and appoint consultants.</p>
<b>Fire Safety</b>	<p>Identify <b>Project Stakeholders</b> including building users, residents, building managers and facilities managers and seek <b>Feedback</b> on access requirements, occupant behaviour, and building use and maintenance requirements to inform the development of the <b>Project Brief</b> (as well as technical requirements to qualify for insurance and warranties).</p> <p>Develop overarching fire safety requirements to inform the <b>Project Brief</b>, including initial fire safety measures such as access and facilities for the fire service, and the number and location of cores.</p> <p>Source <b>Site Information</b> relating to fire safety including fire strategies for existing buildings (e.g. existing compartmentation arrangements).</p> <p>Use <b>Feasibility Studies</b> to confirm that the <b>Project Brief</b> can be accommodated on the site in accordance with the overarching fire safety requirements.</p> <p>Identify whether specialist fire safety expertise is required in the design team, include it within the <b>Responsibility Matrix</b> and appoint consultants.</p>
<b>Health and safety</b>	<p>Research and communicate Health and Safety <b>Site Information</b> (e.g. asbestos) and coordinate it with <b>Feasibility Studies</b>.</p> <p>Initiate the collation, review and distribution of <b>Pre-Construction Information</b>, and establish design risk management processes.</p> <p>Define health and safety aspirations and incorporate these objectives within the <b>Project Brief</b>.</p> <p>Agree resource requirements, including time, fees and competence for CDM duty holders, and appoint the designers and the principal designer.</p> <p>Identify whether specialist health and safety advice is required in the design team, include it within the <b>Responsibility Matrix</b> and appoint consultants.</p>





<b>Inclusive design</b>	<p>Identify Inclusive design needs from <b>Project Stakeholders</b>, consultation groups, site audits, design standards and obligations from legislation and incorporate these into the <b>Project Brief</b>.</p> <p>Source <b>Site Information</b> including <b>Site Surveys</b> relevant to inclusive design (e.g. topography, historic building).</p> <p>Use <b>Feasibility Studies</b> to verify that the inclusive design needs can be accommodated on the site within the <b>Project Budget</b>.</p> <p>Identify whether specialist inclusive design expertise is required in the design team, include it within the <b>Responsibility Matrix</b> and appoint consultants.</p>
<b>Planning</b>	<p>Undertake a <b>Site Appraisal</b> (urban design analysis or character appraisal as appropriate).</p> <p>Source pre-design <b>Planning Advice</b> to identify local planning policy <b>related Project Risks</b> to be considered in <b>Feasibility Studies</b>.</p> <p>Use <b>Feasibility Studies</b> to test the <b>Project Brief</b> against the planning constraints of the site and to verify that <b>Quality Aspirations</b> can be achieved.</p> <p>Confirm the requirement for, and scope of, an Environmental Impact Assessment, listed building consent, required consent formats (outline or full), and appropriateness of a planning performance agreement.</p> <p>Develop a planning brief incorporating planning policy principles, the planning strategy, and <b>Project Stakeholder</b> consultation methodology, to inform the <b>Project Brief</b>.</p> <p>Identify planning expertise required (e.g. planning consultant, landscape architect, ecologist, archaeologist, transport consultant), include it within the <b>Responsibility Matrix</b> and appoint consultants.</p>
<b>Plan for Use</b>	<p>Incorporate <b>Feedback</b> from lessons learned on previous projects or from the existing building's <b>Facilities Management</b> team into the <b>Project Brief</b>.</p> <p>Establish measurable targets for environmental performance, amenity and comfort in the <b>Project Brief</b> (e.g. metered energy and water consumption).</p> <p>Set out the requirements for <b>Post Occupancy Evaluation</b>, handover and <b>Aftercare</b>, maintenance and <b>Facilities Management</b> within the <b>Project Brief</b>, taking whole-life costs into consideration.</p> <p>Agree a schedule of <b>Project Stakeholder</b> engagement for Stages 2 and 3, as part of the <b>Project Execution Plan</b>.</p> <p>Identify a consultant within the <b>Responsibility Matrix</b> to take on the role of Plan for Use champion to maintain the focus on <b>Project Outcomes</b> throughout the project.</p>
<b>Sustainability</b>	<p>Use <b>Feedback</b> from <b>Post Occupancy Evaluation</b>, precedent review data, <b>Site Surveys</b>, and past experience of the client's <b>Facilities Management</b> team (if applicable) to state clear, deliverable and ambitious <b>Sustainability Outcomes</b> in the <b>Project Brief</b>.</p> <p>Use <b>Feasibility Studies</b> to verify that the <b>Sustainability Outcomes</b> can be achieved on the site within the <b>Project Budget</b>.</p> <p>Verify local authority sustainability requirements (e.g. enhanced regulatory requirements or assessment methods to be used).</p> <p>Define certification requirements, including timetable for assessor appointments and early stage client actions.</p> <p>Identify sustainability expertise required, include it within the <b>Responsibility Matrix</b> and appoint consultants.</p>



## Stage 2: Concept Design

Outcome: **Architectural Concept** approved by the client and aligned to the **Project Brief**.

Stage 2 sets the **Architectural Concept** for a project. Proposals that align with the **Site Information** and the **Project Brief**, including the **Spatial Requirements**, are prepared. Regular **Design Reviews** are used to seek comments from the client and other **Project Stakeholders** and the design is iterated in response. Any **Project Brief Derogations** are agreed, or the **Project Brief** is adjusted to align with the **Architectural Concept**.

The **Architectural Concept** proposals must also be iterated to accommodate inputs from the design team and from specialist consultants, including the **Strategic Engineering** requirements (building services, civil and structural engineering). The proposals must also be coordinated with the **Project Strategies**, and everything captured in a **Stage Report**. The **Cost Plan** should demonstrate that the proposals and **Outline Specification** are aligned to the **Project Budget**.

A core challenge is to determine what detailed tasks need to be undertaken at this stage. Although Stage 2 is more about rules of thumb than detailed analysis, calculations may be required to progress specific aspects, such as calculating stair or riser sizes. However, if the **Architectural Concept** is not certain, or does not have sufficient buy-in from the client, carrying out detailed supporting tasks now can result in abortive design work. There is no right or wrong approach. A pragmatic review of what tasks should be undertaken to make the **Architectural Concept** as robust as possible before Stage 3 commences is required.

The proposals should demonstrate that the **Spatial Requirements** are being achieved, along with any adjacency requirements. Any non-briefed areas, such as cores, must be developed sufficiently to coordinate with the **Architectural Concept**. Externally, the building must meet the vision of the client, as well as the demands of the local context and environment. The client may seek pre-application **Planning Advice** on the suitability of the initial proposal from a planning adviser or the relevant planning department. The **Architectural Concept** must also be reviewed against the **Quality Aspirations**, and the route to **Building Regulations** compliance needs to be clarified and agreed.

A Stage 2 **Design Programme** must be prepared, in line with the **Project Programme** and **Responsibility Matrix**, to guide the design process and to ensure that the **Information Requirements** are included in the **Stage Report** signed off by the client.



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**Who:** The client team and the design team are the key players in this stage, along with any specialist consultants, whose contributions are required to achieve an **Architectural Concept** that is both robust and aligned with the **Project Brief**. Under some procurement routes, the construction team may also be engaged in this stage.

**Recommendations:** The crucial consideration at this stage is to determine which tasks and **Project Strategies** will contribute to the development of the **Architectural Concept**. The extent and nature of the tasks to be undertaken, and who should undertake them, will vary from project to project and from client to client.





## Stage 2: Concept Design Project Strategies

<b>Conservation</b>	<p>Evaluate <b>Site Information</b> to date the historic fabric and identify sensitivity, significance, condition and threats.</p> <p>Produce measured and condition surveys, and historic development drawings, and develop an historic building analysis to inform the <b>Architectural Concept</b>.</p> <p>Review the <b>Architectural Concept</b> options and <b>Outline Specification</b> against the statement of significance, conservation management plan, input from specialist consultants and <b>Feedback</b> from the client and other <b>Project Stakeholders</b>, using formal Design Reviews where appropriate.</p> <p>Source pre-application <b>Planning Advice</b> including on <b>Conservation Area</b> and listed building consent.</p> <p>Establish required specialist subcontractors, conservators' and suppliers' capabilities and associated lead-in times.</p>
<b>Cost</b>	<p>Prepare an initial formal <b>Cost Plan</b>, which takes account of initial design parameters established by the <b>Architectural Concept</b> and <b>Strategic Engineering</b> requirements, and which includes an elemental analysis of the various significant elements of cost and initial bulk quantities of key items set out in the <b>Outline Specification</b>.</p> <p>Review the cost implications of iterations of the <b>Architectural Concept</b>, taking into account the <b>Project Outcomes</b>, the <b>Procurement Strategy</b>, <b>Project Programme Implications</b> and <b>Project Risks</b>.</p> <p>Demonstrate that the <b>Architectural Concept</b> and <b>Outline Specification</b> are aligned to the <b>Project Budget</b> in the <b>Cost Plan</b>.</p>
<b>Fire Safety</b>	<p>Develop the <b>Architectural Concept</b> to align with the fire safety strategy and the <b>Project Brief</b>, incorporating input from Project Stakeholders (end users, facilities managers, specialist consultants, building control bodies and the fire and rescue authority where appropriate), to identify and address the fire safety measures relating to means of warning and escape, external fire spread and access and facilities for the fire service.</p> <p>Include a record of key fire safety design decisions in the fire safety strategy as part of the <b>Stage Report</b>.</p>
<b>Health and safety</b>	<p>Implement design risk management processes: identify, record and analyse significant and/or unusual foreseeable health and safety hazards (e.g. electricity and chemicals).</p> <p>Eliminate or reduce health and safety risks if possible, or record control measures, and coordinate matters relating to health and safety in the <b>Architectural Concept</b> and <b>Outline Specification</b>, aligned with the other <b>Project Strategies</b> and the <b>Project Brief</b>.</p> <p>Update <b>Pre-Construction Information</b> in line with relevant design development of the <b>Architectural Concept</b>.</p> <p>Initiate the <b>Health and Safety File</b>, and update the design risk management process if necessary.</p> <p>Include a record of key health and safety design decisions as part of the <b>Pre-Construction Information</b> in the <b>Stage Report</b>.</p>





<b>Inclusive design</b>	<p>Develop the inclusive design concept and review against the <b>Project Brief</b>, input from specialist consultants, <b>Project Stakeholder</b> consultation <b>Feedback</b> and local planning authority accessibility needs.</p> <p>Incorporate the inclusive design concept into the <b>Architectural Concept</b> and <b>Outline Specification</b>, and <b>Strategic Engineering</b> requirements.</p> <p>Include a record of key inclusive design decisions in the <b>Stage Report</b>.</p>
<b>Planning</b>	<p>Obtain pre-application <b>Planning Advice</b> on the suitability of the initial proposal from a planning adviser or the relevant planning department.</p> <p>Consult <b>Project Stakeholders</b> and use <b>Design Reviews</b> (as appropriate to the scale, complexity and sensitivity of the project) to seek comments on the <b>Architectural Concept</b> proposals, including the impacts on immediate neighbours, the local context and environment.</p> <p>Iterate the <b>Architectural Concept</b> proposals to accommodate inputs from specialist consultants (e.g. transport/highways consultant, ecologist, archaeologist).</p> <p>Draft a design and access statement (if required), and assess possible section 106 contributions and community infrastructure levy requirements.</p> <p>Option: Submit an outline <b>Planning Application</b> to establish whether the scale and nature of the proposed development would be acceptable to the local planning authority before a fully detailed proposal is put forward.</p>
<b>Plan for Use</b>	<p>Undertake a <b>Feedback</b> exercise to gather lessons learned from key <b>Project Stakeholders</b> and produce a record of performance risks.</p> <p>Finalise requirements for <b>Post Occupancy Evaluation</b>, handover and <b>Aftercare</b>.</p> <p>Review the <b>Architectural Concept</b> against end-user, operation and maintenance building performance requirements and whole-life costs.</p> <p>Align the Plan for Use Strategy with the Sustainability Strategy, <b>Cost Plan</b>, metering, site waste and other <b>Project Strategies</b>.</p> <p>Confirm that <b>Facilities Management</b> plans are in place, appropriate to the project.</p>
<b>Sustainability</b>	<p>Consider benchmarking and quality assurance requirements in initial design work.</p> <p>Incorporate lessons learned from <b>Post Occupancy Evaluation Feedback</b> and the review of precedents in developing the <b>Architectural Concept</b>.</p> <p>Carry out sufficient energy and other modelling to test and refine the <b>Architectural Concept</b>, Sustainability Strategy and delivery of <b>Sustainability Outcomes</b>.</p> <p>Review the <b>Architectural Concept</b> against the intended <b>Sustainability Outcomes</b> and report and mitigate any deviations.</p> <p>Include a record of key design decisions to deliver the <b>Sustainable Outcomes</b> in the <b>Stage Report</b>.</p>



## Stage 3: Spatial Coordination

**Outcome:** Architectural and engineering information **Spatially Coordinated**.

Stage 3 is fundamentally about testing and validating the **Architectural Concept**, to make sure that the architectural and engineering information prepared at Stage 2 is **Spatially Coordinated** before the detailed information required to manufacture and construct the building is produced at Stage 4.

Detailed **Design Studies** and **Engineering Analysis** are undertaken to ratify the assumptions made during Stage 2 and to layer more detail onto the design. Stage 3 is not about adjusting the **Architectural Concept**, which should remain substantially unaltered, although detailed design or engineering tasks may require adjustments to make sure that the building is **Spatially Coordinated**. Changes to the **Architectural Concept**, for whatever reason, should be agreed via the **Change Control Procedure**.

**Design Studies** should be aligned to **Cost Exercises** and the development of the **Outline Specification** – iterations of the design may be required to ensure the **Cost Plan** aligns with the **Project Budget**. Product suppliers and specialist subcontractors might be consulted to test or conclude specific aspects of the design. A **Spatially Coordinated** design allows each designer, including specialist subcontractors, to finalise their information at Stage 4 (except for minor tweaks at interfaces) without further major iterations of the design.

The **Project Strategies** need to be updated and additional detail added, and a **Building Regulations** review undertaken. A Stage 3 **Design Programme** is created to make sure that the right tasks are undertaken at the right time. At the end of Stage 3, once the client has signed off a **Stage Report** that captures all the design development work undertaken during the stage, a **Planning Application** can be submitted.

**NOTE:** When a **Planning Application** before the end of Stage 3 is being considered, it is important to set a mid-stage gateway and focus on the tasks necessary to ensure that the threshold of information required for an application is achieved, and that the design is robust enough for development once planning consent has been obtained.

**NOTE:** On some projects, **Employer's Requirements** might be issued at the end of Stage 3 rather than in Stage 4. This documentation may require some elements of the design to be drawn to a higher level of detail, or require schedules or detailed specifications to be produced, to help remove risk from the procurement process and set the **Quality Aspirations**. This is a drawdown from Stage 4 activity, and might be undertaken at the end of Stage 3, after the **Stage Report** has been signed off.



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**Who:** The lead designer and design team are key to this stage. The client team are involved where Stage 3 coordination requires client decisions. The construction team may also be involved if the selected procurement route requires early contractor or specialist subcontractor inputs.

**Recommendations:** Stage 3 results in a **Spatially Coordinated** design. It is crucial that the client team and design team understand the stage outcomes and the tasks required to achieve them, as well as the impact that preparing **Employer's Requirements** or a **Planning Application** might have on the **Information Requirements** and tasks to be undertaken.





## Stage 3: Spatial Coordination Project Strategies

<b>Conservation</b>	<p>Undertake <b>Design Studies</b> and <b>Engineering Analysis</b> to test technical solutions for building conservation (e.g. to minimise harm to historic fabric), informed by specialist subcontractors and conservators, analysis, surveys and theory, and develop the building conservation aspects of the design in more detail.</p> <p>Undertake a <b>Building Regulations</b> review and recognise any <b>Building Regulations</b> exemptions.</p> <p>Integrate building conservation principles into a <b>Spatially Coordinated</b> design aligned to <b>Project Stakeholder</b> consultation Feedback.</p> <p>Identify and record any risks to significance, sensitivity, and conservation principles and mitigate any deviation from the conservation <b>Project Outcomes</b> (e.g. to accommodate inclusive design requirements).</p> <p>Establish the input and responsibilities of specialist subcontractors and conservators required, and the availability and lead-in times of specialist materials, to inform the <b>Procurement Strategy</b>.</p> <p>Prepare and submit a <b>Planning Application</b> and application for listed building or scheduled monument consent at the end of Stage 3.</p>
<b>Cost</b>	<p>Carry out <b>Cost Exercises</b> to allow more detailed aspects of the design, <b>Project Strategies</b> and <b>Outline Specification</b> to be tested, using <b>Design Studies</b> and involving suppliers or specialist subcontractors if necessary to determine affordability, and taking into consideration the cost implications of achieving the <b>Project Outcomes</b> including compliance with statutory requirements.</p> <p>Update the formal <b>Cost Plan</b> iteratively with increasing levels of cost certainty as greater detail of the architectural proposal is developed to align with the <b>Project Budget</b>; greater certainty allows any cost increases to be balanced by reductions in the project contingency.</p>
<b>Fire Safety</b>	<p>Undertake <b>Design Studies</b> and <b>Engineering Analysis</b>, with input from end users, facilities managers, specialist consultants (e.g. access consultant, subcontractors and the contractor if appointed, to test the design for fire safety and develop the fire safety measures in more detail).</p> <p>Undertake a <b>Building Regulations</b> review of Part B, Part A, Part M and Regulation 7 requirements, with input from the building control body and fire rescue authority where appropriate.</p> <p>Integrate the fire safety measures into a <b>Spatially Coordinated</b> design, aligned to <b>Feedback</b> from the fire service, and building insurers if required.</p> <p>Identify and record any risks to fire safety and mitigate any deviation from the Fire Safety Strategy and include key design decisions relating to fire safety in the <b>Stage Report</b>.</p> <p>Establish the input and responsibilities of specialist subcontractors required (e.g. fire stopping) to inform the <b>Procurement Strategy</b>.</p>
<b>Health and safety</b>	<p>Undertake <b>Design Studies</b> and <b>Engineering Analysis</b> to eliminate or reduce residual and additional risks to health and safety, informed by specialist subcontractors and the contractor if appointed.</p> <p>Integrate design risk management considerations into a <b>Spatially Coordinated</b> design, record control measures and update <b>Pre-Construction Information</b> in line with relevant design development.</p> <p>Include <b>Pre-Construction Information</b> in the <b>Stage Report</b>.</p> <p>Establish the input and responsibilities of specialist sub-contractors required (e.g. façade access and maintenance) to inform the <b>Procurement Strategy</b>.</p>





<b>Inclusive design</b>	<p>Undertake a review of Part M of the <b>Building Regulations</b> and the Equality Act.</p> <p>Undertake <b>Design Studies</b> and <b>Engineering Analysis</b> to test and develop the inclusive design requirements in more detail with input from <b>Project Stakeholders</b> (e.g. end users and access consultants).</p> <p>Integrate inclusive design considerations into a <b>Spatially Coordinated</b> design aligned to <b>Project Stakeholder</b> consultation <b>Feedback</b>.</p> <p>Identify and record any <b>Project Risks</b> to inclusive design and mitigate any deviation from the Inclusive Design Strategy for inclusion in the <b>Stage Report</b>.</p> <p>Prepare and submit the design and access statement as part of the <b>Planning Application</b> at the end of Stage 3.</p>
<b>Planning</b>	<p>Undertake a <b>Building Regulations</b> review of the <b>Spatially Coordinated</b> Design before submitting a <b>Planning Application</b>.</p> <p>Undertake <b>Design Studies</b> to test in more detail the impacts of the proposals on immediate neighbours, the local context and environment - informed by specialist consultants as required (e.g. transport/highways consultant, ecologist, archaeologist).</p> <p>Integrate pre-application <b>Planning Advice</b> into a <b>Spatially Coordinated</b> design aligned to other <b>Project Strategies</b>, <b>Project Stakeholder</b> consultation <b>Feedback</b> and information produced by specialist consultants.</p> <p>Prepare the environmental impact assessment, heritage statement, design and access statement (if required) and supporting planning documents.</p> <p>Establish likely <b>Planning Conditions</b>, including pre-commencement and post completion operational <b>Planning Conditions</b>, and confirm section 106 contributions and community infrastructure levy requirements with planning consent.</p> <p>Submit the <b>Planning Application</b> once the design is <b>Spatially Coordinated</b> sufficiently for development, with only minor iterations required once planning consent has been obtained.</p>
<b>Plan for Use</b>	<p>Undertake <b>Design Studies</b> and <b>Engineering Analysis</b> to test the building performance requirements and conclude <b>Design Reviews</b> with input from end users, facilities managers, specialists, design consultants and the contractor (if appointed), to ratify the design from an end-user perspective.</p> <p>Integrate the building performance requirements into a <b>Spatially Coordinated</b> design aligned to <b>Project Stakeholder</b> consultation <b>Feedback</b>.</p> <p>Embed the requirements for <b>Post Occupancy Evaluation</b>, handover and <b>Aftercare</b> in the Procurement Strategy.</p> <p>Update the record of performance risks to inform Stage 4 tasks and deliverables.</p>
<b>Sustainability</b>	<p>Undertake <b>Design Studies</b> and <b>Engineering Analysis</b> to test the <b>Sustainability Outcomes</b>, including carrying out a building performance assessment following <b>Plan for Use</b> protocol, and develop the design in more detail.</p> <p>Submit a <b>Building Regulations Application</b> and any interim certification applications (e.g. BREEAM).</p> <p>Integrate <b>Sustainability Outcomes</b> into a <b>Spatially Coordinated</b> design aligned to <b>Project Stakeholder</b> consultation <b>Feedback</b> incorporating lessons learned from <b>Post Occupancy Evaluation Feedback</b> and the review of precedents, and record new lessons learned.</p> <p>Identify and update record of performance risks to inform Stage 4 tasks and deliverables, and mitigate any deviation from the <b>Sustainability Outcomes</b>.</p> <p>Embed the requirements for <b>Post Occupancy Evaluation</b> in the <b>Procurement Strategy</b>.</p> <p>Include a record of key design decisions to deliver the <b>Sustainable Outcomes</b> in the <b>Stage Report</b>.</p>



## Stage 4: Technical Design

**Outcome:** All design information required to manufacture and construct the project completed.

Stage 4 involves the preparation of all information required to manufacture and construct a building. The core documents at the start of Stage 4 are the **Responsibility Matrix**, the **Information Requirements** and the **Stage 4 Design Programme**, which is heavily influenced by the **Procurement Strategy**.

The **Responsibility Matrix**, produced in Stage 1, defines whether the design team will deliver **Prescriptive Information** or **Descriptive Information** (including **Final Specifications**) for each **Building System**. **Prescriptive Information** can be used for construction purposes, with **Descriptive Information** issued where a specialist subcontractor will design a **Building System** for manufacturing and/or construction. While the **Procurement Strategy** influences who takes ultimate responsibility for **Manufacturing Information** and **Construction Information**, it is a common misconception that it also determines who is to produce it. However, a client on a design and build project may wish the design team's information to be as prescriptive as possible, keeping the need for specialist subcontractor design of **Building Systems** to a minimum. Conversely, a client using traditional procurement may require several specialist subcontractors to design **Building Systems**.

The **Procurement Strategy** does, however, influence when the **Building Systems** will be designed, dictating how the **Stage 4 Design Programme** will be structured. The **Procurement Strategy** might require Stage 4 to be undertaken in two parts. For example, on a traditional project, specialist subcontractors will design **Building Systems** after the **Building Contract** has been awarded.

The **Procurement Strategy** may also influence the structure of the project team. For example, the design team may be novated to the construction team. With this in mind, it is important that the **Procurement Strategy** is clear about project roles, including who will direct the work of the design team and who will review the design work of specialist subcontractors.

A **Building Regulations Application** should be made during Stage 4, before work commences on site. It will also be necessary to discharge any pre-commencement **Planning Conditions**.

Cost control measures applied during this stage will vary from project to project. These might include the preparation of an updated **Cost Plan**, bills of quantities or pricing schedules, as defined by the **Procurement Strategy**. The **Building Contract** needs to be agreed and signed at some point during the stage, to allow Stage 5 to commence. The majority of **Project Strategies** developed by the design team will be embedded in the **Manufacturing Information** and/or **Construction Information**, but some will continue into this stage and beyond. It is not usually necessary to produce a **Stage Report** for Stage 4.



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**Who:** The design team and the specialist subcontractors employed by the contractor complete the design in this stage. Under some forms of procurement, a client monitoring team may be appointed to review the information that is produced.

**Recommendations:** All the design work required to manufacture and construct the building is undertaken in Stage 4, regardless of the **Procurement Strategy**. It is crucial to review the **Responsibility Matrix** before Stage 4 commences so it is clear who will be producing the **Manufacturing Information** and **Construction Information** and whether the design team will produce **Prescriptive Information** or **Descriptive Information**.





## Stage 4: Technical Design Project Strategies

<b>Conservation</b>	<p>Complete practicable intrusive surveys, and identify future surveys necessary.</p> <p>Undertake technical design, including <b>Final Specifications</b> and material sourcing, for building conservation.</p> <p>Prepare and coordinate specialist subcontractors' and conservators' information including <b>Final Specifications</b>, embedding the Conservation Strategy.</p> <p>Discharge any pre-commencement listed building consent and <b>Planning Conditions</b> (e.g. submit a conservation method statement), and submit a <b>Building Regulations Application</b>, recognising any exemptions.</p> <p>Include the conservation requirements in tender information or <b>Employer's Requirements</b> and review tender returns or <b>Contractors Proposals</b>, including any alternatives proposed to reduce costs, and against Conservation Strategy outcomes.</p> <p>Identify <b>Project Risks</b> and uncertain areas of work where provisional sums are required (e.g. when it has not been possible to fully analyse the structure or building fabric).</p>
<b>Cost</b>	<p>Update the formal <b>Cost Plan</b> iteratively – to a level of detail defined by the Procurement Strategy – with a detailed elemental analysis of cost, together with a full bills of quantities, unit cost items or pricing schedules; the final <b>Cost Plan</b> becomes a pre-tender cost estimate.</p> <p>Review tender returns or <b>Contractors Proposals</b>, including any alternatives proposed to reduce costs, against the <b>Cost Plan</b>, <b>Quality Aspirations</b>, <b>Building Regulations</b> and <b>Project Strategies</b>. Monitor and report the cost of any variations to the technical design between the point that the tenders are invited and up to the point that the contractor has been appointed.</p> <p>Identify <b>Project Risks</b> and uncertain areas of work where provisional sums are required.</p>
<b>Fire Safety</b>	<p>Undertake technical design, including <b>Final Specifications</b>, to manufacture and construct a fire safe building, including passive and active fire protection measures, means of warning and escape, and access and facilities for firefighting.</p> <p>Prepare and coordinate fire safety technical design information including <b>Final Specifications</b> required to manufacture and construct the building, and review against any insurer/warranty provider requirements, and building use, management and maintenance requirements.</p> <p>Identify and contact suitable contractors, and name or nominate specialist fire protection and fire safety subcontractors.</p> <p>Include the fire safety requirements in tender information or <b>Employer's Requirements</b> and review tender returns or <b>Contractors Proposals</b>, including any alternatives proposed to reduce costs, against fire safety outcomes.</p> <p>Close down design risks in relation to the fire safety in use by the end of Stage 4.</p> <p>Address <b>Building Regulations</b> Part B, Part A, Part M and Regulation 7 requirements in full and submit a <b>Building Regulations Application</b>.</p>
<b>Health and safety</b>	<p>Identify, record and analyse, and eliminate or reduce, any Stage 3 or final residual risks to health and safety in undertaking the technical design.</p> <p>Integrate information identifying residual risks and record control measures in the final <b>Pre-Construction Information</b> handed over to the principal contractor.</p> <p>Include health and safety requirements in tender information or <b>Employer's Requirements</b> and review tender returns or <b>Contractors Proposals</b>, including any alternatives proposed to reduce costs, against the requirement to secure the health and safety of any person affected by the project.</p> <p>Prepare the <b>Construction Phase Plan</b>, and update the <b>Health and Safety File</b>. Submit Form F10 to the HSE if required.</p>





<b>Inclusive design</b>	<p>Undertake technical design, including <b>Final Specifications</b>, to manufacture and construct an inclusive building.</p> <p>Coordinate design team and specialist subcontractors' <b>Manufacturing Information, Construction Information</b> and <b>Final Specifications</b>, embedding the inclusive design requirements and other <b>Project Strategies</b>.</p> <p>Include the inclusive design requirements in tender information or <b>Employer's Requirements</b> and review tender returns or <b>Contractors</b>, including any alternatives proposed to reduce costs, against inclusive design outcomes.</p> <p>Address the Equality Act (2010) and <b>Building Regulations</b> Part M requirements and submit a <b>Building Regulations Application</b>.</p>
<b>Planning</b>	<p>Develop and prepare any necessary supplementary design information to confirm details required before the planning permission can be implemented (e.g. large scale construction details) and submit an application to discharge any pre-commencement <b>Planning Conditions</b>.</p> <p>Negotiate and prepare any applications for non-material or minor material amendments if required, submit to the local planning authority; submit a new <b>Planning Application</b> if material amendments are required.</p> <p>Include list of <b>Planning Conditions</b> in tender information/<b>Employer's Requirements</b> and review tender returns/<b>Contractors Proposals</b>, including any alternatives proposed to reduce costs, against the <b>Planning Conditions</b>.</p>
<b>Plan for Use</b>	<p>Regularly review the record of performance risks against the technical design with the design team, design out or control as many performance risks as possible, and identify strategies for managing those that remain.</p> <p>Include appropriate instructions for <b>Plan for Use</b> activities for the remaining stages in tender information or <b>Employer's Requirements</b>, including a handover strategy and Aftercare plan, and a requirement for <b>Facilities Management</b> information to operate the building effectively and enable it to perform as expected.</p> <p>Review tender returns or <b>Contractors Proposals</b>, including any alternatives proposed to reduce costs, against the record of performance risks, <b>Project Outcomes</b> and <b>Sustainability Outcomes</b>.</p> <p>Coordinate design team and specialist subcontractors' <b>Manufacturing Information, Construction Information</b> and <b>Final Specifications</b> with the record of performance risks.</p>
<b>Sustainability</b>	<p>Undertake technical design, including <b>Final Specifications</b> and material sourcing, to manufacture and construct the building to achieve the target <b>Sustainability Outcomes</b>.</p> <p>Coordinate design team and specialist subcontractors' <b>Manufacturing Information, Construction Information</b> and <b>Final Specifications</b>, embedding the target <b>Sustainability Outcomes</b> and the Plan for Use Strategy.</p> <p>Update any target commitments (e.g. to reduce carbon, energy or water use, and improve health and wellbeing).</p> <p>Include the Sustainability Strategy in tender information or <b>Employer's Requirements</b> and review tender returns or <b>Contractors Proposals</b> – including any alternatives – against <b>Sustainability Outcomes</b>.</p> <p>Mitigate or control as many building performance and climate change impact <b>Project Risks</b> as possible and identify strategies for managing those that remain.</p> <p>Address the <b>Sustainability Outcomes</b> targets – and Part F, G and L <b>Building Regulations</b> requirements – and submit a <b>Building Regulations Application</b>.</p>



## Stage 5: Manufacturing and Construction

**Outcome:** Manufacturing, construction and **Commissioning** completed.

Stage 5 comprises the manufacturing and construction of the **Building Systems** in accordance with the **Construction Programme** agreed in the **Building Contract**. Increasingly, digital technologies are being used to rehearse different construction activities, allowing Stage 5 to be faster and safer. As the construction industry moves towards greater uptake of offsite manufacturing, greater emphasis is also placed on the logistics of getting materials and large-scale components to site on time, and on the management of supply chain partners.

It should be clear from the outset who is responsible for responding to **Site Queries**, for regularly reporting on **Construction Quality**, for inspecting the works and monitoring progress, and for producing the **Defects List** prior to **Practical Completion** being certified. This may be the design team, who have produced the Stage 2, 3 and 4 information, or it may be a separate standalone role or client team. A separate team may have delivered the Stage 4 information, and the design team members might be allocated different roles at Stage 5. There is no right or wrong way to assemble the project team at this stage. However, which options have been chosen and who is responsible for what require clarification in the **Responsibility Matrix**.

Stage 5 concludes with the issue of a **Practical Completion** certificate, which allows a building to be handed over. The Plan for Use Strategy requires several tasks and activities to be undertaken before and after **Practical Completion**. Approaching **Practical Completion**, the construction team are focused on completing the manufacturing and construction of the project, so it is important that a project team member is allocated the role of planning for handover at Stage 6. On larger projects, a team might be formed to focus on the tasks that will deliver effective performance and operation of the building in use, rather than on completing the construction works.

Preparations for handover will include compilation of the **Building Manual** and the completion of **Verified Construction Information**, and maybe the delivery of **Asset Information**. Even the simplest of projects requires a **Building Manual**. For example, on a residential project, information on how to use appliances or set thermostats to operate effectively needs to be provided. What information will be required to use and operate the building needs to be considered at the outset, so that it can be collated at each project stage. The requirements can, however, be reviewed closer to completion, to make sure the client team receive the best possible information for the effective performance and management of their asset.

**NOTE:** It is likely that Stages 4 and 5 will overlap. The extent of overlap will be dictated by the **Procurement Strategy** and the **Project Programme**.



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**Who:** The construction team take centre stage at Stage 5. The contributions from the client team and design team will depend on the Procurement Strategy, and on how the client decides to review Construction Quality as construction progresses.

**Recommendations:** It is crucial that it is clear who is to inspect **Construction Quality**, so that the client can be sure the building will be delivered in line with the requirements of the **Building Contract**.





## Stage 5: Manufacturing and Construction Project Strategies

<b>Conservation</b>	<p>Implement any requirements for protecting the historic or sensitive building fabric during construction including temporary works and commissioning of the building.</p> <p>Undertake building conservation works; inform operatives of the building's significance, and work to specialists' and conservators' requirements, refined through samples and exemplars.</p> <p>Record and manage discoveries and resolve <b>Site Queries</b>.</p> <p>Inspect the <b>Construction Quality</b> of the building conservation works and quality of materials regularly (e.g. by through samples and examples).</p> <p>Comply with and discharge <b>Planning Conditions</b> related to conservation works, and listed building consent conditions (e.g. replace or conserve an element of the fabric as set out in a conservation method statement).</p> <p>Produce the conservation <b>Defects List</b> prior to <b>Practical Completion</b> being certified.</p> <p>Update the conservation management plan.</p>
<b>Cost</b>	<p>Monitor and report the cost of any variations to the <b>Building Contract</b>, against the relevant sections and/or individual items of cost using the <b>Cost Plan</b> control document as the basis of the contractor's pricing document, based on the expected out-turn cost, agreed and anticipated changes, and the release strategy for any contingency funds.</p> <p>Prepare and issue interim valuations for payment for works completed as agreed in the <b>Building Contract</b>.</p> <p>Manage the cost of items outside the <b>Building Contract</b> which form part of the overall project (e.g. furniture, fittings and equipment).</p>
<b>Fire Safety</b>	<p>Manufacture and construct fire safety measures, informing operatives of the importance of proper workmanship, regularly inspecting the <b>Construction Quality</b>; insurers/warranty providers may be required to review and validate the works. No fire safety measures should be outstanding in the <b>Defects List</b> prior to <b>Practical Completion</b> being certified.</p> <p>Resolve fire safety <b>Site Queries</b>.</p> <p>Undertake <b>Commissioning</b> of fire protection and life safety systems, including fire detection, alarm and ventilation systems.</p> <p>Update fire safety information for inclusion in the <b>Building Manual</b>, including fire safety specific <b>Commissioning</b> and <b>Facilities Management</b> requirements (e.g. testing of ventilation systems).</p>
<b>Health and safety</b>	<p>Install welfare facilities according to the <b>Construction Phase Plan</b>.</p> <p>Manufacture, construct and commission the building in accordance with the <b>Construction Phase Plan</b>, and involve operatives in developing, promoting and checking the effectiveness of measures to ensure health, safety and welfare.</p> <p>Resolve <b>Site Queries</b>, and update information for inclusion in the <b>Health and Safety File</b>, including relevant specific commissioning and <b>Facilities Management</b> requirements.</p> <p>Complete the <b>Health and Safety File</b> and include it in the <b>Building Manual</b>.</p>





<b>Inclusive design</b>	<p>Manufacture, construct and commission inclusive design measures, informing operatives of the importance of proper workmanship, regularly inspecting the <b>Construction Quality</b>.</p> <p>Resolve inclusive design <b>Site Queries</b>.</p> <p>Prepare appropriate access information for end users and occupiers for inclusion in the <b>Building Manual</b>.</p>
<b>Planning</b>	<p>Submit information needed to comply with any <b>Planning Conditions</b> relating to any restrictions on the work/<b>Site Logistics</b> before work commences on site (e.g. details of cabin and hoarding layouts or procedures for washing down trucks before they leave site).</p> <p>Manufacture and construct the building to comply with the planning permission and any <b>Planning Conditions</b>.</p> <p>Inspect <b>Construction Quality</b> for compliance with <b>Planning Conditions</b>.</p> <p>Prepare and submit applications to discharge remaining <b>Planning Conditions</b>, and provide the client with copies of any consent notices.</p>
<b>Plan for Use</b>	<p>Manufacture, construct and commission the building to deliver effective performance and operation of the building in use.</p> <p>Commission the equipment required for monitoring energy, water consumption and building comfort and other <b>Project Outcomes</b>, and check that data being received in the correct format as defined during Stage 3.</p> <p>Consider the impacts of any variations to the design or <b>Specification</b> on building performance and whole life cost.</p> <p>Review and update the record of performance risks on site, and use it to identify and avoid potential defects.</p> <p>Plan for a smooth handover through careful planning of pre-completion activities, to focus the client, contractor and facility managers on the tasks that will deliver effective performance and operation of the building in use.</p> <p>Compile the <b>Asset Information</b> and data required for the effective performance and management of the building for the <b>Building Manual</b> (e.g. the Part L log book).</p>
<b>Sustainability</b>	<p>Manufacture, construct and commission the building to meet the target <b>Sustainability Outcomes</b> (e.g. to reduce carbon, energy or water use, and improve health and wellbeing).</p> <p>Commission all the equipment required for monitoring the <b>Sustainable Outcomes</b>.</p> <p>Review any construction stage changes, and report and mitigate any deviation from the <b>Sustainability Outcomes</b>.</p> <p>Compile construction stage information required for certification and demonstrate compliance with the <b>Sustainability Outcomes</b>.</p> <p>Submit final information for statutory approval and certification, and performance in use verification.</p> <p>Review and update the record of performance risks on site, and use it to identify and avoid any defects.</p> <p>Implement handover and <b>Aftercare</b> procedures, as outlined in the Plan for Use Strategy.</p> <p>Compile the <b>Asset Information</b> required for the effective performance and management of the building for the <b>Building Manual</b>.</p>



## Stage 6: Handover

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**Outcome:** Building handed over, **Aftercare** initiated and **Building Contract** concluded.

Stage 6 starts with the building being handed over to the client, with **Aftercare** initiated and the **Building Contract** concluded.

After the building has been handed over, the construction team rectify any residual defects as promptly as possible. Usually twelve months after **Practical Completion**, the **Final Certificate** will be issued, which concludes the contractual involvement of the design and construction teams. Although Stage 6 commences after the building has been handed over, several tasks may need to commence during Stage 5 to ensure that the handover of the building is as efficient and effective as possible, such as training the users on how to use the **Building Systems**.

In addition to the core contractual obligations to rectify **defects**, certify **Practical Completion** and close out the **Building Contract**, other tasks need to be undertaken. A **Project Performance** session needs to be facilitated, so that the project team can share their experiences for the benefit of future projects.

Initial **Aftercare** tasks need to be initiated and completed. The project team will be interested in the **Feedback** from a light touch **Post Occupancy Evaluation**, conducted once any seasonal **Commissioning** has been completed, so they can understand how the building is performing and whether the building and its systems are being used as planned. Client, design and construction teams undertaking repeat building types can gain enormously from this process, by identifying trends across several projects.



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**Who:** The construction team and those responsible for administering and closing out the **Building Contract** complete the project in Stage 6. The project team will be required for a **Project Performance** session.

**Recommendations:** Make sure that any **Feedback on Project Performance** is sought as soon as possible after **Practical Completion**, before the project team move on to new projects and knowledge is dissipated and lost. Do not underestimate the value of **Aftercare** in achieving successful building performance.



## Stage 6: Handover Project Strategies

<b>Conservation</b>	<p>Label spare materials and store scheduled historic pieces suitably in situ.</p> <p>Update the conservation management plan.</p> <p>Gather information for reports, archives, specialist journals, amenity societies or dossiers, where appropriate/required.</p> <p>Compile surveys and records of discoveries and works to include in the <b>Building Manual</b>.</p> <p>Hand over the updated conservation management plan to the client and <b>Facilities Management</b> team, including maintenance and training requirements.</p> <p>Implement any requirements for protecting the historic or sensitive building fabric during any <b>Seasonal Commissioning</b>.</p> <p>Undertake a review of <b>Project Performance</b> and a light touch <b>Post Occupancy Evaluation</b>, and revise or improve master conservation specifications based on lessons learned from the <b>Feedback</b> gathered.</p>
<b>Cost</b>	<p>Calculate and agree the adjusted contract sum as a progression from the <b>Cost Plan</b> control document/contractor's pricing document and original contract sum at the end of the defects period to settle the final account and allow the <b>Final Certificate</b> to be issued.</p> <p>Undertake a <b>Project Performance</b> session so that the final cost information can be used as <b>Feedback</b> for benchmarking the estimating and planning of costs on future projects.</p>
<b>Fire Safety</b>	<p>Hand over the fire safety information in the <b>Building Manual</b> to the client.</p> <p>Review <b>Project Performance</b> to learn lessons on design and construction for fire safety from the <b>Feedback</b> gathered (e.g. on the management of fire information between members of the project team).</p> <p>Identify relevant fire safety training and maintenance requirements, and provide induction and training of building users and facilities managers.</p> <p>Close out any new defects that arise during the defects liability period as they relate to fire safety.</p> <p>Undertake an initial fire risk assessment to gather <b>Feedback</b> on the operation of fire safety design measures and management systems, and building user behaviour.</p>
<b>Health and safety</b>	<p>Initiate <b>Aftercare</b> for the health and safety of <b>Facilities Management</b> team and building users.</p> <p>Hand over the <b>Health and Safety File</b> to the client.</p> <p>Identify relevant health and safety training and maintenance requirements, and provide induction and training of building users and <b>Facilities Management</b> team.</p> <p>Review <b>Project Performance</b> to learn lessons on design and construction for health and safety from the <b>Feedback</b> gathered (e.g. the efficacy of the cleaning and maintenance strategy).</p> <p>Identify relevant health and safety training and maintenance requirements, and provide induction and training of building users and facilities managers.</p> <p>Close out any new defects that arise during the defects period in accordance with the arrangements for managing health and safety on the project.</p> <p>Undertake <b>Seasonal Commissioning</b> of the new building in accordance with the arrangements for managing health and safety on the project.</p> <p>Gather <b>Feedback</b> on how <b>Facilities Management</b> and building maintenance is being undertaken in accordance with the Health and Safety file, and update information as required.</p>





<b>Inclusive design</b>	<p>Hand over the inclusive design information in the <b>Building Manual</b> to the client including the inclusive design principles and measures (e.g. the requirement to maintain and retain manifestation, materials, lighting or signage).</p> <p>Review <b>Project Performance</b> to learn lessons from <b>Feedback</b> gathered on design and construction to meet the needs of all building users.</p> <p>Provide induction and training for building users and <b>Facilities Management</b> team with reference to the inclusive design strategy, including disability awareness and access auditing.</p> <p>Close out any new defects that arise during the defects period relating to inclusive design.</p> <p>Undertake light touch <b>Post Occupancy Evaluation</b> to gather <b>Feedback</b> on the how the building is performing to meet the needs of all building users.</p>
<b>Planning</b>	<p>Discharge any pre-occupation <b>Planning Conditions</b> before handover.</p> <p>Provide the client with copies of any <b>Planning</b> consent notices and advise of any specific in use restrictions.</p> <p>Hold a <b>Project Performance</b> session with the project team to gather their views on the planning process for the benefit of future projects.</p>
<b>Plan for Use</b>	<p>Complete an effective transfer to <b>Facilities Management</b>, including user training, a user friendly <b>Building Manual</b> and any outstanding <b>Asset Information</b>.</p> <p>Hold a <b>Project Performance</b> session with the project team to gather their views on the handover and integrating <b>Facilities Management</b> thinking from the start for the benefit of future projects.</p> <p>Review the progress of defect rectification, maintenance and energy monitoring at periodic <b>Aftercare</b> meetings with the design team, contractor and <b>Facilities Management</b>.</p> <p>Begin gathering <b>Feedback</b> through light touch <b>Post Occupancy Evaluation</b> of the <b>Project Outcomes</b> in use.</p> <p>Hand over the <b>Building Manual</b> to users.</p> <p>Calibrate the as-built energy model with the commissioned building.</p> <p>Fine tune operational systems during <b>Seasonal Commissioning</b>, with reference to the <b>Sustainability Outcomes</b>.</p> <p>Close out any new defects that arise during the defects period relating to achieving the <b>Sustainability Outcomes</b>.</p>
<b>Sustainability</b>	<p>Hold a <b>Project Performance</b> session with the project team to gather their views on the process of embedding the <b>Sustainability Outcomes</b> in briefing, design and construction and handover for the benefit of future projects.</p> <p>Provide induction and training of building users and facilities managers, with reference to the Sustainability Strategy.</p> <p>Begin gathering <b>Feedback</b> through light touch <b>Post Occupancy Evaluation</b> of the <b>Sustainable Outcomes</b> in use.</p>



## Stage 7: Use

**Outcome:** Building used, operated and maintained efficiently.

On the majority of projects, the design team and construction team will have no Stage 7 duties to undertake. However, both teams will be interested in receiving ongoing **Feedback**, to help them understand how they might improve the performance of future buildings.

**Post Occupancy Evaluation** services are commissioned to determine how the building is performing in use to help fine tune the building and inform future projects.

Some client teams will continue to be closely involved during the life of a building, implementing **Facilities Management** or **Asset Management** strategies over the course of the building's lifetime. **Asset Information**, the **Building Manual** and these strategies may be updated on a regular basis. In the future, a **Digital Twin** might be used to optimise the operation and maintenance of the building and to compare predicted performance with actual performance.

In some **Building Contracts**, maintenance obligations might extend beyond Stage 6. Where this is not the case, a new standalone maintenance contract might be set up. This would require continuity of knowledge about how the building operates, therefore the **Asset Information** would need to be kept live and relevant throughout the life of the building.

At the end of a building's life, Stage 0 commences again. In line with circular economy principles, a refurbishment might prolong the life of the building or facilitate a new use. Where neither is possible, the deconstruction of the building will be undertaken after a new use for the site, and perhaps a new building, has been commissioned. Regardless of the outcome, the circular process of the RIBA Plan of Work moves the site towards its next meaningful use.

**NOTE:** Stage 7 starts concurrently with Stage 6.



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**Who:** Those involved in ongoing **Asset Management** and **Facilities Management** will support the users of the building. The design team and construction team will no longer be involved, but design team members may be appointed separately to carry out **Post Occupancy Evaluation** tasks and some clients may require longer term strategic advice from specialists such as RIBA Client Advisers.

**Recommendations:** Handing over a building is just the beginning for those responsible for ensuring its successful operation and maintenance, that it performs as intended and achieves optimal outcomes for its users until the end of its life.



## Stage 7: Use Project Strategies

<b>Conservation</b>	<p>Put in place appointments to maintain historic fabric and execute conservation management plan.</p> <p>Complete obligations under licences (e.g. bat licence).</p> <p>Carry out ongoing quadrennial and quinquennial inspections as required.</p> <p>Carry out regular maintenance of the building fabric.</p> <p>Review and update the conservation management plan and continue monitoring repairs and survey requirements.</p> <p>Retain a conservation lead or team (e.g. surveyor to the fabric or cathedral architect).</p>
<b>Cost</b>	<p>Embed final cost data from the completion of the construction phase into a <b>Facilities Management</b> operating model, for use in building maintenance, repair or renewal, as required.</p> <p>Identify cost for any necessary detailed diagnostic or forensic <b>Post Occupancy Evaluation</b> services.</p> <p>Monitor operational costs for inclusion in whole life cost assessment and provide <b>Feedback</b> on in use costs as part of <b>Post Occupancy Evaluation</b> undertaken.</p>
<b>Fire Safety</b>	<p>Implement <b>Facilities Management</b> of building as set out in the Fire Strategy.</p> <p>Undertake regular fire risk assessments to gather <b>Feedback</b> on the operation of fire safety measures and management systems, and building user behaviour, to inform any subsequent management, maintenance or refurbishment works.</p> <p>Review and update the <b>Fire Safety Information</b> to reflect any management, maintenance and refurbishment works and updates to the fire risk assessment.</p>
<b>Health and safety</b>	<p>Implement the management and maintenance of the building in a way that secures the health and safety of <b>Facilities Management</b> team and building users</p> <p>Undertake <b>Post Occupancy Evaluation</b> of the health and safety of maintaining and using the building.</p> <p>Review and update the <b>Health and Safety File</b> throughout the life of the building and pass the file on to subsequent building owners.</p>
<b>Inclusive design</b>	<p>Implement the management and maintenance of the building in a way that meet the needs of all building users.</p> <p>Identify and implement any adjustments or improvements required to the building, day-to-day operations or policies to meet the needs of all building users.</p> <p>Undertake <b>Post Occupancy Evaluation</b> of inclusive performance and review the asset in operation for inclusivity needs.</p>
<b>Planning</b>	<p>Comply with <b>Planning Conditions</b> on use as required (e.g. operating hours or use of external space)</p>





<b>Plan for Use</b>	<p>Implement <b>Facilities Management</b> or <b>Asset Management</b> in accordance with the Plan for Use Strategy over the course of the building's lifetime.</p> <p>Implement the findings of the light touch <b>Post Occupancy Evaluation</b>, to fine-tune <b>Building Systems</b> and <b>Facilities Management</b> to optimise comfort and performance.</p> <p>Undertake more detailed <b>Post Occupancy Evaluation</b> as required, after putting in place separate professional services contracts. Compare predicted performance with actual performance to optimise the operation and maintenance of the building.</p> <p>Disseminate findings of <b>Post Occupancy Evaluation</b> activities in electronic format to the client, users, design and construction team members and, where possible, the wider construction industry.</p> <p>Maintain live <b>Asset Information</b> for <b>Facilities Management</b>, including regularly updating the <b>Building Manual</b>, throughout the life of the building.</p>
<b>Sustainability</b>	<p>Comply with in use <b>Planning Conditions</b> in relation to sustainability (e.g. meeting ongoing renewable energy use requirements).</p> <p>Use observations from the light touch <b>Post Occupancy Evaluation</b> to fine tune and improve and <b>Sustainable Outcomes</b> performance against the <b>Sustainability Outcomes</b> targets, and keep the <b>Building Manual</b> up to date.</p> <p>Undertake more detailed <b>Post Occupancy Evaluation</b> as required, after putting in place separate professional services contracts, to test delivery of the in use <b>Sustainability Outcomes</b>.</p> <p>Report and mitigate any deviation from the <b>Sustainability Outcomes</b>.</p> <p>Share <b>Feedback</b> from lessons learned with the client, users, design and construction team members and with <b>Project Stakeholders</b>.</p>



## 7 CHAPTER SEVEN

# Sustainability Strategy – detailed tasks

Climate change is the greatest challenge facing us. We are likely to reach an average global temperature increase of 1.5°C by 2030. To avoid exceeding this (relatively) 'safe' upper limit, the Intergovernmental Panel on Climate Change (IPCC) stated in its report *Global Warming of 1.5°C* (2019) that this would require rapid and far-reaching transitions in energy, land, urban and infrastructure (including transport and buildings) and industrial systems.

Buildings and construction contribute 40% of all carbon dioxide emissions. In the past 40 years, there has been a 60% decline in animal populations across the planet. According to the Living Planet Index, habitat loss, pollution and climate change have been key to this reduction.

The construction industry generally, and the architectural profession in particular, is in a key position to reduce further contributions to the causes of climate change and to mitigate its impacts. We are in the grips of an environment and climate emergency and our profession must do all it can to reduce the impact of the built environment. It is in this context that the Sustainability Strategy for the RIBA Plan of Work is written.

The **Sustainability Strategy** does not provide targets in itself. It is neutral in terms of methodologies, assessment tools and certification types, as it must work for all scales of project, all types of client and all levels of expertise.

The Sustainability Strategy acts as a guide to the delivery of sustainable buildings, to help deliver buildings that both meet clients' requirements and address the climate and biodiversity emergency. It provides a framework with actions, checks and stage outcomes, that can help project teams to take ownership of their buildings' performance. The onus is on project teams to develop targets through the **Sustainability Outcomes** and deliver verified building performance through the **Plan for Use Strategy**.

This approach embeds key sustainability principles into the overall RIBA Plan of Work, while allowing the targets, benchmarks and **Sustainability Outcomes** to evolve and intensify in their ambition and urgency, as they must over the coming years.

The eight **Sustainable Outcomes** are taken from the *RIBA Sustainable Outcomes Guide (2019)* when guidance can be found on setting measurable targets, designing to meet these targets and evaluating them in use by undertaking **Post Occupancy Evaluation**.



## 0 Strategic Definition

### Actions

Develop high level, measurable, ambitious and unambiguous project **Sustainability Outcomes** to define the **Client Requirements**, following initial consultation with internal **Project Stakeholders**.

Undertake a **Site Appraisal** of sustainability opportunities and constraints of potential sites and building assets.

Identify relevant current and emerging global, European, national and local sustainability-related policy and legislation.

Review relevant **Post Occupancy Evaluation Feedback** from previous projects (e.g. energy use).

Review whether development is necessary to deliver the **Client Requirements** as one of the **Business Case** options considered.

### Delivering outcomes

- refer to the *RIBA Sustainable Outcomes Guide*

#### (Net zero) Operational Energy and CO<sub>2</sub> (kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Review options for formal assessment of sustainability and/or energy performance.

Asses implications of net-zero carbon target, in line with the UK government's 2050 commitment and the RIBA 2030 Climate Challenge.

Assess the climatic context and consider passive potential for conditioning strategies

#### (Net zero) Embodied Energy and CO<sub>2</sub> (kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Prioritise total or partial reuse of existing facilities, buildings, components or materials.

Consider the scope of new build elements and set ambitious embodied energy targets. Be mindful of the relationship between operational and embodied energy.

#### Sustainable Connectivity and Transport (kgCO<sub>2</sub>e/km/person/year)

Prioritise proximity to public transport when selecting a site.

Create a comprehensive green travel plan in response to an assessment of existing conditions.

#### Sustainable Water Cycle (litres/person/day)

Define storm water management and site discharge requirements.

Develop strategies to minimise potable water use.

Explore on-site water recycling through rain, grey and black water harvesting.





### Sustainable Land Use and Biodiversity (increase in species)

Prioritise brownfield site selection and sustainable remediation of any site pollution.

Integrate aims for biodiversity, sustainable land use, improved ecological value and habitats into the **Project Brief**.

### Good Health and Wellbeing (various)

Identify and understand final occupants' needs to help to establish appropriate health and wellbeing metrics.

Consider connection to external spaces, occupancy, daylight and thermal comfort, air quality (including healthy materials), user needs and operational energy when selecting the site or developing the **Project Brief**.

### Sustainable Communities and Social Value (various)

Identify opportunities to enhance existing social and community structures through the development. Including place making, community involvement, amenity and opportunities for meanwhile use in the developing design.

### Sustainable Life Cycle Value (£/m<sup>2</sup>)

Develop high level whole life **Cost Plan** incorporating the value of **Sustainability Outcomes**.

Consider building longevity in the context of climatic and functional adaptability. Prioritise passive design principles.

Set responsible sourcing agenda for all materials.

## Stage outcome

A sustainability champion is in place and a Sustainability Strategy relevant to the **Client Requirements** is integrated into the **Business Case** and **Project Brief**, which includes ambitious and unambiguous targets for each of the **Sustainability Outcomes**.



## 1 Preparation and Briefing

### Actions

Use **Feedback** from **Post Occupancy Evaluation**, precedent review data, **Site Surveys**, and past experience of the client's **Facilities Management** team (if applicable) to state clear, deliverable and ambitious **Sustainability Outcomes** in the **Project Brief**.

Use **Feasibility Studies** to verify that the **Sustainability Outcomes** can be achieved on the site within the **Project Budget**.

Verify local authority sustainability requirements (e.g. enhanced regulatory requirements or assessment methods to be used).

Define certification requirements, including timetable for assessor appointments and early stage client actions.

Identify sustainability expertise required, include it within the **Responsibility Matrix** and appoint consultants.

### Delivering outcomes

- refer to the *RIBA Sustainable Outcomes Guide*

#### (Net zero) Operational Energy and CO<sub>2</sub> (kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Operational energy use and CO<sub>2</sub> targets should include regulated and unregulated energy.

Use predicted in-use energy calculations (such as TM54) alongside compliance assessment.

Define seasonal climatic design energy strategies, prioritising passive principles.

Include options for renewables and implications on building and site design (e.g. form, orientation, façade details, control strategies and likely plant space).

#### (Net zero) Embodied Energy and CO<sub>2</sub> (kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Assess site or existing buildings for reusable parts or components.

Define embodied energy and carbon target outcome, including the boundaries of the assessment with regard to net-zero carbon and certification methodologies.

Consider the relationship between embodied and operational energy.

#### Sustainable Connectivity and Transport (kgCO<sub>2</sub>e/km/person/year)

Create a comprehensive green travel plan in response to an assessment of existing conditions.

Define outcome targets for connectivity and transport, including active travel, minimising car-use and encouraging walking and cycling.

#### Sustainable Water Cycle (litres/person/day)

Define water use target outcomes, including potable, rain and recycled water targets.

Define sustainable drainage and surface water retention requirements.

Explore on-site water recycling through rain, grey and black water harvesting.

Outline implications for the design, including tank sizes, permeable surfaces, fittings, etc.



### Sustainable Land Use and Biodiversity (increase in species)

Commission necessary surveys to understand existing ecology.

Develop strategies to enhance biodiversity and create new habitats.

Consider diversification of land use, meanwhile uses and productive landscaping.

### Good Health and Wellbeing (various)

Include requirements for internal environmental conditions, including thermal comfort and overheating, visual and acoustic comfort, spatial needs, ventilation type, control strategies and relationships to external environments.

Consider health and wellbeing alongside the energy strategy.

Include an approach to active circulation.

### Sustainable Communities and Social Value (various)

Consider place making, privacy, social interaction, mixed use places, community, amenity, involvement and inclusion. Plan for community consultation.

Include outcome targets for social value in the **Project Brief**.

### Sustainable Life Cycle Value (£/m<sup>2</sup>)

Define an outcome target for life cycle value for key **Building Systems**.

Determine scope of life cycle assessment.

Specify measurable outcomes and targets for whole life carbon, whole life costs, building life span, refurbishment rates, end of life and circular economy.

Develop responsible sourcing targets.

Consider strategies for climate and functional adaptation.

## Stage outcome

A site specific Sustainability Strategy is included in the **Project Brief**.

**Sustainability Outcomes** are defined, ambitious and measurable and are shared across the project team.

Requirements for **Post Occupancy Evaluation** and handover and **Aftercare** defined.



## 2 Concept Design

### Actions

Consider benchmarking and quality assurance requirements in initial design work.

Incorporate lessons learned from **Post Occupancy Evaluation Feedback** and the review of precedents in developing the **Architectural Concept**.

Carry out sufficient energy and other modelling to test and refine the **Architectural Concept, Sustainability Strategy** and delivery of **Sustainability Outcomes**.

Review the **Architectural Concept** against the intended **Sustainability Outcomes** and report and mitigate any deviations.

Include a record of key design decisions to deliver the **Sustainable Outcomes** in the **Stage Report**.

### Delivering outcomes

- refer to the *RIBA Sustainable Outcomes Guide*

#### (Net zero) Operational Energy and CO<sub>2</sub> (kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Develop an operational energy strategy, considering the impact of complexity of form on thermal performance, orientation, glazing proportions, airtightness and building physics.

Develop seasonal energy strategies for the site, considering opportunities for passive systems, the impact of complexity of controls and management on energy consumption, comfort and occupant satisfaction.

Check that the materials and construction approach will provide a level of thermal mass that is appropriate to the environmental design strategy.

#### (Net zero) Embodied Energy and CO<sub>2</sub> (kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Review the embodied energy and carbon of materials and construction processes in the context of the building's lifespan and operational strategy.

Minimise high embodied energy materials. Prioritise low carbon and recycled materials.

Avoid inefficient/wasteful use of materials. Design out waste where possible.

#### Sustainable Connectivity and Transport (kgCO<sub>2</sub>e/km/person/year)

Incorporate the aspects of the green travel plan into the emerging design.

Encourage active and low carbon travel. Minimise private car use through connections to public transport and provision of alternatives.

#### Sustainable Water Cycle (litres/person/day)

Incorporate water use target outcomes, include potable, rain and recycled water targets.

Maximise storm water attenuation through permeable paving, planted areas and storage and attenuation tanks.





### Sustainable Land Use and Biodiversity (increase in species)

Develop the design against targets, including biodiversity enhancement and linked ecosystems.

Aim for long term diversification of land use, incorporating different functions, green spaces and economic models.

Incorporate water cycle targets into biodiversity strategy where possible.

### Good Health and Wellbeing (various)

Develop a plain English description of the internal environmental conditions and seasonal occupant control strategies.

Review the design against outcomes, including daylight, controls, social spaces and inclusivity.

### Sustainable Communities and Social Value (various)

Incorporate strategies for place making, privacy, social interaction, safety, mixed use places, community involvement, inclusion and amenity and opportunities for meanwhile use into the developing design.

Consider the need for and scale of private, semi-private and public external space.

### Sustainable Life Cycle Value (£/m<sup>2</sup>)

Incorporate outcomes for whole life carbon, whole life costs, building life span, refurbishment rates and circular economy principles into the **Architectural Concept**.

Optimise the relationship between operational and embodied energy.

Consider resilience to future changes in climate through adaptation strategies.

Include future deconstruction, disposal and recycling in the design.

Incorporate a strategy to avoid toxic supply chains, practices and pollution.

## Stage outcome

The **Architectural Concept** design integrates the Sustainability Strategy with the **Project Brief**.

**Sustainability Outcomes** are included in the **Outline Specification** and **Cost Plan**.



## 3 Spatial Coordination

### Actions

Undertake **Design Studies** and **Engineering Analysis** to test the **Sustainability Outcomes**, including carrying out a building performance assessment following **Plan for Use** protocol, and develop the design in more detail.

Submit a **Building Regulations Application** and any interim certification applications (e.g. BREEAM).

Integrate **Sustainability Outcomes** into a **Spatially Coordinated** design aligned to **Project Stakeholder** consultation **Feedback** incorporating lessons learned from **Post Occupancy Evaluation Feedback** and the review of precedents, and record new lessons learned.

Identify and update record of performance risks to inform Stage 4 tasks and deliverables, and mitigate any deviation from the **Sustainability Outcomes**.

Embed the requirements for **Post Occupancy Evaluation** in the **Procurement Strategy**.

Include a record of key design decisions to deliver the **Sustainable Outcomes** in the **Stage Report**.

### Delivering outcomes

- refer to the *RIBA Sustainable Outcomes Guide*

#### (Net zero) Operational Energy and CO<sub>2</sub> (kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Audit design against operational energy outcome target, including seasonal conditioning strategies, form and orientation and details for airtightness, continuity of insulation.

Assess coordinated consultant information, including any subcontractor packages.

#### (Net zero) Embodied Energy and CO<sub>2</sub> (kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Use embodied energy and carbon assessment to test relative impacts of design options as part of whole life costs.

Prioritise low carbon materials.

Consider the relationship between embodied and operational energy and carbon emissions.

Create a baseline carbon budget as an outcome target.

#### Sustainable Connectivity and Transport (kgCO<sub>2</sub>e/km/person/year)

Incorporate the aspects of the green travel plan into the emerging design.

Encourage active travel, including walking and cycling. Coordinate space for deliveries, car clubs and connections to public transport.

#### Sustainable Water Cycle (litres/person/day)

Coordinate design to deliver outcomes for reduced water use, recycled waste water and incorporated sustainable drainage.

Coordinate the sustainable drainage with the biodiversity strategy where possible.



### Sustainable Land Use and Biodiversity (increase in species)

Consider ecological health in procurement strategy to help avoid toxic supply chain practices, air, water and soil pollution.

Include biodiversity design enhancements to local ecosystems, habitat and productive landscaping in design documentation.

### Good Health and Wellbeing (various)

Coordinate proposals to deliver **Sustainability Outcomes** for health and wellbeing including daylighting, indoor air quality (including healthy materials), responsive controls and visual, thermal and acoustic comfort.

Consider the artificial lighting and daylighting strategy. Review environmental controls, ensuring that they are simple and intuitive and supportive of the wider Sustainability Strategy and **Sustainability Outcomes**.

Encourage active circulation and travel.

### Sustainable Communities and Social Value (various)

Coordinate proposals to deliver **Sustainability Outcomes** for social and economic aims, including place making, privacy, social interaction, safety, mixed use places, community involvement, inclusion and amenity and opportunities for meanwhile use in to the developing design.

### Sustainable Life Cycle Value (£/m<sup>2</sup>)

Review the expected building lifespan against capital and operational energy, carbon and financial costs.

Check the environmental and human impacts of materials and the **Construction Strategy**.

Consider risks of short and long term damage to retained traditional building fabric.

Refine the climate adaptation strategy and make provision for future climatic and functional adaptations.

## Stage outcome

**Spatially coordinated** design checked against the **Sustainability Outcomes**.

Services, structural and architectural design coordinated with the Sustainability Strategy, which is made explicit and included in **Statutory Submissions** and the **Stage Report**. Include a plain English description of the internal environmental conditions, seasonal control strategy and systems.

**Sustainability Outcomes** included in the **Cost Plan, Planning Application** and **Outline Specification**.



## 4 Technical Design

### Actions

Undertake technical design, including **Final Specifications** and material sourcing, to manufacture and construct the building to achieve the target **Sustainability Outcomes**.

Coordinate design team and specialist subcontractors' **Manufacturing Information, Construction Information** and **Final Specifications**, embedding the target **Sustainability Outcomes** and the Plan for Use Strategy.

Update any target commitments (e.g. to reduce carbon, energy or water use, and improve health and wellbeing).

Include the Sustainability Strategy in tender information or **Employer's Requirements** and review tender returns or **Contractors Proposals** – including any alternatives – against **Sustainability Outcomes**.

Mitigate or control as many building performance and climate change impact **Project Risks** as possible and identify strategies for managing those that remain.

Address the **Sustainable Outcomes** targets – and Part F, G and L **Building Regulations** requirements – and submit a **Building Regulations Application**.

### Delivering outcomes

– refer to the *RIBA Sustainable Outcomes Guide*

#### (Net zero) Operational Energy and CO<sub>2</sub> (kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Illustrate how the Sustainability Outcomes will be delivered for operational energy through drawings, details, specifications and strategy drawings. Detail seasonal strategies, passive and active measures and controls. Include details for continuity of insulation, mitigation of point and linear cold bridges and airtightness.

Include in subcontractors' packages and in the **Building Manual**.

#### (Net zero) Embodied Energy and CO<sub>2</sub> (kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Integrate and communicate detailed design strategies to deliver outcomes for embodied energy and carbon. Include materials, construction, manufacturing and supply decisions. Describe the relationship with operational energy and conditioning strategies.

Update the carbon budget and included in the specification.

#### Sustainable Connectivity and Transport (kgCO<sub>2</sub>e/km/person/year)

Coordinate aspects of the green travel plan into the technical design.

Confirm measures to encourage active travel in the specification and the **Building Manual**.

#### Sustainable Water Cycle (litres/person/day)

Coordinate technical design to deliver outcomes for reduced water use, including fittings and appliances and recycled waste water, and incorporating sustainable drainage. Integrated into biodiversity strategy where possible.

Leak detection and other technical requirements coordinated.





### Sustainable Land Use and Biodiversity (increase in species)

Integrate and communicate detailed design strategies to deliver sustainable land use outcomes, including diversification and meanwhile uses.

Integrate actions for avoiding toxic supply chain practices and air, water and soil pollution. Specify enhancements to local biodiversity and productive landscaping.

### Good Health and Wellbeing (various)

Illustrate how the proposals deliver **Sustainability Outcomes** for health and wellbeing, including daylighting, indoor air quality (through healthy materials and other means), responsive controls and visual, thermal and acoustic comfort.

Develop the **Building Manual**, illustrating user interaction with the building.

### Sustainable Communities and Social Value (various)

Integrate social and economic aims into the technical design, including outcomes for place making, privacy, social interaction, safety, mixed use places, community involvement, inclusion and amenity, and opportunities for meanwhile use.

### Sustainable Life Cycle Value (£/m<sup>2</sup>)

Integrate and communicate strategies to deliver the expected building lifespan, incorporating capital and operational costs, material use, operational and embodied energy and environmental impacts.

Develop specification of sustainable materials and products that balances life cycle assessment, maintenance regime, durability, adaptability and cost.

Integrate responsible sourcing strategy into developing specification.

Adaptation strategy included in the **Building Manual**.

## Stage outcome

The Sustainability Strategy and verified **Sustainability Outcomes** are included in **Manufacturing Information** and **Construction Information**, including specification, drawings and the **Sustainability Outcomes** performance parameters.



## 5 Manufacturing and Construction

### Actions

Manufacture, construct and commission the building to meet the target **Sustainability Outcomes** (e.g. to reduce carbon, energy or water use, and improve health and wellbeing).

Commission all the equipment required for monitoring the **Sustainable Outcomes**.

Review any construction stage changes, and report and mitigate any deviation from the **Sustainability Outcomes**.

Compile construction stage information required for certification and demonstrate compliance with the **Sustainability Outcomes**.

Submit final information for statutory approval and certification, and performance in use verification.

Review and update the record of performance risks on site, and use it to identify and avoid any defects.

Implement handover and **Aftercare** procedures, as outlined in the Plan for Use Strategy.

Compile the **Asset Information** required for the effective performance and management of the building for the **Building Manual**.

### Delivering outcomes

- refer to the *RIBA Sustainable Outcomes Guide*

#### (Net zero) Operational Energy and CO<sub>2</sub> (kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Visit the site to check that **Construction Quality** meets with **Sustainability Outcomes** for operational energy.

Review testing and monitoring of construction, particularly airtightness and continuity of insulation.

#### (Net zero) Embodied Energy and CO<sub>2</sub> (kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Update embodied energy and carbon assessment.

Review impact of the construction process against the carbon budget.

#### Sustainable Connectivity and Transport (kgCO<sub>2</sub>e/km/person/year)

Check the green travel plan is implemented during the construction process and that site-based transport measures are implemented.

#### Sustainable Water Cycle (litres/person/day)

Check installations meet sustainable water cycle outcomes.

Include measures to reduce water use, including fittings and appliances, recycling grey and rainwater, and sustainable urban drainage.



### Sustainable Land Use and Biodiversity (increase in species)

Check that quality and installation are in line with **Sustainability Outcomes** for sustainable land use and biodiversity, including, air, water and soil pollution, enhancing and creating habitats and productive landscaping.

### Good Health and Wellbeing (various)

Check that quality and installation are in line with **Sustainability Outcomes** for health and wellbeing, inclusivity and accessibility.

Include visual, acoustic and thermal comfort measures. Verify location, type and function of controls and M&E installations.

### Sustainable Communities and Social Value (various)

Check the sustainable communities strategy is delivered on site, including place making, privacy, social interaction, safety, mixed use places, community involvement, inclusion and amenity.

### Sustainable Life Cycle Value (£/m<sup>2</sup>)

Prepare for commissioning of controls to meet operational energy and comfort outcomes.

Monitor waste, energy and water use on site and update life cycle assessment to incorporate construction stage changes.

## Stage outcome

Interim testing and monitoring used to verify the **Sustainability Outcomes**.

Any deviation from the **Sustainability Outcomes** reported and mitigated.

Check that adequate commissioning and maintenance contracts are in place. Identify **Aftercare** representative(s) and when they will be available on site. Complete the plain English **Building Manual**, setting out the Sustainability Strategy.

**Asset Information**, including Sustainability Strategy and **Building Manual**, complete and disseminated.



## 6 Handover

### Actions

Hold a **Project Performance** session with the project team to gather their views on the process of embedding the **Sustainability Outcomes** in briefing, design and construction and handover for the benefit of future projects.

Provide induction and training of building users and facilities managers, with reference to the Sustainability Strategy.

Begin gathering **Feedback** through light touch **Post Occupancy Evaluation** of the **Sustainable Outcomes** in use.

### Delivering outcomes

– refer to the *RIBA Sustainable Outcomes Guide*

Assess **Sustainability Outcomes** by undertaking light touch **Post Occupancy Evaluation**

**(Net zero) Operational Energy and CO<sub>2</sub>**  
(kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Review the seasonal **Commissioning** process and assess the **Sustainability Outcomes** for operational energy use using in use data. Begin collection of in-use data for initial light touch **Post Occupancy Evaluation**.

**(Net zero) Embodied Energy and CO<sub>2</sub>**  
(kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Assess the **Sustainability Outcomes** for embodied energy and carbon through final assessment of the **Asset Information** model to compare to initial carbon budget.

**Sustainable Connectivity and Transport**  
(kgCO<sub>2</sub>e/km/person/year)

Support the assessment of the **Sustainability Outcomes** for sustainable transport and connectivity.

**Sustainable Water Cycle**  
(litres/person/day)

Assess the **Sustainability Outcomes** for sustainable water cycles using in use data.





### Sustainable Land Use and Biodiversity (increase in species)

Support the assessment of the **Sustainability Outcomes** for sustainable land use.

Observe new green spaces and planting, mixed uses and productive landscaping.

### Good Health and Wellbeing (various)

Support the assessment of **Sustainability Outcomes** for wellbeing, including assisting with user training and dissemination of the Building Manual.

### Sustainable Communities and Social Value (various)

Support the assessment of **Sustainability Outcomes** for social value. Ensure aspects of place making, space for social interaction, inclusion, etc are in place.

### Sustainable Life Cycle Value (£/m<sup>2</sup>)

Support the assessment of the **Sustainability Outcomes** for life cycle value.

Review controls and adaptable aspects.

Review seasonal performance and update the **Building Manual** to reflect any changes.

## Stage outcome

Induction and training of building users and managers with reference to the Sustainability Strategy.

**Building Manual** issued to facilities managers and building users.

**Aftercare** including light touch **Post Occupancy Evaluation** carried out as per Plan for Use protocols.

**Project Feedback** gathered and reported to project team to help improve their organisational performance on future projects.



## 7 Use

### Actions

Comply with in use **Planning Conditions** in relation to sustainability (e.g. meeting ongoing renewable energy use requirements).

Use observations from the light touch **Post Occupancy Evaluation** to fine tune and improve and **Sustainable Outcomes** performance against the **Sustainability Outcomes** targets, and keep the **Building Manual** up to date.

Undertake more detailed diagnostic or forensic **Post Occupancy Evaluation** as required, after putting in place separate professional services contracts, to test delivery of the in use **Sustainability Outcomes**.

Report and mitigate any deviation from the **Sustainability Outcomes**.

Share **Feedback** from lessons learned with the client, users, design and construction team members and with **Project Stakeholders**.

### Delivering outcomes

- refer to the *RIBA Sustainable Outcomes Guide*

Evaluate **Sustainability Outcomes** and building performance using diagnostic (and forensic) **Post Occupancy Evaluation** and **Feedback** provided to client and **Facilities Management** team.

**(Net zero) Operational Energy and CO<sub>2</sub>**  
(kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Gather **POE** data to evaluate the energy use for the building.

Disaggregated energy data used where possible for zone-by-zone and/or system-by-system analysis of energy use and CO<sub>2</sub> emissions.

**(Net zero) Embodied Energy and CO<sub>2</sub>**  
(kWh/m<sup>2</sup>/year and kgCO<sub>2</sub>/m<sup>2</sup>/year)

Gather **POE** data to evaluate, for example, the appropriateness of thermally massive elements.

**Sustainable Connectivity and Transport**  
(kgCO<sub>2</sub>e/km/person/year)

Gather **POE** data to evaluate, for example, the expected levels of car use and bicycle storage and use. Occupant survey can gather information on transport choices.

**Sustainable Water Cycle**  
(litres/person/day)

Gather **POE** data to evaluate the use of potable water, **Sustainable** recycling and reuse rates and attenuation.



### Sustainable Land Use and Biodiversity (increase in species)

Gather **POE** data to evaluate the establishment of ecosystems and success of new biodiversity.

### Good Health and Wellbeing (various)

Gather occupant **Feedback** data to measure subjective aspects. Monitoring equipment used for quantitative metrics, such as daylight.

### Sustainable Communities and Social Value (various)

Gather **POE** data to test the social value performance. The Social Value Toolkit or similar can be used to quantify efficacy of measures.

### Sustainable Life Cycle Value (£/m<sup>2</sup>)

Gather operational cost data to assess life cycle value and consider life cycle impacts (costs, resource use, etc) of services and fabric maintenance and repair regimes.

## Sound outcome

**POE** derived lessons learned fed back to all stakeholders.

Knowledge shared and performance outcomes published where possible.

**Feedback** used to drive performance in use improvements to optimise building performance.

Any deviation from the **Sustainability Outcomes** reported and mitigated.



## Procurement Strategy

The **Procurement Strategy** needs to be considered from an early stage in a project as it has a fundamental impact on how a project is organised. The **Procurement Strategy** influences:

- who employs the design team, particularly during Stage 4
- when the construction team are appointed
- when the construction team's involvement begins
- who might inspect the building works as they progress
- how the **Project Programme** is structured and how it manages risk
- who is contractually responsible for **Project Risks**
- who is responsible for the design
- when the specialist subcontractors become involved in the design work
- what information is required for inclusion in the **Building Contract**.

The choice of **Procurement Strategy** does not fundamentally alter the design process during Stages 2 and 3. However, the information that will be produced at each stage needs to be carefully considered to ensure the best value is delivered by the design team and construction team. In particular:

- comprehensive information to minimise the **Project Risks**
- detailed information to lock down key aspects of the design critical to the quality of the outcome before tendering
- a balance of **Descriptive Information** and **Prescriptive Information** to optimise best value: ensuring that the products crucial to the design intent and design quality are specified by the design team, and that the construction team are able to influence the selection of others
- coordination between the different core design disciplines, including the cost consultant
- clear and coordinated **Project Strategies** that explain the background to each aspect of the project and minimise the need for changes at Stage 4.





The choice of **Procurement Strategy** has its biggest impact on Stage 4, as it dictates when specialist subcontractor design work will be undertaken. It can also affect who employs the design team, and whether the design team will be novated to the contractor or the contractor will appoint their own. The impact for each **Procurement Strategy**, including the impact on the **Design Programme**, is as follows:

### Traditional

Under traditional **Building Contracts**, the design team's technical design information will be issued for tender to a number of contractors. This will usually comprise **Prescriptive Information**. However, it may also include **Descriptive Information** (often referred to as the Contractor's Design Portion in the **Building Contract**), where specialist subcontractors are to design discrete aspects of the building. Once the Building Contract has been awarded, the construction team can appoint specialist subcontractors to complete their design work, requiring pre- and post-contract **Design Programmes** to be developed. How the design team will manage the design work of specialist subcontractors, including the review of their information and how any tweaks required to the design team's information will be dealt with needs to be clearly defined. This will require the **Change Control Procedures** to be followed and an architect's instruction to be issued.

### One-stage design and build

Once the **Building Contract** has been awarded, the lead designer or the contractor's design manager will prepare a **Design Programme** which confirms when the design information from the design team and/or specialist subcontractors will be produced. A core consideration for this type of procurement is the amount of **Manufacturing and Construction Information** that will be produced by the client team as part of the **Employer's Requirements**. There should be sufficient detail to give clarity on areas of complexity, provide an accurate scope of work and define the detail for core aspects of the design and/or the production of **Final Specifications**.

### Two-stage design and build

The design team produce a concept design which forms the bases for the **Employer's Requirements** at the end of Stage 2. With the contractor appointed under a pre-contract design services agreement during Stage 3, the lead designer or the contractor's design manager can prepare a single **Design Programme** that confirms when the design information from the design team and/or specialist subcontractors will be produced. The core consideration with this type of procurement is whether this information will be produced before or after the **Building Contract** has been signed. Producing more information beforehand will give the client certainty of the detail, but this requires more time and might delay the start of work on site.

### Management contracting

Management contracting achieves the shortest **Project Programme** duration by maximising the overlap between design, procurement and construction. A number of packages for crucial **Building Systems** which need to be designed before work starts on site are likely to have been tendered and contracts awarded earlier in Stage 4. An integrated **Design Programme** can be created that includes the design work of both the design team and the specialist subcontractors. To bridge the gap between the **Design Programme** and **Construction Programme**, a procurement programme will be created and monitored. The timescale between issuing information for tender and issuing information

for manufacturing or construction will be shorter for **Prescriptive Information** than for **Descriptive Information**, because in the latter case a specialist subcontractor is required to produce the information for manufacturing or construction.

### Contractor led

Contractors provide a design team to develop then submit their concept design at the end of stage 2 as proposals for the tendering process, typically leading to two teams proceeding to Stage 3. The lead designer or the contractor's design manager will prepare a **Design Programme** that confirms when the design information from the design team and/or specialist subcontractors will be produced. During Stage 3, assessments will be finalised, and one construction team will be appointed preferred bidder. The preferred bidder will continue tendering core packages to finalise their contract sum. A 'shadow' design team may be part of the client team that review this information for compliance with the requirements of the **Building Contract**. The timing of the contract award will depend on the planning process.

### Procurement – Stage 5

The complexity of the overlap between Stages 4 and 5 has been considered at Stage 4. For all forms of procurement, awarding the **Building Contract** – so that construction, and therefore Stage 5, can commence – is a priority. However, this is sometimes not feasible, in which case the contractor may be appointed under a pre-contract services agreement. This might be to allow the contract sum or other contractual aspects to be concluded while allowing the design work of core specialist subcontractors to commence, or other aspects, such as **Site Logistics**, to be progressed.

The client team needs to be clear about who will be monitoring **Construction Quality** and progress and producing a regular quality report.

The only other procurement tasks during Stage 5 might relate to tenders for maintaining and/or operating the building before it is handed over. The **Information Requirements** for **Facilities Management** or **Asset Management** might need to be reviewed before tender documents are issued, to make sure that the information scoped at the outset of the project is still aligned with current best practice (the lag between commencing a project and the end of Stage 5 can be a number of years and so technology is likely to have moved on).

### Procurement – Stage 6

During Stage 6, the construction team will focus on rectifying any outstanding items on the **Defects List**, with the client team focused on **Aftercare** tasks. The issue of the **Final Certificate** closes out the **Building Contract**, ending the project team's involvement.

Any separate procurement activities required for the **Facilities Management** or **Asset Management** of the building are Stage 7 tasks.



## Employer's Requirements (ERs)

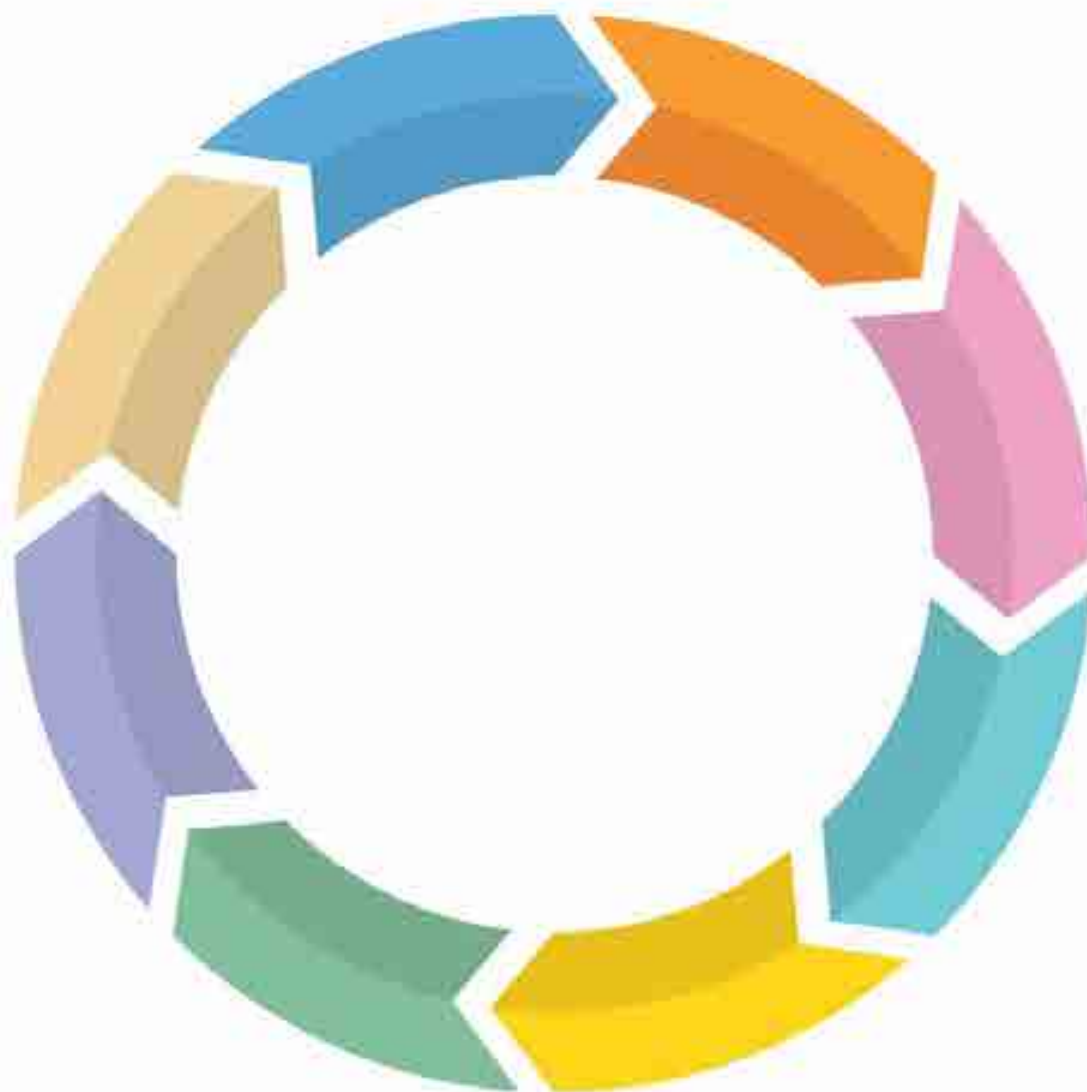
The **Employer's Requirements** are contractual. They can range from a copy of the **Project Brief** to a completed **Spatially Coordinated Design** with substantially completed technical design and specification information. They will generally include the professional services contracts of the design team members that will be novated, to ensure that the necessary services are carried out.

## Contractor's Proposals (CPs)

The **Contractor's Proposals** are the contractor's response to the **Employer's Requirements**. Where the **Employer's Requirements** consist of only the **Project Brief**, the contractor will need to complete a design, usually in competition with others. At the end of Stage 3 (or early in Stage 4) when more information is included in the **Employer's Requirements**, it is common for the **Contractor's Proposals** to include the same information as the **Employer's Requirements**. However, contractors may propose alternatives (frequently referred to as 'value engineering') in order to arrive at a more competitive tender. The information in the **Contractor's Proposals** supersedes the **Employer's Requirements**, although clauses in the **Employer's Requirements** will remain relevant to cover the final information to be completed by the contractor. A mechanism for reviewing the final **Manufacturing and Construction Information** also needs to be incorporated into the **Building Contract**.

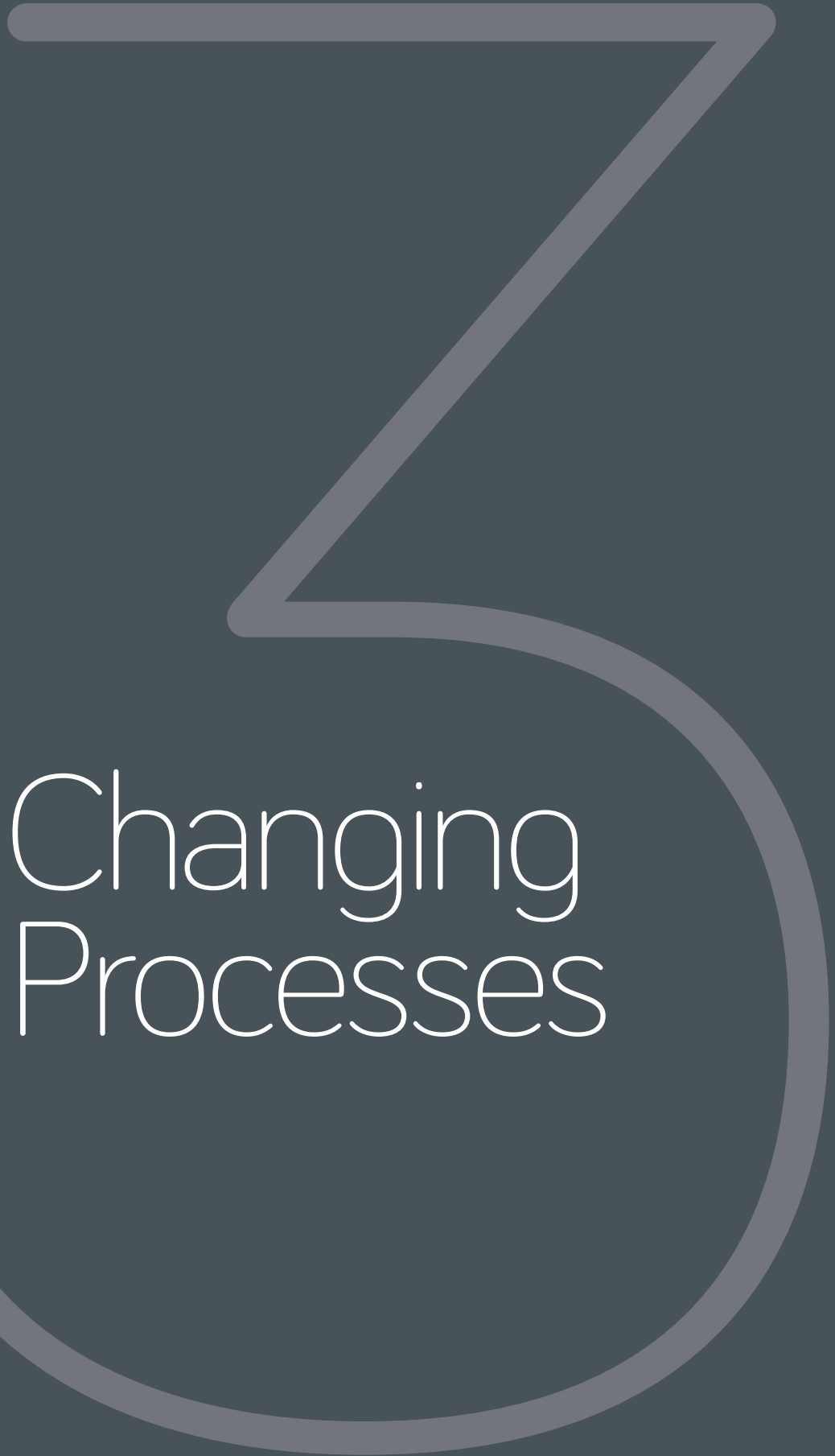
## Novation

Under some forms of procurement, the employer of the design team changes from the client to the construction team, using a mechanism called novation. This allows the design team to work directly for the client during Stages 2 and 3 up until a **Spatially Coordinated Design** has been produced, and then for the construction team when preparing the **Manufacturing Information** and **Construction Information** at Stage 4.





PART



# Changing Processes

## 9

## CHAPTER NINE

## Setting Information Requirements

The task of setting the **Information Requirements** for a project is becoming ever more challenging due to changes in the way buildings are briefed, designed, manufactured, constructed and used. The **Information Requirements** for each stage perform two crucial functions. First, they allow the client to review and sign off the design development that has been undertaken during that stage, with an emphasis on capturing the key decisions made. Second, the information produced at the end of one stage drives the activities carried out during the next. Put another way, the **Information Requirements** need to consider not just the outcomes of the stage in which they are produced, but also how successful they will be in delivering the outcomes of the next stage. For example, an inadequate **Project Brief** at the end of Stage 1 may result in a sub-optimal **Architectural Concept** at Stage 2, or poor Stage 4 information might delay or hinder progress on site during Stage 5.



### Stage 0: Strategic Definition

The **Information Requirements** for Stage 0 will be dictated by the possible solutions for achieving the **Client Requirements** and the information required to build the **Business Case**. The diversity of options possible these are not considered in this publication.



### Stage 1: Preparation and Briefing

It is crucial at Stage 1 to consider the **Information Requirements** for Stages 2 to 5 inclusive, because the professional services contracts and **Building Contract** must clearly define what information the design team and the contractor are required to deliver at the end of each of these stages. This depends on the choice of procurement and planning routes, which might not change who produces the information required but will affect the timing and the contractual chain of responsibility.

Setting the **Information Requirements** is a core Stage 1 requirement, regardless of a project's scale or complexity. The challenge in defining what information is required is becoming ever more complex for a range of reasons:

- The use of digital tools is shifting the balance away from 2D information and towards 3D and data.
- Digital **Site Surveys** can enable 3D working from the outset.
- The timing of the **Planning Application** during Stage 3, and information required to make a submission, can vary.
- Different **Procurement Strategies** will have different **Information Requirements** at different stages.
- Both **Descriptive Information** and **Prescriptive Information** can be required at Stage 4.
- Modern methods of construction are changing how buildings are designed, manufactured and assembled.
- Information produced at handover can be used for **Asset Management** or **Facilities Management**.



These trends are considered in detail in this chapter of the Overview Guide, along with the factors that are driving further change.

With the range of information possibilities increasing, it is important that the **Information Requirements** are agreed with the client at the outset. On larger projects, the client team needs to set the **Information Requirements**, perhaps with the assistance of an information manager. On smaller projects, clients will rely on their professional advisers to recommend what information will add value to the process, such as a virtual reality model to help the client better understand the concept design.

## Site Information

While an Ordnance Survey (OS) map and some site photographs can often provide enough information to allow the design process to begin, digital survey techniques are providing more options for gathering **Site Information**. A wealth of recent innovations, including point cloud surveys, photogrammetry, lidar, the ability to mount cameras on drones, and even city-wide infrastructure models, have made it possible for accurate and detailed 3D **Site Surveys** to be carried out cost effectively on projects of all sizes, from the smallest refurbishment to the largest of greenfield sites. As a result, planning how the project information is set up, and ensuring that everyone will be using compatible digital tools, is becoming of greater importance to the success of projects.

For design teams shifting away from using 2D information, such as OS and topographical surveys, and towards 3D working, there are a number of considerations to be discussed with the client:

- How will the survey information be integrated into a federated model? It is commonplace for surveys to be converted into BIM models by the survey company; however, some will use native survey information which will require some additional resource to convert.
- How accurate does the information need to be? This will be dictated by how the survey information is to be used, and will determine what type of camera needs to be used, the survey time and the data file sizes.
- How extensively will the survey information be used during the design process? For example, will Manufacturing Information and Construction Information that relies on survey information be in 2D or 3D?

3D scans are particularly useful for unlocking the value of BIM on refurbishment projects. However, consideration needs to be given to exactly how **Site Surveys** are to be used. In some instances, survey work may need to be incremental; for example, to record aspects of a building as it is stripped out. On other projects, it might not be necessary to record every detail, such as the ductwork above a ceiling. A listed building may need to be surveyed to a greater level of accuracy, to ensure that key features are captured and to avoid the need for site measurements, such as for cabinetry and other work.

### Client considerations in Stage 1

- Deciding whether to adopt a BIM approach or leave the choice of methodology to the design team.
- Requiring access to the model or just the 2D outputs if a BIM approach is to be used.
- Defining which activities will use BIM e.g. site analysis, design, engineering analysis, construction information and asset management.
- Defining the minimum 2D information requirements.
- Identifying responsibility across the client, design and construction teams for for effective information management.
- Identifying any new tools to enable the client to support design team efficiency.
- Determining the value of using digital survey processes and data, and requiring a BIM as a deliverable model, including how accurate the survey information needs to be (e.g. a point cloud, lidar or photogrammetric survey).
- Assessing the BIM competence of the design team e.g. whether they have the experience to use a 3D scan .
- Clarifying whether the contractor can use the design team's information. e.g. for digital fabrication or verified construction information.

## The design stages: Stages 2, 3 and 4

Although each stage of the RIBA Plan of Work has its own unique purpose and outcomes, a complexity for setting the **Information Requirements** is that the design process spans three stages. Design work begins at the start of Stage 2, when the initial ideas are created, and runs through to the end of Stage 4, when all of the design information required for manufacturing and constructing the building is completed.

The aim of Stage 2 is to ensure that the **Architectural Concept** is robust, incorporates appropriate **Strategic Engineering** aspects and has been signed off by the client, before the work of the design team and the level of coordination increases in complexity at Stage 3. The RIBA Plan of Work emphasises that Stage 3 is about producing a **Spatially Coordinated** design.

During this period, the project must also be navigated through the planning and procurement processes. The timing for submitting the **Planning Application** and the timing for producing tender information (as determined by the **Procurement Strategy**) will vary from project to project. For this reason, planning and procurement are not included as RIBA Plan of Work stages. It has become common for the terms 'Stage 3 plus' or 'Stage 3 minus' to be used by the construction industry, but the RIBA Plan of Work stages cannot be adjusted in this way and remain consistent. The outcomes for each stage – set out in the Plan of Work Template and Stage Descriptions in Chapter Six – must always be completed and signed off before progressing to the next stage for a project is to be successful. However, these terms do recognise that it is sometimes necessary to extract information from the design process part way through a stage; for example, when submitting a **Planning Application** midway through Stage 3, or when using some technical





design information as part of the **Employer's Requirements** (for a one-stage design and build project) at the end of Stage 3.

Extracting information from the design process midway through a stage does not impact on the thrust of the design activity, but it does create risks and needs to be used with caution. While individual elements of information can be extracted during a stage, it is not possible for this information to be fully coordinated with the rest of the design information. Although the information might seem complete, it is likely to require further design iterations, to conclude the engineering aspects (including **Engineering Analysis** in Stage 3), coordinate it with **Project Strategies** and align it with the **Cost Plan**. It is simply not possible for information issued mid-stage to be fully coordinated; any client using such information needs to be aware of this.

In defining the information for a mid-stage gateway, it needs to be clear what information is to be produced, what tasks will underpin it and for what purposes it is required. Crucially, using information mid-stage does not remove the need to conclude the formal stage milestone, which is required to deliver the stage outcome before progressing to the next stage.

The **Project Programme** is a crucial tool for determining when **Information Requirements** are required outside the formal stage gateways. Once these mid-stage gateways are understood, the **Information Requirements** for each can be developed, the risks associated with issuing information early determined, and any mitigation measures put in place.



## Stage 2: Concept Design

There are no fixed **Information Requirements** for Stage 2. The specific **Information Requirements** need to be determined by the project team. These will vary depending on the complexity and scale of the project, the challenges of the brief and site, the views of the client team and, of course, what information most efficiently conveys that the stage outcome has been achieved.

The information challenge at Stage 2 is determining the contents of the **Stage Report**. Traditionally, a set of general arrangement drawings (plans, sections and elevations of the building at an appropriate scale) would be created to support the **Stage Report**, usually appendices in PDF format. With the use of BIM becoming more prevalent a new approach is being employed to produce **Stage Reports**: using 3D images (including 3D visualisations), cutaways and extracts derived from the BIM model to explain design decisions, and 2D views to demonstrate how the **Spatial Requirements** are being achieved.

Some architects may still work traditionally and wish to use sketches to convey the **Architectural Concept**. Others may wish to use virtual reality to walk the client around the proposals, and to issue a video of what the client has agreed to – as the core deliverable. The amount of supporting information required from other design team members will depend on the size and scale of the project. However, the **Stage Report** can be used to corral everyone's efforts, and to record the decision making that has influenced this information.

A core task during Stage 2 is to undertake **Design Reviews**. It is important that these involve all **Project Stakeholders**, so that their views are incorporated into the **Stage Report**. The **Project Strategies** set out in chapter Six provide more detail on how **Design Reviews** can be used to engage **Project Stakeholders** on key issues.

## Stage Report

The **Stage Report** records all of the relevant decision making during the stage for the future. On larger projects it is not uncommon for project team members to come and go, and for new team members to question the basis of the design. The **Stage Report** acts as a reminder of what decisions were made in relation to the design and the Project Strategies, why they were made and who was party to them, recording what options that were examined and why one was chosen over another. For example, if the sign-off process includes a formal **Design Review**, the **Stage Report** might include a section recording any comments made and the design team's responses, so that everything is captured in the single document.

The sign-off period can be standalone, or it might occur in parallel with the start of the next stage. On larger projects, it may be inefficient to stand down a large design team between stages, while waiting for the **Stage Report** to be signed off. The client and design teams should therefore agree if any work should progress into Stage 3 before the Stage 2 **Stage Report** is signed off.

A **Stage Report** is not usually produced at the end of Stage 4. However, some clients may request or require a report to record the decisions made during the stage.

## Tasks

Information is only as good as the data and tasks that underpin it. Failing to undertake certain tasks during Stage 2 can make Stage 3 more difficult. Conversely, undertaking too many tasks (which is easy to do) can divert effort away from achieving the stage outcomes. The tasks required at Stage 2 to underpin the **Information Requirements** should be clear in the **Responsibility Matrix** developed at Stage 1. These tasks should ensure that the **Architectural Concept** is as robust as possible and is aligned to the Cost Plan.

It is beyond the remit of this Overview Guide to consider what these tasks might be. A core consideration is whether rules of thumb can be used rather than detailed calculations. For example, a practice which has delivered many office buildings might not need to calculate stair sizes or toilet numbers as they can draw on their experience to determine what is likely to be required. They may also be able to take a view on likely riser sizes and plant locations, and have an understanding of structural grids that work, requiring fewer contributions from engineers and less BIM information as a result. Conversely, a client may wish these matters to be unambiguous and require the architect to calculate stair sizes and toilet numbers, and the engineers to confirm column sizes, bracing strategies and plant room and riser schedules, underpinned by calculations. There is no right approach. However, it is important that the project team understands the basis of the concept design information and the tasks underpinning it, and that the lead designer is confident that the tasks being undertaken are sufficient to deliver the stage outcomes.



## Specialist Consultants

The increasing number of specialist consultants involved in projects, including acoustics, fire and façade engineers, further complicates the challenge of task setting. A range of industry innovations, including the circular economy, lifecycle costing and offsite construction, now require new expertise within the team. It is therefore important for designers to identify when they are at the limit of their expertise in a particular area and when additional experts are required, either as specialist consultants or as new/newly trained staff within design consultancies.

Determining the need for specialist consultants is a key task at Stage 1. For example, the appointment of an acoustician might be essential for a school next to a railway line.

At Stage 2, specialist consultants should develop their **Project Strategies**, focusing on, as a minimum, any aspects impacting on the **Architectural Concept** or the **Cost Plan**.

## Information Requirements and the Procurement Strategy

The **Procurement Strategy** determines when the contractor will become involved in the project and who employs the design team. It has no impact on the Stage 2 **Information Requirements**, which confirm that the **Architectural Concept** meets the requirements of the **Project Brief**. However, on some projects, information confirming buildability, **Site Logistics** and other construction-related matters, such as the adoption of modern methods of construction in the **Construction Strategy**, will be more comprehensive and robust if the contractor is appointed and involved at Stage 2.

## Client considerations in Stage 2

- Deciding whether the client or design team will determine how tasks are split between Stage 2 and Stage 3
- Determining how innovative the workflow will be – whether it will be ground breaking or traditional - and how experienced the design team are in new ways of working,
- Establishing whether 2D and/or 3D information formats are required to inform client decision-making.
- Determine the need for specialist consultants on the project and whether light touch or comprehensive involvement is required.
- Identifying what tasks are needed to ensure the **Architectural Concept** is coordinated with the **Strategic Engineering** requirements and aligned with the **Cost Plan**.
- Deciding who will produce the **Construction Strategy** at Stage 2.





## Stage 3: Spatial Coordination

The focus for Stage 3 information, after the **Architectural Concept** is approved by the client, pivots towards **Engineering Analysis** – developing the detail of the architectural proposal via **Design Studies**, developing the **Project Strategies** and testing the **Cost Plan** further. At this stage, the engineering output is geometric, such as column and beam dimensions or ductwork sizes, and calculations or analyses are not usually required.

The **Planning Application** is usually submitted at the end of this stage, based on **Information Requirements** set by the local authority. The timing of the **Planning Application**, particularly where this is undertaken using information from a mid-stage gateway is one of the main information considerations at Stage 3. Another key consideration is whether the **Procurement Strategy** needs **Employer's Requirements** to be produced and, possibly, some technical design information to be created in tandem, as part of this documentation.

### Submitting a Planning Application during Stage 3

The optimal time for submitting a **Planning Application** is at the end of Stage 3, once design information is **Spatially Coordinated** and at the level of detail expected by a planning authority, the **Stage Report** has been signed off and the **Planning Application** documents have been prepared. A comprehensive and coordinated application will facilitate an efficient planning process. At the end of Stage 3, for example, energy analysis, daylighting calculations and other aspects, such as plant room requirements, will be coordinated.

It is common for **Planning Applications** to be submitted midway through Stage 3, in order to gain early clarity on a proposal's feasibility, including the scope of any section 106 contributions. When a **Planning Application** is being submitted at a mid-stage gateway, there are a number of questions that need to be considered:

- What **Design Studies** need to be completed? For example, detailed studies of the elevations.
- What **Engineering Analysis** might be required to underpin the proposal? For example, an energy strategy.
- What contributions from specialist consultants are required? For example, from a sustainability adviser.
- How will the increasing amount of multi-disciplinary information required be integrated into the Stage 3 **Design Programme**?
- How does the mid-stage **Planning Application** submission date relate to the completion of Stage 3 in the **Project Programme** when the assembling of information may take some time?

A poorly managed mid-Stage 3 **Planning Application** can result in amendments being required later in the **Project Programme**, after Stage 3 is completed. This option is therefore only recommended for experienced clients who know what information is required, and for seasoned design teams who know empirically what design development needs to be undertaken. Ultimately, a mid-Stage 3 design is not **Spatially Coordinated**, and while risks to the deliverability of the project can be mitigated, they cannot be eliminated entirely.





### Client considerations in Stage 3

- Establishing whether the cost circumstances or programme certainty requiring a **Planning Application** to be submitted before the end of Stage 3.
- Determining whether the project team have the experience necessary to submit a mid-stage **Planning Application** and to split the Stage 3 tasks accordingly.
- Identifying which tasks need to be undertaken and information gathered to provide a robust **Planning Application**.
- Establishing how the **Procurement Strategy** influences the interface between Stages 3 and 4, how this is defined in the **Project Programme**, and whether any early **Information Requirements** are clear.



### Stage 4: Technical Design

Although the Stage 4 outcome is clear and unambiguous (i.e. all design information required to manufacture and construct the project completed), this stage presents the biggest information challenges. There are a number of complexities that need to be considered when defining the Stage 4 **Information Requirements**:

- Will the design team produce **Descriptive Information** or **Prescriptive information**?
- What modern methods of construction will be used?
- How will the shift towards digital design impact on the information required?
- How will the **Procurement Strategy** impact on the **Design Programme**?

#### Prescriptive Information vs Descriptive Information

As the design information develops, the level of **Prescriptive Information** increases as shown in Figure 3 below. During Stage 4, the design team must produce **Prescriptive Information** for use in construction on site, or **Descriptive Information** for use by specialist subcontractors in the design and manufacturing or construction of particular **Building Systems**. When deciding whether the design team should deliver **Prescriptive Information** or **Descriptive Information** for a particular **Building System**, the following factors should be taken into account:

- **Descriptive Information** is already industry standard for many **Building Systems** (including piling and aspects of building services, such as building management systems).
- **Prescriptive Information** is essential where the contractor must adhere to a specific design, perhaps as a requirement of a **Planning Condition** (such as the use of a specific brick or window system) or because the client and/or design team wish to determine design quality (for example, the balustrading, doors and finishes in an entrance lobby).
- Some **Building Systems** tend towards **Descriptive Information**, including façades and mechanical services, to allow a specialist subcontractor to generate an innovative solution.
- There are a small number of **Building Systems** where the design team produce **Prescriptive Information**, but where the **Manufacturing Information** then needs to be produced by a supplier. For example, the architect might specify and set out the cubicles in a toilet, with the supplier requiring shop drawings for the elements of the cubicles to be made.

- For some **Building Systems** for which **Prescriptive Information** has traditionally been used, **Descriptive Information** can also be issued at Stage 4. This provides the contractor with a degree of flexibility within clear quality and safety parameters when determining the final product supplier.

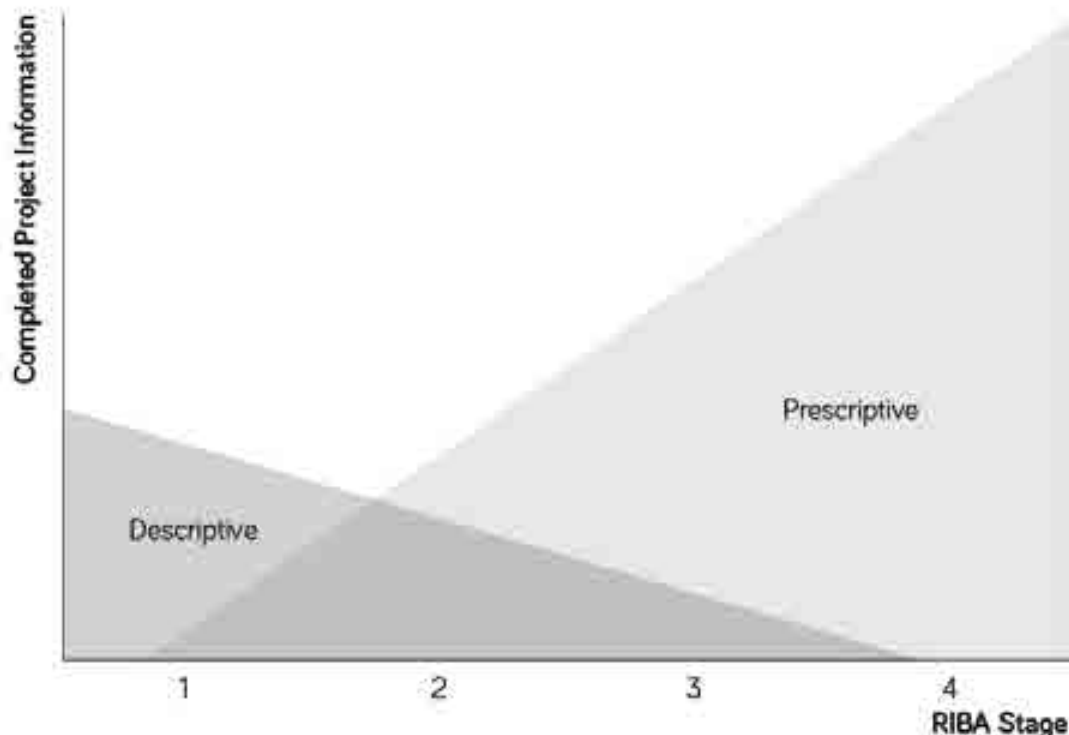


Figure 3 Descriptive and prescriptive information.

Guidance on **Information Requirements** for structural engineering is being developed by the Institution of Structural Engineers. For building services engineering, BSRIA has produced a comprehensive document, *BG 6: A Design Framework for Building Services* (5th edition, 2018), that sets recommendations for level of design detail for each stage of the RIBA Plan of Work. There is currently no authoritative guidance on the use of descriptive specifications in architecture.

A common misconception is that **Descriptive Information** is used by the design team to limit workload. This may be the case where the design team's commission ends at a particular stage. However, where the design team are appointed through all of the design stages the decision to produce **Descriptive Information** is likely to be time neutral. This is because the scope for the specialist subcontractor's design needs to be defined, interfaces drawn and a specification produced. Furthermore, meetings must be held with those tendering for the work, workshops conducted with those who are successful, and the designs of the successful tenderer reviewed. However, the use of **Descriptive Information** will increase the challenge of coordination for the lead designer, particularly if two descriptive packages interface with each other. The specialist subcontractors' design costs, which will be built into their tender returns, also need to be considered.





## Transforming construction

As contractors increasingly adopt modern methods of construction, Stage 4 deliverables are changing. Some of the more progressive new methods, such as volumetric modular, need to be embedded into the design and transform **Information Requirements** from Stage 2. The RIBA Plan of Work acknowledges this shift by encouraging the preparation of a **Construction Strategy** at Stage 2. This allows the design team to consider at an early stage which modern methods of construction will be appropriate for the project, given that, in many instances, the contractor may not be part of the project team until a later stage.

Many clients are embracing design for manufacture and assembly (DfMA). Organisations such as the Supply Chain Sustainability School are sharing knowledge and skills across the industry to those who are interested in this methodology.

See: <https://www.supplychainschool.co.uk/topics/offsite/design-manufacture-assembly/>

## Changing deliverables

Stage 4 is set to evolve over the coming years – the project team needs to be alert to the depth and breadth of the disruption that will occur. In the future, the core decisions around Stage 4 **Information Requirements** will shift beyond the 2D/3D debate and setting the **Construction Strategy**. The construction industry is starting to use programme approaches drawn from the manufacturing industries geared towards repetition, including different software and more stringent change control processes and product lifecycle management. This way of working is starting to be used for manufacturing whole **Building Systems**, not just individual construction products, leading to increased standardisation and repetition in large parts of buildings, although not in every sector. The increasing use of robotics for assembling buildings, both in factories and on site, also raises new considerations and information requirements, including the kinematic studies required to analyse robotic assembly.

### Client considerations in Stage 4

- Defining which **Building Systems** will be specified by the design team to **Descriptive Information** and which to **Prescriptive Information**.
- Determining the most appropriate modern methods of construction for the project and establishing who has the experience to advise on and/or determine which should be adopted.
- Establishing what type of information is required: traditional 2D details and setting out, or 3D data-rich information?



## Stage 5: Manufacturing and Construction

### Handover information

One of the biggest transformations driven by BIM level 2 has been the ability to extract data that can be used for maintaining and operating an asset from the **Manufacturing Information** and **Construction Information**. This has primarily been driven by the Construction Operations Building information exchange (COBie) schema, which sets the data attributes for each project stage. Further developments in using data for **Asset Management** are transforming project handover information well beyond the traditional

'as-constructed' information and the health and safety file and fire safety information required to comply with CDM and Building Regulations.

Project team members must now consider what **Asset Information** is required at handover; those receiving it are not always ready to use it effectively, and those delivering the information required to construct a building often do not have expertise in providing the information that will transform **Asset Management** or **Facilities Management**. Information deliverables must therefore be defined at the outset, so that the relevant information can be incrementally developed as the project progresses. The information produced at the end of the design and construction process can provide significant benefits throughout the period the building is in use. However, in order to achieve the outcomes required, the delivery requirements for **Asset Information** need to be defined accurately and specifically.

**Information Requirements** in the RIBA Plan of Work at Stage 5 include:

### **Building Manual**

A **Building Manual** provides the means for a building's owner and/or user to maintain the building effectively and safely. It might include guides to using equipment effectively; for example how to operate the heating system and any energy devices, such as photovoltaics. By law, it must include the **Health and Safety File** and **Fire Safety Information**.

### **Health and Safety File**

The preparation of a **Health and Safety File** is a requirement under CDM 2015 that must be handed over to the client before the client occupies the building. It must contain relevant information about the project which should be taken into account when any construction work is carried out on the building after the current project has finished. Information included should only be that which is needed to plan and carry out future work safely and without risks to health. See the Health and Safety Executive's guide to CDM L153 for more information: <https://www.hse.gov.uk/pubns/books/l153.htm>

### **Fire Safety Information**

Under Regulation 38 of the Building Regulations, **Fire Safety Information** must be handed over to the responsible person not before the completion of the construction work, or the date of occupation of the building or extension, whichever is the earlier. This information relates to the design and construction of the building or extension, and the services, fittings and equipment provided in or in connection with the building or extension which will assist the responsible person (owner/client) to operate and maintain the building or extension with reasonable safety.

### **Verified Constructed Information**

A complete set of the **Manufacturing Information** and **Construction Information** is not typically issued at handover, instead, the design team issues **Asset Information** (sometimes known as 'as-constructed' information) for the building. This comprises the last set of information that the design team issued to the contractor for construction. 'As-constructed' information is a misleading term as it is unusual for the information issued to have been verified against what was actually built on site, covered up works in particular. Floor area is sometimes checked post-handover in the commercial sector, so that the surveyors' measurements can be used to calculate the





rent to be charged to tenants. Laser measurement devices allow these spot checks to be undertaken easily, and point cloud surveys can be used to compare the completed building against what should have been built.

Inspections throughout Stage 5 are required to confirm that the contractor is meeting **Construction Quality** requirements. At the end of Stage 5, there are a number of means of verifying construction information, including a visual inspection to determine that the building has broadly been built as per the last set of information issued, a dimensional survey to ratify that it has been constructed as modelled (this might necessitate adjustments to the model if this is not the case), through to a 3D laser scan that can be compared with the federated model. Clearly, the costs associated with the different options vary and each client needs to determine how accurate they need this information to be, and who will undertake the work. Circular economy principles point towards more information being required at the end of a building's life, so that its **Building Systems** can be repurposed effectively.

### CAFM Systems

Computer-aided facilities management (CAFM) systems allow those responsible for the maintenance of a building to manage maintenance and repairs, both reactively and pre-emptively. Many CAFM systems are not currently capable of managing BIM information, but this will happen in time. CAD information derived from the model can be used to manage changes to the building, such as partition alterations or furniture moves. To be effective, this information needs to be updated as changes are made. Clients need to consider who will provide this resource during the life of the building.

### Asset Management information

In CAFM systems, building assets need to be tagged to record the information required to manage them, ranging from serial numbers through to manufacturers' maintenance cycles. It is crucial for the client to consider which building assets need to be tagged, and whether a particular classification or referencing system will be used, perhaps to align with an existing estate.

### Digital Twin

A **Digital Twin** is a digital replica of a building or part of a building, that can mirror the way the actual building performs. A **Digital Twin** might be a simple model of the electrical or mechanical systems that can be digitally tested or could be a complete working digital building. A **Digital Twin** should be updated over the course of a building's life, whenever changes are made to the building – perhaps to enable new uses or in line with **Asset Management** tasks. The core goal of a **Digital Twin** is to enable the actual performance of the building to be assessed against the predicted performance, allowing **Building Systems** to be honed appropriately or **Feedback** to be provided for future projects. Predictive analytics can be used to determine when plant is operating poorly, allowing pre-emptive maintenance. Gathering data from a number of **Digital Twins** allows connected networks to be considered, enabling broader networks to be improved and allowing design criteria to be adjusted for future projects across a programme or estate.

### Client considerations in Stage 5:

- Considering how the building will be maintained and operated.
- If so, determining what **Asset Information** needs to be delivered at Stage 5 in order to do so.
- Deciding whether data is required for **Asset Management** or **Facilities Management** or to demonstrate that better outcomes have been achieved.
- Establishing what data is required at the handover of the project.

## Beyond level 2: from BIM to digital

It was always anticipated that once level 2 BIM had been assimilated and absorbed, the next target, level 3, would be conceived by the UK government, creating a new objective for the construction industry to work towards.

However, as level 2 BIM matures, the UK government has moved its support away from the concept of BIM level 3 to enabling a Digital Built Britain. The Centre for Digital Built Britain has identified a number of digital construction technologies and processes beyond BIM such as AI, the Internet of Things, **Digital Twins** and offsite manufacturing initiatives as future trends to be investigated. As these technologies mature at their own pace, clients will need to keep abreast of developments to understand how to define the workflow of the design team and contractors, and use their asset efficiently. ([www.cdabb.cam.ac.uk/](http://www.cdabb.cam.ac.uk/)).

The design team are also innovating. The use of virtual reality during Stage 2 to review design ideas and processes is becoming business as usual, reducing the requirement for 2D information as a contractual deliverable. The use of parametric and generative design is increasing, allowing options to be tested more rigorously, with rules-based design becoming more commonplace. Those undertaking the lead designer role are shifting away from clash detection, towards using digital for proactively coordinating the design. The planning system still requires **Planning Applications** to include traditional 2D deliverables, but this too may change in time.

As many in the industry contemplate how to embrace and adopt these transitions from traditional design and construction processes, the next wave of technologies is already upon us. The challenge for those considering how to incrementally develop their workflow in future will be in determining which of the many digital tools and technologies will be most appropriate for how they want to work. Rates of innovation and adoption will vary between project and design team members. Not every architect wants to leverage the power of parametric modelling and not every client requires **Asset Information**, although every client would welcome better performance of their buildings.

As the choice increases, the challenge will be to select the tools that will create the most immediate - and whole-life - benefits for those involved in the process. At some point, disruption will occur. Every other industry has seen pending disruption drive greater urgency in developing new business models to unlock value from new processes.

It is likely that the coming change will be focused around the following technologies:

- **Rules-based design**  
Design automation is possible where detailed rules for spaces, adjacencies and building systems can be determined by repeat clients. If designers can conceive how to utilise this technology for faster and smarter design processes, the efficiency gains may be



returned to design teams, allowing them to invest resources in providing more valuable outcomes-focused advice to their clients.

- **Generative design**

By using complex coding scripts, it is possible to generate a multitude of design options instantly. The challenges when using this approach are how to develop software that considers the correct project drivers and quality aspirations, and how to filter a potentially infinite number of design options down to a handful, that can then be developed and concluded using a traditional design workflow.

- **4D**

Today, 4D (3D plus time) tools are primarily being used by contractors during the tender process to unlock the most efficient way of manufacturing and constructing the building, giving them an edge over their competitors. 4D tools also enable contractors to convince the client team that their proposals are robust and realistic. It is likely that as lower cost 4D software becomes available, 4D reviews will be commonplace at Stage 2, at the point when the design team can demonstrate how their proposals can be constructed. How procurement reacts to this change will be central to unlocking the value of contractors and their supply chains.

- **5D**

5D enables the addition of the cost dimension to 4D information. Although BIM has shifted Cost Plans towards a revival of bills of quantities (generated from the federated model), a more manufacturing-based workflow points to a future where bills of materials can also be extracted from the federated model.

- **Integrated system analysis**

At present, one of the biggest challenges for the lead designer is the time lag between the current design proposals and some aspects of engineering analysis. For example, daylighting and energy calculations cannot provide real-time feedback from the architect's model. When available, engineering analysis software that provides real-time contributions to the architectural development will make the design process more accurate, saving design time and, crucially, allowing design decisions to be based on high-quality data.

- **Manufacturing workflow**

Designing for manufacturing and assembly (DfMA) is rapidly being seen by clients as the way to transition towards faster and more effective ways of making buildings, and by contractors as a way to lower the costs of delivery and reduce risks. However, construction has many years of momentum behind it, being underpinned by suppliers and product manufacturers who have evolved together over a long period of time. Shifting towards greater use of manufacturing requires suppliers to consider the products of the future, designers to look at manufacturing-oriented tools and software and consider transformative design workflows, and clients to be open to innovation, before a track record of case studies exists.

- **Artificial intelligence**

Artificial intelligence (AI) is unlikely to drive disruption in building construction in the short term due to the disaggregation of information. Machine learning in particular, needs huge volumes of information to detect patterns for supervised learning. Holding large databases of projects will enable clients or designers to begin to use their models and information more effectively, but consistent classification and other factors will be crucial in making AI work. In the long term, it is inevitable that AI will drive new ways of designing, and of making the connections necessary to drive better client outcomes.

Other technologies, such as blockchain, are also emerging as innovations that will transform how the industry will work in the future. However, if new solutions simply continue to be plugged into traditional design and procurement models, disruption is unlikely. Disruption requires a step change in how project teams brief, design and make their building, resulting in better outcomes, such as faster design, faster manufacturing and construction, smarter ways of designing and better information at all project stages.

Everyone in the project team needs to be alert to the trends and nascent technologies that will result in better **Project Outcomes**. Determining when a technology or tool is sufficiently robust to be used is a core challenge, as it is difficult to integrate new tools into live projects. At the start of a project, it is worth considering how new tools or technologies might improve the **Information Requirements** for each stage. A training programme might be required to bring everyone up to speed before Stage 2 commences, but the time needed for this will be offset by better **Project Outcomes**.





Towards a  
Transformed  
Construction  
Industry:  
Programmes,  
Practice and  
Research, by  
Dale Sinclair

## 10

## CHAPTER TEN

# Towards a Transformed Construction Industry: Programmes, Practice and Research, by Dale Sinclair

As clients become better informed – as a result of the UK government's level 2 BIM strategy, the world wide web and in house experts to deal with sustainability or modern methods of construction – their expectations are also increasing. Although the RIBA Plan of Work was established to make individual projects more effective, professional clients now expect greater consistency of outcomes between one project and the next by using programme approaches to drive further efficiencies where required, such as on reducing energy costs or improving the user experience.

The demands of the well-informed client are compounded by a wave of new trends and innovations gathering momentum by the day.

In this context, those who fail to undertake **Research and Development** initiatives to enable them to embrace innovations – to transform their design process, become more efficient or build their knowledge base – risk finding it increasingly difficult to compete against peers who are transforming the way they work.

The wide range of trends currently influencing the design of buildings that project teams should be abreast of include:

- **Post Occupancy Evaluation** and the need to improve building performance
- the circular economy and the drive to minimise the use of the planet's resources
- DfMA and other modern methods of construction that are transforming traditional construction methodologies
- BIM, which is progressing beyond a narrow focus on the geometry in the federated model towards the use of digital tools that will leverage data more effectively as part of an evidence-based design process
- new information focused on the more effective operation, maintenance and use of buildings
- parametric and generative design processes driven by the scripting skills of many recent graduates to develop new ideas for their projects
- ethical project considerations which might range from the source of construction materials to ensuring that the local community is properly engaged on a project from the start
- the myriad of digital trends, including artificial intelligence in its various guises, such as machine learning.

The breadth and depth of knowledge required to keep up with these trends can require **Research and Development** resources and initiatives. But when the market for fees is competitive and client expectations are high, it is difficult to allocate the resource for **Research and Development** at the same time as improving design efficiency and



the bottom line – even though it might be the differentiator that wins more work. The commitment to **Research and Development** requires a leap of faith.

Practices and clients must consider the following aspects of **Research and Development** carefully:

- Which trends are client groups interested in?
- How can these be incorporated into proposals?
- What digital tools can add value to the design process and how might they be used on specific projects?
- Are new skills required in the practice to increase knowledge or promote the use of state-of-the-art tools?

Deciding whether investment in **Research and Development** should be made on- or off-project is a core consideration. Introducing innovation into projects can help to offset investment costs. However, the demands of delivering designs, and the corresponding information, to the required **Construction Quality** and to increasingly fast-paced **Project Programmes** can mean that the time and resources for **Research and Development** activity must be undertaken and resourced outside projects.

Trends that clients and practices might consider from a programmatic perspective are detailed below.

## Project Outcomes

Buildings have been delivered for clients for centuries, but the process and focus has evolved over time. Design teams were formed in the early twentieth century as **Building Systems** became more complex. Project managers brought greater focus on the **Project Programme** at the end of the last century and, at the beginning of the twenty-first century, BIM placed greater emphasis on improving **Asset Management** and **Facilities Management** outcomes. Now, the overarching focus for building projects is better **Project Outcomes**; that is how buildings perform for their users – making people happier at home, achieving better exam results in schools or facilitating faster recoveries in hospitals.

See the *RIBA Sustainable Outcomes Guide* for further advice on building performance related **Project Outcomes**.

At this point in time, **Building Contracts** are framed around the delivery of the physical work. However, the increasing focus on **Project Outcomes** suggests that, in future, obligations to meet key metrics for the building, such as improving on a specified energy target, may be included.) In the future, if rent is calculated, not by the square metre, but by how building performance enhances productivity then client's may pass this requirement down to the project team in their contracts. **Project Outcomes** will increasingly blur the contractual boundaries between handover and the effective use and positive impact of a building on its users.

## Quality Aspirations

The three principles of procurement have always been time, cost and quality. Convention has always dictated that two of these drivers can be delivered by the **Procurement Strategy**, but not all three. The ability of design and build forms of procurement to deliver favourable time and cost outcomes is now a deep-rooted belief for many clients. One issue is that the definition of quality covers a wide range of factors from the materials and



**Building Systems** that shape the look and feel of building, to ensuring that the construction has been carried out in accordance with the relevant standards and codes, and ensuring that the building performs as required. Who is responsible for each aspect of design quality is a key consideration. A number of recent project failures, including the Edinburgh schools failures and the Grenfell Tower tragedy, have brought the quality agenda back into sharp focus and there is an urgent imperative to achieve better **Quality Aspirations** with all forms of procurement.

The following measures for the project team to improve **Quality Aspirations** are currently under consideration:

- establishing a 'golden thread' that runs through the whole design process so that it is clear who is responsible for each aspect of the design and for the **Final Specifications** for each **Building System**
- considering the use of **Prescriptive Information** for core quality aspects to avoid any ambiguities in relation to quality and safety, particularly for core **Building Systems** (this may need to be a contractual requirement in any case to ensure that materials scheduled in the **Planning** consent are used)
- reviewing and commenting on the design work of the construction team, including the **Final Specifications** of products
- undertaking inspections of construction throughout the duration of the project
- defining quality beyond the constraints of cost, to encompass sustainability and health and safety considerations.

## Project Programme

One of the four core goals of Construction 2025, the UK government's Industrial Strategy for Construction, was to reduce the time taken to deliver projects by 50%. This target is difficult to achieve with current design and construction workflows and current planning processes. However, it may be possible to reduce **Project Programme** timescales by implementing the following measures while carefully considering their risks:

- The timescale for achieving the **Planning** consent necessary to allow a start on site can be in excess of six months from submission of a **Planning Application**. A means of giving clients greater clarity regarding the acceptability of the proposals prior to achieving consent needs to be found to reduce these timescales. For example, agreement in principle to the proposals for the site (including areas and uses) and to the level of developer contributions would offer the client greater certainty in commissioning the design team to prepare more detailed information or allowing enabling works to commence.
- Ways to reduce the number of iterations of the design team's model by better integrating the federated model with **Engineering Analysis** software must be developed. The development of software may also allow more accurate data to be produced at Stage 2, rather than relying on information generated by rule of thumb, further reducing Stage 3 timescales as a result.
- A reduction in Stage 4 timescales could also be made possible by a shift towards object-based modelling or the ability to integrate construction and/or fabrication information into the model at an earlier stage. Clients therefore need to consider how the effective application of more accurate information might improve the procurement process.





- The shift from construction towards manufacturing-based processes has the potential to significantly reduce the overall project programme, especially on groups of projects, but will require new, larger sub-assemblies to be conceived and the existing off-site industry provision to be scaled up.

There are no right or wrong approaches to reducing **Project Programmes**; however, these measures do require design and construction teams with the right collaborative behaviours and willingness to reduce project timescales.

## Design Programme

**Design Programmes** will evolve in the future to reflect improvements in the integration of the design team's digital information as more effective **Design Review** processes, geared to real-time viewing of the design team's model, make the design process more efficient.

Workflow geared towards a more effective synthesis of **Engineering Analysis** software with the architect's model will reduce the number of design iterations, for example, by allowing architects to make more accurate and earlier judgements on the requisite percentage of glazing. Object-based modelling will transform the way in which projects are integrated into workflow.

## Digital Execution Plan (DEP)

The **DEP** represents an evolution of the BIM execution plan (BEP) promoted by UK BIM level 2. The **DEP** is the core document for setting out how the design team will use digital tools on a project. A BEP has two focal points: first, it allows the design team to demonstrate that they have the relevant experience, skills, software and hardware to produce the **Information Requirements**; and second, it sets out how they will use these tools to undertake the project, including details on collaborative workflow and file naming.

The **DEP** begins to consider issues beyond the modelling strategies, looking at the connectivity of all of the software used on projects, including that employed in **Engineering Analysis**. The ultimate goal for the lead designer is to reach the point where **Engineering Analysis**, or other software used by the design team, is integrated seamlessly into the federated model, giving real-time feedback on proposals as they are developed.

Significant benefits will result as the design team improve the connectivity of their models and their software packages. It is also crucial for the client and construction teams to consider how they might change their working methodologies to make the project workflow more efficient. For example, the client team might undertake **Design Reviews** using 3D rather than 2D information, which would require training in how to use new tools. Many construction teams are ahead of the digital curve but, given the current speed of change, more can always be done; for example including using new software tools to allow setting-out dimensions to be taken directly from the design team's model (avoiding the need for dimensions to be added onto a separate 2D layer), or employing robotics for use cases, such as demolition, MEP first fix or setting out of partitions.

Critically, no one in the project team will be immune to the extensive changes that will take place in the future, although some clients may fight to keep existing processes in place until more pilot projects or processes have been tested and verified. This underlines the increasing need to agree the **DEP** at the outset of a project so that it is clear which digital tools will be used, allowing workflow diagrams to be created to inform all parties.

## Construction Strategy

While many infrastructure and public sector clients are leveraging the benefits of early contractor engagement, private sector clients tend to value the benefits for the **Quality Aspirations** of managing the design team and the design process through Stages 2 and 3 until Planning consent is secured. This approach allows different construction teams to tender on the basis of one- or two-stage design and build tenders, bringing value to a number of **Building Systems**, where they might have a technical advantage over their competitors, or can bring more effective logistics that will reduce the **Construction Programme**, without diminishing quality and performance.

With greater uptake of modern methods of construction, a core future dilemma for clients will be determining the most appropriate form of construction. For example, volumetric construction requires early decisions and discussions with potential fabricators who may have manufacturing constraints such as wall thicknesses or unit sizes. Similarly, the increasing use of offsite manufacturing points to larger sub-assemblies being used on buildings in the future, from the increased use of toilet pods to pre-manufactured building services modules. Where a specialist subcontractor is required to develop these aspects, a 'chicken and egg' scenario is created: the design team is unable to complete their **Architectural Concept** until the fabricator is known and the client team is not prepared to enter into a **Building Contract** until the **Architectural Concept** has been concluded. Finding an effective means of resolving this sequencing conundrum will be crucial to the future of procurement.

There are major challenges to be overcome in creating the construction materials of the future. Many architects are looking to use new materials on their projects to deliver better performance or a new design language. However, under a design and build contract, the construction team may be unwilling to take responsibility for a new and untested material. **Research and Development** must be undertaken to develop a new generation of materials that are lighter, have good insulating properties yet are resistant to heat absorption, are safe to install and maintain and resistant to fire while proving, that they will remain robust for the life of the building.

## Cost Plan

Most design teams are well versed in producing a federated model of projects but, for some reason, the uptake of 5D BIM (cost) linked to these models has been slow. Those undertaking the lead designer and cost consultant roles need to consider how to use the data from the federated model more effectively in creating the **Cost Plan**. A core issue with 5D BIM is that any software tools can only read the data from the aspects of the project that have been modelled. In the short term, until workflow incorporating 5D BIM is better established, those wishing to use such technologies will need to consider how the **Cost Plan**, federated model, **Outline Specification** and the modelling of the different **Building Systems** can best work together as the design progresses.

## Outline Specification

An **Outline Specification** fulfils a number of purposes. First, it conveys to the client team the quality of the proposed finishes, presented via sample boards at a client's Design Review. Second, it allows the cost consultant to align the **Cost Plan** with the level of specification appropriate to the design team's **Quality Aspirations** for each **Building System**.



Many **Building Contracts** have been shifting away from **Prescriptive Information** and towards **Descriptive Information** in recent years. This approach offers the construction team maximum flexibility in determining the products to be used on a project and how these products can be brought together. Conversely, it pushes a great deal of coordination work to the end of the design process. The client therefore needs to be certain that the construction team has the requisite experience to specify products that will meet the demands of the **Descriptive Information**; for example, the compatibility of a fire door with its specified ironmongery.

As designers begin to use object-based modelling more and more widely, a return to **Prescriptive Information** in specifications is emerging. This programmatic and pragmatic approach to specification can be effectively leveraged by repeat clients and design teams alike. Consistent use of products from one project to the next has the following advantages:

- allows greater cost certainty
- minimises interface issues between different **Building Systems**
- ensures that the best possible digital information can be leveraged from the outset
- reduces time spent researching materials for individual projects
- reduces maintenance issues due to **Feedback**
- minimises the possibility of errors when materials are used together for the first time.

Once the comprehensive specification work has been undertaken and the right products with the optimum balance between cost, aesthetics, sustainability, safety, buildability and maintainability have been chosen, they can be locked down and specified at an earlier stage. 5D technologies can schedule quantities earlier than industry norms, giving clients a clear understanding of costs earlier in the process. This approach raises the question of who takes responsibility for the products – the design team on the project or those who have developed the programme-wide library of products? Clients need to consider whether the benefits of repeatable and consistent products outweigh the benefits of the construction team specifying later in the design process, paying particular attention to where whole life criteria such as better safety, energy use and maintenance, as well as the visible products on a project, would take precedence over reducing capital costs.

## Building Systems

The architecture of any project focuses on a building's spaces and how they effectively come together to form a cohesive whole that delivers the best functional relationships and, in due course, the best **Project Outcomes**. While certain **Building Systems**, such as wall linings, ceilings and lighting systems are easily visible, many **Building Systems**, usually building services such as ducts, risers and major elements of plant, are unseen by a building's user. Those easily visible systems will likely need an enhanced level of detail if a client is reviewing a concept design in a virtual reality walkthrough in Stage 2. Some **Building Systems** can be designed independently; others have numerous interfaces and relationships with other **Building Systems**. Some can be designed in isolation; others require iterations of the architecture and **Engineering Analysis**; for example, the building façade design and the specification and percentage of glazing can require a number of iterations to balance energy needs with aesthetics and fire safety.

## Facilities/Asset Management

Bridging the gap between information used for construction and the information required for **Facilities Management** or **Asset Management** purposes has proved challenging, with



COBie, an American schema, used as a short term vehicle to secure a consistent structure and attributes for this data. However, software systems are now creating more seamless systems to allow information to progress from its project-related (manufacturing and construction) purposes to fulfil **Asset Management** functions. Crucially, these systems now allow both geometry and data to be integrated within a single system. Furthermore, the advent of the **Digital Twin** is not far away. **Digital Twins** have been used in a number of advanced manufacturing industries for several years and allow project simulations for energy performance purposes, and other factors, for comparison with live 'in use' information. These real time feeds allow those using the building to understand where a building's performance is deviating from what was planned, permitting adjustments to be made. In addition, this feedback loop allows designers to gain a clearer understanding of how their buildings are working in practice, and to hone the design process accordingly. Crucial building maintenance, aligned to predictive analytics, can be undertaken proactively rather than allowing a sub-par item of building plant to underperform until failure.

## Conclusion

By understanding the **Project Documents** and **Project Strategies** that are core to the RIBA Plan of Work, it is possible for client, design and construction teams to consider ways of developing templates for these documents that can be rolled out from one project to the next. At present, a core challenge is the pace of change. Many clients have their own **Responsibility Matrix** or **Information Requirements**, but at what point would they be comfortable changing the balance of **Descriptive** or **Prescriptive information** provided by the design team and when might they shift away from 2D deliverables to place greater emphasis on the model and its data? Clients can draw the line on how progressive they seek to be, design teams can choose how far to push and promote their innovative workflow and construction teams can feel confident that modern methods of construction will be embraced by the project team.

Innovation can only be fostered if the construction industry shares experiences, both good and bad, with illustrative case studies to promote the ever changing line that indicates best practice as more design automation takes place and technologies such as machine learning become more prevalent.

The notion that we will reach a new steady-state environment in the future is ill-founded. The breadth and depth of the trends that will influence the future point to an era of continuous improvement. Improvements to the project process and information deliverables that bring about true step changes in how buildings are designed, manufactured and constructed. Improvements to design that result in better outcomes for users. **Research and Development** will be crucial in this era of whole life learning. Those who acknowledge these facts will prosper. Those who strive to maintain the status quo, without making significant efficiency improvements elsewhere, will find it difficult to engage with new initiatives.

In this environment, the RIBA will continue to monitor how the RIBA Plan of Work is being used. The RIBA believes that this updated version of the Plan of Work will bring greater consistency of use on current projects, while allowing clients and practices to focus on the efficiency improvements that will gradually result in a transformed construction industry.

**Dale Sinclair, Director – Architecture, Technical Practice, AECOM**





PART

# Glossary

# Glossary and guidance on RIBA Plan of Work terms

Term/task	Definition (guidance is included in grey boxes)
<b>Aftercare</b>	Initiatives aimed at making the use of the building, or subsequent buildings, more effective, including improving the performance of the <b>Building Systems</b> . Tasks may include gathering <b>Feedback on Project Performance</b> and building performance from <b>Post Occupancy Evaluations</b> .
<b>Approved Plans</b>	Plans of a building that have been approved as part of a <b>Building Regulations Application</b> .
<b>Architectural Concept</b>	<p>The architectural vision for the project, developed in Stage 2, which may start as several options that are tested against the <b>Project Brief</b>. As the initial ideas solidify, following <b>Design Reviews</b> with the client and other stakeholders, <b>Strategic Engineering</b> aspects are incorporated into the <b>Architectural Concept</b> before it is concluded and forms part of the <b>Stage Report</b> at the end of Stage 2.</p> <p>The <b>Architectural Concept</b> is the backbone of the Stage 2 design process. The architect conceives and creates ideas in response to the <b>Project Brief</b>, according to the <b>Project Budget</b> and the demands of the site, including its setting, topography, ecology, shape and historic context. These ideas, which might comprise a number of options, need to be tested at <b>Design Reviews</b> with the client and developed by the design team in parallel. Once an idea begins to solidify, engagement with other <b>Project Stakeholders</b> can commence. However, the <b>Architectural Concept</b> cannot exist in isolation. It must incorporate <b>Strategic Engineering</b> considerations, respond to <b>Project Strategies</b> and be tested against the <b>Project Budget</b> by producing a <b>Cost Plan</b>.</p> <p>The lead designer must strike a balance between the need to have an <b>Architectural Concept</b> that is acceptable to the client and other <b>Project Stakeholders</b> while coordinating the <b>Strategic Engineering</b> aspects or a <b>Project Strategy</b> that impacts on the development of the <b>Architectural Concept</b> or the <b>Cost Plan</b>.</p>
<b>Asset Information</b>	<p>Information that can be used for <b>Asset Management</b> and/or <b>Facilities Management</b> purposes.</p> <p>Traditionally, information provided by the design team to the contractor has been solely for the purposes of manufacturing and constructing a building. However, in order to maintain their asset, the client team requires further information that covers many different aspects, such as product numbers and manufacturers' details, replacement procedures and timing, serial numbers of air handling units or specifically allocated asset numbers. The most effective means of collating this information is to make sure that the BIM model includes the relevant data structure from the outset and that the information is added as the design progresses. However, some of this information may not be obtained until Stage 5, as subcontractors complete their installations. The client needs to clearly specify their requirements so that the necessary data are compiled as the design and construction phases progress.</p>



Term/task	Definition (guidance is included in grey boxes)
<b>Asset Management</b>	<p>The process of developing, operating, maintaining, upgrading and disposing of an asset using the most efficient and effective means.</p> <p><b>Asset Management</b> provides a further overlay to <b>Facilities Management</b>, formalising the maintenance regimes for the building. To achieve this, some of the components of the <b>Building Systems</b>, such as doors and items of plant, are given asset tags and unique identifiers, allowing maintenance planning to be optimised. Examples of asset management in practice include identifying when smoke seals on doors need to be inspected or when the batteries in escape signage need to be replaced, as well as recording when the requisite work was undertaken.</p>
<b>Building Contract</b>	<p>The contract between the client and the contractor for the construction of the project. In some instances, the <b>Building Contract</b> may contain design duties for specialist subcontractors and/or design team members.</p> <p>On some projects, more than one <b>Building Contract</b> may be required – for example, one <b>Building Contract</b> for shell and core works and another for furniture, fitting and equipment (FF&amp;E) aspects.</p>
<b>Building Manual</b>	<p>A summary of all key information about a building, including the <b>Health and Safety File</b> and <b>Fire Safety Information</b>, which are regulatory requirements. The <b>Building Manual</b> is used to ensure that <b>Asset Management</b> and <b>Facilities Management</b> are effectively implemented and might contain tasks that the users must consider in order to get the most out of the building.</p> <p>Historically, the <b>Building Manual</b> was produced in response to statutory requirements and the need to produce an Operations and Maintenance Manual. Typically, this comprised a large amount of design information, supplemented by information added by the specialist subcontractors responsible for designing the various <b>Building Systems</b>, compiled in various volumes and handed over to the client. In many instances, this information was unwieldy or poorly structured and difficult to use. Digital approaches allow the creation of a <b>Building Manual</b> that can offer links to information on all of the incorporated products and <b>Building Systems</b>, providing useful information on how to maintain them and how to source replacement parts. The client needs to consider what the <b>Building Manual</b> should look like and what information will be required beyond the statutory requirements. The design and construction teams must consider how this information can be effectively accessed and stored using digital tools.</p>
<b>Building Regulations</b>	<p>Minimum standards for design, construction and alteration of buildings. See <a href="http://www.legislation.gov.uk/ukxi/2010/2214/contents/made">www.legislation.gov.uk/ukxi/2010/2214/contents/made</a>.</p>
<b>Building Regulations Application</b>	<p>An application to a building control body (local authority or approved inspector) to check that the proposals for a building meet the requirements of the <b>Building Regulations</b>.</p>

Term/task	Definition (guidance is included in grey boxes)
<b>Building Systems</b>	<p>The constituent parts of a building, including, but not limited to, structural systems, mechanical and electrical systems, façade, ceiling, floors and wall systems.</p> <p>At Stage 4, the emphasis shifts from the building as a whole to the information required to define each <b>Building System</b>. Every building is composed of a series of building systems, each allocated to a member of the design team in the <b>Responsibility Matrix</b>. The role of the lead designer involves ensuring that this information is coordinated by directing the Stage 4 design and reviewing and coordinating the work of the design team. On some projects, the design team will issue their <b>Building System</b> information as a whole. On others, the construction team will break this information down into 'packages', with a number of <b>Building Systems</b> tendered together.</p> <p>In Stage 4 the contractor also sends out tenders to subcontractors as packages, which broadly follow the <b>Building Systems</b>' breakdown. Some may be amalgamated, others let as a single item. The design team might issue the 'packages' as a whole or in line with a tender event schedule, which should be clearly set out in the <b>Responsibility Matrix</b>. The interfaces between the <b>Building Systems</b> will be defined by the contractor.</p> <p>See Uniclass 'Systems' (SS) table for a list of many Building Systems: <a href="http://www.thenbs.com/our-tools/uniclass-2015">www.thenbs.com/our-tools/uniclass-2015</a></p>
<b>Business Case</b>	<p>The rationale behind the initiation of a new building project. The <b>Business Case</b> examines and appraises possible approaches or options against the <b>Project Outcomes</b> (social, environmental and economic considerations) defined in the <b>Client Requirements</b>. On a small project, the <b>Business Case</b> might comprise a few pages; however, on larger projects it can run to several comprehensive volumes, prepared by a wide range of consultants and advisers. On some larger projects, the <b>Business Case</b> is reviewed and updated beyond Stage 0 until the project is given final approval.</p> <p>It is necessary to understand the client's <b>Business Case</b> for a project, because <b>Feasibility Studies</b> may identify several possible approaches in response to a client's needs. For example, a client may want to increase the desk count in their existing buildings, but studies may show that space rationalisation, an extension or a combination of the two options is more effective than relocating to a new-build project. Conversely, undertaking a financial appraisal to obtain site values may conclude that a new building is a justifiable business approach, although this may conflict with the Sustainability Strategy. The <b>Business Case</b> should tease out the pros and cons of different approaches, considering the <b>Project Risks</b> and <b>Project Budget</b> of each. The criteria for selecting the most appropriate way forward must be considered and different topics might be weighted differently depending on the <b>Client Requirements</b>. For example, on one project, adhering to the <b>Project Budget</b> might be the overriding criterion, while, on another, design quality might outweigh other considerations.</p>





Term/task	Definition (guidance is included in grey boxes)
<b>Change Control Procedures</b>	<p>Procedures for controlling changes to the design and construction following the sign-off of the Stage 2 <b>Concept Design</b> and the final <b>Project Brief</b>.</p> <p>During Stage 3, the design continues to be developed with <b>Design Studies</b>, <b>Engineering Analysis</b> and <b>Project Strategies</b>. This work is termed 'design development' and might involve tweaks to the <b>Architectural Concept</b>. Functional changes – for example, relocating a space or changing its size – are not design development and should be dealt with under the <b>Change Control Procedures</b>.</p> <p>The RIBA Plan of Work recommends that <b>Change Control Procedures</b> formally commence at the start of Stage 3. This allows any proposed changes to the <b>Architectural Concept</b> to be properly considered before they are implemented, noting that changes can impact different members of the design team in different ways.</p> <p>It should also be noted that any substantive changes to the <b>Project Brief</b> during Stage 2 also require client instructions. Examples of substantive changes would be increasing the area of office space required by 20% or adding a new lecture theatre to the <b>Project Brief</b>. The impact of these changes, including the need for additional fees or an extension to the Stage 2 <b>Design Programme</b>, will depend on when they are instructed and how significantly they impact on the design work undertaken to date.</p> <p>As the project progresses into Stage 4 and towards construction at Stage 5, the cost of change increases as more design information needs to be updated and, ultimately, there is a point where change impacts on work that is under way on site, as figure 4 illustrates.</p>

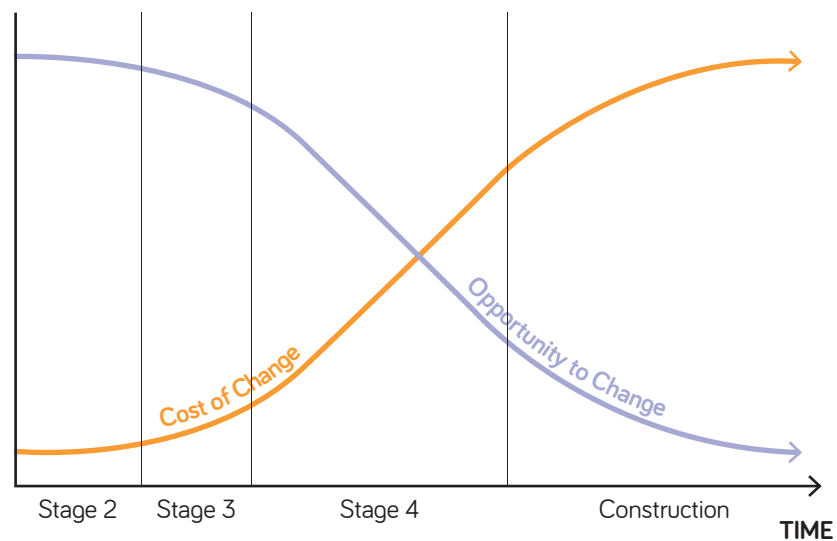


Figure 4 Cost and opportunity for change

Term/task	Definition (guidance is included in grey boxes)
<b>Client Requirements</b>	<p>A statement or document that defines the <b>Project Outcomes</b> and sets out what the client is seeking to achieve. It is used to develop the <b>Business Case</b>, which examines any viable options that meet the <b>Client Requirements</b>.</p>
	<p>The <b>Client Requirements</b> set out what the client is trying to achieve. For example, two residential clients might have the same <b>Spatial Requirements</b> (say, a new kitchen and an extra bedroom); however, one might be about to sell their property and is looking to increase its sale price while the other has a new baby and wants to consolidate their position close to good local schools. While the <b>Spatial Requirements</b> for both clients are the same, it is unlikely that their desired <b>Project Outcomes</b> will be the same, so a different <b>Business Case</b> and <b>Project Budget</b> is required for each. The <b>Client Requirements</b> allow the project team to explore viable options, determine the pros and cons for each and, ultimately, recommend the option best suited to deliver the <b>Client Requirements</b>. When this recommendation constitutes a building project, and it is signed off by the client, the more nuanced and detailed <b>Project Brief</b> can be prepared.</p>
<b>Commissioning</b>	<p>A number of <b>Building Systems</b> will need to be commissioned before the building can be handed over. <b>Commissioning</b> involves calibrating and adjusting the relevant systems until they are working as specified, with test results reviewed to confirm that they are satisfactory.</p>
	<p>Prior to <b>Commissioning</b>, the work of a number of subcontractors might have to be completed; for example, controls systems are normally installed separately from the mechanical systems they regulate. A crucial consideration is the time frame available. It is common for <b>Commissioning</b> to be delayed for various reasons, resulting in pressure on commissioning engineers to undertake their work quickly. <b>Commissioning</b> is increasingly becoming a requirement for every building. For example, as residential projects incorporate more complex <b>Building Systems</b>, from photovoltaics to integrated sound systems, it is important to ensure that these all function as planned.</p> <p>Seasonal <b>Commissioning</b> can take be undertaken during Stage 6 to help bed in the mechanical <b>Building Systems</b>, allowing them to work more efficiently throughout the year.</p>
<b>Construction Phase Plan</b>	<p>A statutory requirement under the CDM Regulations. The <b>Construction Phase Plan</b> must set out the arrangements for securing health and safety during the construction phase (the period that construction work is carried out). See HSE publication L153: <i>Managing Health and Safety in Construction</i> (HSE Books, 2015) for more information.</p>
<b>Construction Information</b>	<p>Information used to construct the <b>Building Systems</b> on site. This information can be prepared by the design team or by a specialist subcontractor and must comprise <b>Prescriptive Information</b>.</p>



Term/task	Definition (guidance is included in grey boxes)
<b>Construction Programme</b>	<p>The period specified in the <b>Project Programme</b> and the <b>Building Contract</b> during which <b>Building Systems</b> can be manufactured and the project will be constructed, commencing on the site mobilisation date and ending at <b>Practical Completion</b>.</p> <p><b>Construction Programmes</b> differ from <b>Project Programmes</b> and <b>Design Programmes</b>. The <b>Construction Programme</b> is a detailed and granular programme that sets out when each <b>Building System</b> will be constructed. The high-level <b>Construction Programme</b> can be distilled into a programme for each 'package' to inform subcontractor tenders. It also highlights the critical path for the project. Increasingly, 4D BIM (time) tools are used to link the design team's federated model to the <b>Construction Programme</b>. This improves health and safety and programme outcomes by allowing a number of options to be rehearsed in good time before work begins on site. As more modern methods of construction exert an increasing influence on how buildings are made, it is likely that these tools will be used earlier and earlier in the design process, making concept designs more robust from a construction perspective.</p> <p>The critical path indicates the optimum methodology for constructing a building, where the immediate impact of a delay to one task is a delay to the next. Achieving the fastest <b>Construction Programme</b> requires the critical path to be determined and optimised.</p>
<b>Construction Quality</b>	<p>The quality of workmanship (and other factors, such as tolerances) defined in the <b>Employer's Requirements</b> and/or <b>Final Specifications</b> and <b>Building Regulations</b> that the construction team must comply with. To confirm that the contractor is meeting these <b>Construction Quality</b> requirements, it is common for regular inspections to be carried out.</p> <p>A regular (usually monthly) report on <b>Construction Quality</b> might be produced for the client team, detailing whether the ongoing manufacturing and construction on the project are compliant. Appropriate inspection requirements need to be clearly determined at the outset of a project and the appropriate fees included in the <b>Project Budget</b>.</p> <p>Inspections should be undertaken by individuals with experience of similar construction technologies. If the design team remains with the client, its members are the most likely candidates to conduct these inspections. However, if the design team is novated to the contractor, a shadow design team may be appointed to monitor construction.</p> <p>In addition to 'walking the site' to inspect the ongoing works, those undertaking this role typically produce a monthly quality report to record issues identified and to monitor progress. While the contractor might produce their own report, it is prudent and commonplace for the client team to review progress against the <b>Construction Programme</b>. The increasing use of digital surveying tools allows real-time comparisons of actual progress against planned progress, providing indisputable and granular information. On smaller projects, a more hands-on approach might be required with frequent site visits and immediate identification of areas where <b>Construction Quality</b> is not being achieved.</p>

Term/task	Definition (guidance is included in grey boxes)
<b>Construction Strategy</b>	<p>A strategy that considers specific aspects of the design that may affect the buildability or logistics of constructing a project or that may impact health and safety aspects.</p> <p>The <b>Construction Strategy</b> comprises items such as the craneage strategy, site access and accommodation locations, reviews of the supply chain and sources of materials, and specific buildability considerations, such as the choice of frame (steel/concrete) or the installation of larger items of plant.</p> <p>On a smaller project, the <b>Construction Strategy</b> may be restricted to the location of site cabins, welfare provisions and storage, and the ability to transport materials up an existing staircase. However, health and safety considerations should still be applied in full.</p>
<b>Cost Exercises</b>	<p>Exercises used to develop the <b>Cost Plan</b> and to verify that the <b>Outline Specification</b> for the <b>Building Systems</b> meets the available <b>Project Budget</b>.</p> <p>The goal at Stage 3 is to carry out <b>Cost Exercises</b> that allow more detailed aspects of the design to be tested. <b>Design Studies</b> are a good means of developing specific aspects of <b>Building Systems</b> and determining their affordability. In some instances, suppliers or specialist subcontractors might get involved in conversations and, indeed, this dialogue will be vital to certain procurement routes. The <b>Outline Specification</b> and <b>Project Strategies</b> can also be tested further during Stage 3. Although these exercises might result in increased costs, these should be balanced by a reduction in the project contingency included in the <b>Cost Plan</b> as greater certainty regarding the detail allows the contingency to be reduced accordingly.</p>
<b>Cost Plan</b>	<p>The estimate of the construction, or capital, costs for a building, aligned with the <b>Project Budget</b>, unless otherwise agreed with the client team. The <b>Cost Plan</b> may also include, or be linked to, whole life cost information.</p> <p>When undertaking cost estimating and cost planning at any Stage of the project, due reference should be made to the high-level cost classification system set out in the International Construction Measurement Standards (ICMS) (<a href="https://icms-coalition.org">https://icms-coalition.org</a>) and the provisions of the RICS Professional Statement on Cost Prediction, which provides a combination of best practice guidance and rules in respect of initial cost estimating (prediction) and subsequent cost planning.</p> <p>See section Seven: <i>Project Strategies – Cost Plan Strategy</i> for guidance on how the <b>Cost Plan</b> develops during each stage.</p>
<b>Defects List</b>	<p>A list of items that do not comply with the requirements of the <b>Building Contract</b> when the <b>Practical Completion</b> certificate is issued.</p> <p>A building should be free of defects when it is handed over. However, the majority of clients do not wish minor defects to delay handover and it is therefore common for a <b>Defects List</b> to be appended to the <b>Practical Completion</b> certificate to allow the building to be used. These defects are rectified as quickly as possible during Stage 6.</p>





Term/task	Definition (guidance is included in grey boxes)
<b>Descriptive Information</b>	<p>The means by which the design team describes a <b>Building System</b> in a manner that allows a specialist subcontractor to design the system.</p> <p><b>Descriptive Information</b> is issued by the design team to allow a specialist subcontractor to prepare <b>Manufacturing Information</b> for a <b>Building System</b>. <b>Descriptive Informative</b> is commonly referred to as 'design intent' as it frames the scope of work, describing what is required and any specific details that must be adhered to, and includes a performance specification that specifies the standards that must be met.</p> <p>See chapter Nine: <i>Setting Information Requirements</i> for more guidance on <b>Descriptive Information</b>.</p>
<b>Design Programme</b>	<p>The duration of the design tasks of each member of the design team, overseen by the lead designer and usually agreed before each design stage commences. The <b>Design Programme</b> is derived from the <b>Project Programme</b>.</p> <p><b>Design Programmes</b> vary substantially from <b>Project Programmes</b> or <b>Construction Programmes</b>. With the views of clients, and other stakeholders, difficult to predict and the complexity of projects creating new dynamics involving topics or interfaces that may not have been encountered before, it is essential that the lead designer creates a simple, flexible <b>Design Programme</b> that works alongside other design management tools. A detailed <b>Design Programme</b> is doomed to fail unless key <b>Project Stakeholders</b> agree with the design approach from the outset. The following points are vital to a successful <b>Design Programme</b>:</p> <ul style="list-style-type: none"> <li>• a clear understanding of the key dates for the client's <b>Design Reviews</b> (there is little point in developing a design if the client will be away when it needs to be approved)</li> <li>• considering when key <b>Project Stakeholders</b> might engage with the design process (noting that meetings could take months to arrange)</li> <li>• establishing a strategy for developing key <b>Strategic Engineering</b> aspects and coordinating them with the <b>Architectural Concept</b></li> <li>• considering when key <b>Project Strategies</b> might be developed for discussion with the client.</li> </ul> <p>Crucially, the lead designer needs to use their experience to decide when each team member should become more involved in the design process. Too many tasks undertaken too early in the process can result in abortive design work. Conversely, tasks tackled too late in a stage can result in iterations of the design that impact on an <b>Architectural Concept</b> that the client has already approved.</p> <p>The <i>Lead Designer's Handbook: Managing design and the design team in the digital age</i> (RIBA Publishing, 2019) contains tips and tools that can be used by design teams to progress the design from its early, embryonic stages to the final set of information for manufacturing and construction purposes and beyond, into the in-use stage for <b>Asset Management</b> or <b>Facilities Management</b> purposes.</p>

Term/task	Definition (guidance is included in grey boxes)
<b>Design Reviews</b>	<p>Reviews of the <b>Architectural Concept</b> by the client and other <b>Project Stakeholders</b> to obtain comments and determine whether it meets the requirements of the <b>Project Brief</b>. More experienced clients may also review the <b>Strategic Engineering</b> aspects or the <b>Project Strategies</b> and, during Stage 3, the outputs from <b>Design Studies</b> or <b>Engineering Analysis</b>.</p> <p>Design is not a linear process in which one task flows naturally from another. The design process is influenced by many different aspects. In the early project stages, <b>Design Reviews</b> by <b>Project Stakeholders</b> might be a primary driver for refining, or iterating, the design. However, as the building services and structural engineers and other specialist consultants progress their work, the design will be iterated on a regular basis until it is complete.</p> <p><b>Design Reviews</b> are an essential part of the design process. At Stage 2, <b>Design Reviews</b> are likely to focus on the client's review of the <b>Architectural Concept</b>. A core challenge in developing the <b>Design Programme</b> during the early design stages is determining when the client team is able to meet for <b>Design Reviews</b> with a broad range of <b>Project Stakeholders</b>.</p> <p>As well as the more obvious and design-oriented aspects of the design process, the client may wish to understand the engineering aspects or <b>Project Strategies</b> in detail. The lead designer and client team need to determine the level of detail that the client team wish to review so that the <b>Design Reviews</b> for these aspects can be incorporated into the <b>Design Programme</b>.</p>
<b>Design Studies</b>	<p>Detailed studies that develop aspects of the building further during Stage 3. For example, looking at the façade of the building in greater detail or developing the detail of a core space, such as the entrance lobby. <b>Design Studies</b> consider how the engineering aspects (for example, lighting and structural options for the entrance lobby) can be successfully coordinated into the design.</p> <p>The <b>Design Studies</b> undertaken at Stage 3 represent the next stage in the development of the <b>Architectural Concept</b>. They might comprise detailed studies of a façade system, an atrium roof or a key area of a building, such as a loading bay. On larger projects, <b>Design Studies</b> might be undertaken by multidisciplinary teams which analyse all aspects of a specific topic. For example, for an atrium roof the team would scrutinise fire engineering, structural solutions, acoustics, heat gain and glare as well as access and maintenance, testing the assumptions made in the <b>Architectural Concept</b>.</p> <p><b>Design Studies</b> are not intended to change the <b>Architectural Concept</b>. They focus on developing greater detail to inform the <b>Cost Plan</b> and to allow more comprehensive and in-depth coordination exercises to be undertaken.</p>
<b>Digital Execution Plan (DEP)</b>	<p>A document (also commonly called the BIM execution plan) that sets out how the design team will deliver the <b>Information Requirements</b> for the project, considering the tools to be used at each stage. The construction team might prepare a separate <b>DEP</b> to confirm how the <b>Asset Information</b> and <b>Verified Construction Information</b> will be produced.</p>
<b>Digital Twin</b>	<p>A digital representation (replica/model) of a building that allows simulations of its predicted performance to be reviewed against the actual performance, and its operation and maintenance to be optimised. A <b>Digital Twin</b> provides useful <b>Feedback</b> on areas where a building is not performing as planned, facilitating the process of optimising both the current building's performance and future projects.</p>



Term/task	Definition (guidance is included in grey boxes)
<b>Employer's Requirements</b>	A description of the <b>Client Requirements</b> with the specific purpose of providing the basis for tender of a <b>Building Contract</b> .
	See chapter Eight: Procurement Strategy for more information.
<b>Engineering Analysis</b>	The detailed calculations and analysis required to progress each engineering aspect of the project. During Stage 3, this analysis needs to focus on ensuring that the building is <b>Spatially Coordinated</b> by the end of the stage. Where <b>Engineering Analysis</b> does not impact on the Stage 3 design, it can be undertaken at Stage 4, when each <b>Building System</b> is detailed.
	<p>Once the <b>Architectural Concept</b> has been signed off, the engineering teams can begin more detailed calculation and analysis exercises at Stage 3, confident that the direction of design travel is robust. With the increasing complexity created by topics such as the circular economy and growing demands to reduce buildings' contributions to climate change, it is useful for the design team to have a space in which to undertake their work, confident that a further iteration of the design will not require calculations to be reworked or strategies to be revised. In addition, the increasing numbers of specialist consultants on a project require the lead designer to oversee a large number of <b>Project Strategies</b>, many of which have overlapping themes, and coordinate everyone's efforts for the <b>Stage Report</b>.</p> <p>In this sense, Stage 3 is the lead designer's space. Any client involvement should be minimal, with an emphasis on the <b>Design Reviews</b> generated by the <b>Design Studies</b>, as the design team bridges the gap between the <b>Architectural Concept</b> and the production of <b>Manufacturing Information</b> and <b>Construction Information</b> at Stage 4.</p>
<b>Facilities Management</b>	The tasks undertaken to enable the effective running of a building.
	<p>Every building needs some form of <b>Facilities Management</b>. For example, residential buildings must accommodate recycling facilities, provide somewhere for mail to be delivered and meters to be inspected or read, as well as considering how cisterns, rainwater pipes and other items will be accessed for repairs or replacement over the life of the building. On larger projects the principles are the same; however, the tasks will be more comprehensive and may be carried out by a third party. They are typically divided into hard or soft <b>Facilities Management</b>.</p> <p>Hard <b>Facilities Management</b> relates to the building itself, including maintenance of the façade, lighting, mechanical, plumbing and fire safety aspects. Tasks include regular replacement of items, such as bulbs in light fittings or filters in air handling units, as well as scheduled and recommended maintenance. One current trend in <b>Facilities Management</b> is predictive analytics, in which the data from key items of plant is used to determine when plant is underperforming and likely to need attention ahead of schedule. Soft <b>Facilities Management</b> relates more to the functionality of the building, providing the interface between the building and the user experience; for example, manning the reception desk, window cleaning, day-to-day cleaning, mail and waste management or catering.</p>



Term/task	Definition (guidance is included in grey boxes)
Feasibility Studies	<p>Studies undertaken to test the feasibility of the <b>Client Requirements</b> and emerging <b>Project Brief</b> against a specific site/context, and to consider how to deal with site-wide issues.</p>
	<p>Producing a <b>Project Brief</b> can sometimes be counterproductive if it is not tested against the constraints of a particular site. The RIBA recommends that, where making the brief fit a given site might be challenging, <b>Feasibility Studies</b> are undertaken to prove that the <b>Spatial Requirements</b> can be accommodated. <b>Feasibility Studies</b> can benefit from the skills of a designer, but this exercise is purely to test the potential project's fit. It is not meant to be the beginning of the design process, which commences at Stage 2. Where a number of options are proposed, these should not be assessed or vetted except to inform the briefing process or this exercise may risk undermining the start of the design process. <b>Feasibility Studies</b> might also include engineering aspects; for example, undertaking searches for utilities or considering the stability of an existing building. This work might help to inform and test the <b>Project Budget</b>. The <b>Feasibility Studies</b> should also consider the <b>Project Risks</b> and any issues likely to result in abnormal costs; such as high utility costs. It is always possible that, as the <b>Project Brief</b> is developed, a situation arises that prevents the project from progressing. This is, of course, best discovered before design work commences.</p>
Feedback	<p>Knowledge derived from previous similar projects, often used to inform dialogue at Stage 0. <b>Feedback</b> might comprise <b>Post Occupancy Evaluation</b> feedback, building visits, case study information or discussions with the project teams involved.</p>
	<p><b>Feedback</b> from previous projects is an essential part of the briefing process and can help to inform the <b>Client Requirements</b>. <b>Feedback</b> can relate to any aspect of a previous project, such as energy performance, how a specific space in the building performed or other functional features or it might cover the structure of the team, the information provided or a specific aspect of the design process.</p> <p>Increasingly, the core goal of Stage 6 is to make a building work as efficiently as possible – e.g. the building services working optimally and consuming the minimum amount of energy. Comparison of the planned with the actual energy and water use is a good starting point.</p> <p>Seasonal <b>Commissioning</b>, undertaken before closing out the <b>Building Contract</b>, also helps to bed in the mechanical <b>Building Systems</b>, ensuring that they work efficiently throughout the year.</p> <p>However, it is not just the building's consumption of resources that can offer scope for improvement. The building's use and maintenance can be observed. For example, are blinds included to reduce heat gain and glare? Are resource-saving devices being used as planned, such as low flush devices on toilets? Is the waste strategy working? Examining these items might point to the need to train and educate users in how they can refine the way in which the building is used, improving outcomes for all.</p>
Final Certificate	<p>A contractual document that formally concludes the <b>Building Contract</b> and Stage 6, winding up the construction team's involvement in the building's life. Many professional services contracts are aligned with the <b>Building Contract</b>, meaning that the issue of this document also concludes the work of the design team, except where a separate appointment requires <b>Aftercare</b> activities beyond the end of Stage 6.</p>





Term/task	Definition (guidance is included in grey boxes)
<b>Final Specifications</b>	<p>The specifications issued at Stage 4 by the design team. These specifications can be descriptive or prescriptive.</p> <p>The <b>Final Specification</b> for each <b>Building System</b> is produced by the design team and sets the contractual requirements, directing the subcontractors employed by the contractor in terms of the products to be used, confirming workmanship, tolerances or other aspects that must be adhered to. The <b>Final Specification</b> can include <b>Descriptive Information</b> or <b>Prescriptive Information</b>. The contents of the <b>Final Specifications</b> might be influenced by which party is employing the designer creating them.</p>
<b>Fire Safety Information</b>	<p>Information relating to the design and construction of the building or extension, and the services, fittings and equipment provided in, or in connection with, the building or extension, which will assist the Responsible Person (under the Regulatory Reform (Fire Safety) Order 2005) to operate and maintain the building or extension with reasonable safety. It must be handed to the client prior to occupation, as required by Regulation 38 of the Building Regulations 2010.</p>
<b>Health and Safety File</b>	<p>All project information that may be relevant to any subsequent work on the building to ensure the health and safety of any person. It must be handed over to the client at the end of the project and passed on to any subsequent owners as required by the Construction (Design and Management) Regulations 2015.</p> <p>See L153: Construction (Design and Management) Regulations 2015. Guidance on Regulations for more guidance: <a href="https://www.hse.gov.uk/pubns/books/l153.htm">https://www.hse.gov.uk/pubns/books/l153.htm</a></p>
<b>Information Requirements</b>	<p>The formal issue of information for review and sign-off by the client at key stages of the project. The project team may also have additional formal information exchanges as well as the many informal exchanges that occur during the iterative design process.</p> <p>See chapter Nine: <i>Setting Information Requirements</i> for more guidance.</p>
<b>Manufacturing Information</b>	<p>Information prepared for the manufacture of <b>Building Systems</b> during Stage 4. This detailed information will usually be prepared by a specialist subcontractor using <b>Descriptive Information</b> from the design team with the resultant <b>Manufacturing Information</b> submitted for comment and approval prior to manufacturing. <b>Manufacturing Information</b> feeds into computer-aided design and manufacturing (systems in factories to facilitate effective manufacturing processes).</p> <p>See chapter Nine: <i>Setting Information Requirements – Prescriptive Information vs Descriptive Information</i> for more guidance on <b>Manufacturing Information</b>.</p>
<b>Outline Specification</b>	<p>Sufficient information to allow the client to understand what is proposed for each <b>Building System</b>. The <b>Outline Specification</b> might include, for example, the door or floor finishes, the extent or specification of the engineering <b>Building Systems</b> or the type of frame proposed. The <b>Outline Specification</b> also assists in the preparation of the <b>Cost Plan</b>.</p> <p>See chapter Nine: <i>Setting Information Requirements</i> for guidance on <b>Outline Specifications</b>.</p>

Term/task	Definition (guidance is included in grey boxes)
<b>Planning Advice</b>	<p>Early advice sought to determine any planning risks, such as policy constraints or height restrictions. Advice can be obtained from architects, planning advisers or the local planning authority, although this may incur a fee. <b>Planning Advice</b> obtained during Stage 1 will be more strategic in nature, and during Stage 2 might comprise a <b>Design Review</b> to inform the project team about the suitability of the proposals being developed.</p> <p>The local planning authority is a key <b>Project Stakeholder</b> on any project. Its opinions and approaches are outside the control of the project team and therefore planning represents a core <b>Project Risk</b>.</p> <p>Pre-design <b>Planning Advice</b> helps to manage this risk by allowing the early views of the planners to inform the briefing and/or design process and can be invaluable in shaping the direction of the design.</p> <p>During Stage 2 and into Stage 3 it may be prudent to obtain formal pre-application <b>Planning Advice</b> on the <b>Architectural Concept</b> as it develops and matures. This advice might come from an architect, a planning consultant or might be sourced directly from the relevant planning department. Planning departments have recognised the value that these meetings can add to the process and many have started to charge pre-application fees, formalising these early engagements to allow them to be recognised as part of the planning process. On larger projects it may also be prudent to arrange a community consultation or to undertake a formal <b>Design Review</b> as part of the design process.</p> <p>The project team need to consider the scale and location of project and any specific sensitivities that are likely to influence the choice of the most appropriate way forward. Ultimately, the planning risk cannot be considered resolved until a <b>Planning Application</b> has been submitted and approved.</p>
<b>Planning Application</b>	<p>An application to the local authority for permission to erect a particular building on a specific site. The RIBA Plan of Work recommends that the <b>Planning Application</b> be submitted at the end of Stage 3.</p> <p>A set period after Stage 3 is completed might be specified in the <b>Project Programme</b> to allow the final assembling of the planning information prior to submission of the <b>Planning Application</b>. The increasing complexity of these submissions, covering detailed topics such as energy use and accessibility, makes the end of Stage 3 the optimal point for submission. This timing allows a number of the <b>Planning Application Information Requirements</b> to be absorbed into the Stage 3 <b>Design Programme</b>.</p>



Term/task	Definition (guidance is included in grey boxes)
<b>Planning Conditions</b>	<p>A set of conditions attached to a planning consent that must be met. Many conditions must be discharged prior to work commencing or the building being occupied. Other conditions apply for the life of the building.</p> <p>Planning consent is likely to come with a number of <b>Planning Conditions</b>, which could require supplementary information to be submitted and approved, such as more detailed information on the façades. This might involve the production of additional Stage 4 information or, if this information has been pre-emptively prepared, revision of the information. Similarly, it is likely that the contractor will have to submit information before work commences on site (for example, details of cabin and hoarding layouts or procedures for washing down trucks before they leave site). The <b>Project Programme</b> must include sufficient mobilisation time to allow the appointed contractor to meet these conditions. In addition, the <b>Planning Conditions</b> might include ongoing obligations for the contractor, such as limiting the timing of the works or setting maximum permitted noise levels. The client must ensure that these requirements are embedded into the <b>Building Contract</b>. In addition, the client team may wish to monitor whether the contractor is adhering to the requirements.</p>
<b>Post Occupancy Evaluation (POE)</b>	<p>Evaluation undertaken once the building is occupied to determine whether the <b>Project Outcomes</b> and <b>Sustainability Outcomes</b> set out in the <b>Project Brief</b>, or later design targets for <b>Building Systems</b>, have been achieved. There are three progressive levels and the RIBA recommends that all <b>POE</b> starts with the first level:</p> <ul style="list-style-type: none"> <li>• Light touch <b>POE</b>: Simple but meaningful rapid evaluation undertaken post occupancy, before the <b>Building Contract</b> is concluded. This information may not reflect the final building performance due to seasonal <b>Commissioning</b> being incomplete or other <b>Building Systems</b> not being fully bedded in. However, it can provide useful insights for the client and act as <b>Feedback</b> for other projects.</li> <li>• Diagnostic <b>POE: Feedback</b> from light touch <b>POE</b> might identify the need for more detailed evaluation. This may be undertaken by independent evaluators during the second year of occupation, to verify performance and review any issues discovered, including those identified in the light touch <b>POE</b>.</li> <li>• Detailed (forensic) <b>POE</b>: Investigations, if necessary, by independent evaluators, to identify and, where possible, resolve any significant and persistent performance issues. These can start at any time but should ideally be completed by the end of the third year of occupation.</li> </ul>
<b>Practical Completion</b>	<p>The point in the process when the construction work is certified as practically complete under the <b>Building Contract</b>.</p> <p>A <b>Practical Completion</b> certificate may be used as a contractual document that allows the client to take possession of and to use a building. It requires the <b>Building Contract</b> administrator to confirm that the building has been completed in accordance with the <b>Building Contract</b>, including the issue of any information for <b>Asset Management</b> or <b>Facilities Management</b> as well as the <b>Building Manual</b> and any <b>Verified Construction Information</b>. It may also be necessary to consult with <b>Project Stakeholders</b> to confirm that the building meets with the relevant standards and is suitable for occupation.</p>
<b>Pre-construction Information</b>	<p>A statutory requirement under the CDM Regulations for health and safety information in the client's possession or which is reasonably obtainable by or on behalf of the client, which is relevant to the construction work and is of an appropriate level of detail and proportionate to the risks involved. See HSE publication L153: <i>Managing Health and Safety in Construction</i> (HSE Books, 2015) for more information.</p>

Term/task	Definition (guidance is included in grey boxes)
Prescriptive Information	<p>Complete, instructive information used to manufacture and construct the <b>Building Systems</b>, produced by the <i>design team</i> or the construction team.</p> <p>See chapter Nine: <i>Setting Information Requirements</i> for guidance on <b>Prescriptive Information</b>.</p>
Procurement Strategy	<p>The strategy that sets out the process for tendering and entering into a <b>Building Contract</b> with the contractor. On certain projects, this will include early contractor involvement.</p> <p>See chapter Eight: <b>Procurement Strategy</b></p>
Project Brief	<p>Detailed requirements for the design and management of the project, included in design team professional services contracts, to enable the <i>design team</i> to begin design work in Stage 2.</p> <p>An effective <b>Project Brief</b> is crucial for the efficient design of any building. It is a tool to that helps to take the <b>Client Requirements</b> to the next level of detail and includes the following elements:</p> <ul style="list-style-type: none"> <li>• <b>Project Outcomes</b> – Defining <b>Project Outcomes</b> is still a relatively new briefing topic. However, determining these at an early stage can provide a useful tool for the design team. The challenge for the design team is how to obtain the information necessary to achieve the <b>Project Outcomes</b> and, more importantly, how success can be measured. This requires objective data, but any information-gathering exercise is likely to yield highly subjective responses. Nevertheless, regardless of how <b>Project Outcomes</b> are measured, they are a useful briefing tool that provide a focus beyond the provision of the <b>Spatial Requirements</b></li> <li>• <b>Sustainability Outcomes</b> – The client's wishes with regard to their building's level of sustainability need to be clearly conveyed to the design team. A client may wish simply to comply with the <b>Building Regulations</b> or they may want to achieve a particular BREEAM award rating. They may also wish to embrace specific subjects, such as circular economy principles, create a zero carbon building or use specific materials. These objectives need to be teased out during the briefing process.</li> <li>• <b>Quality Aspirations</b> – Quality comes in many guises. It can relate to the building, a space, or materials and finishes or to the quality of construction. Some clients base their <b>Quality Aspirations</b> on value. Regardless of the client's particular views on the subject, it is a crucial briefing topic. <b>Quality Aspirations</b> can be conveyed by written statements but are better expressed using images from similar exemplar projects.</li> <li>• <b>Spatial Requirements</b> – Defining the spaces in the <b>Project Brief</b> is a useful way of setting out precisely what is required on a project. Establishing the <b>Spatial Requirements</b> gives the architect the necessary information to start the design process and allows the <b>Project Budget</b> to be meaningfully tested. It is important that any <b>Spatial Requirements</b> are tested against industry norms or client expectations and that allowances for circulation and plant spaces are included</li> </ul>





Term/task	Definition (guidance is included in grey boxes)
<b>Project Brief Derogations</b>	<p>A record in the <b>Stage Report</b> of Stage 2 used to identify and agree where aspects of the design do not need to comply with the <b>Project Brief</b>.</p> <p>As the <b>Architectural Concept</b> is developed, it is sometimes necessary to revisit the <b>Project Brief</b>. For example, the design team might identify a better way of achieving the end result or the massing might dictate a change in the size of a number of spaces. In some sectors, such as healthcare, where briefing guidance documents exist, it is customary to agree derogations from these standards. In other sectors, it is more common to update the <b>Project Brief</b> so that it is aligned with the <b>Architectural Concept</b> at the end of Stage 2. On a design and build project, the <b>Stage Report</b> at Stage 2 and the <b>Project Brief</b> might be issued as <b>Employer's Requirements</b> and it is preferable to avoid any contradictions. On a smaller project, the <b>Project Brief</b> might be superseded as soon as the <b>Architectural Concept</b> is produced, having served its purpose to kick-start the design process.</p> <p>The RIBA Plan of Work advocates that the project team should consider how the <b>Project Brief</b> and Stage 2 <b>Stage Report</b> need to interact, if at all, and set tasks accordingly. The briefing process is concluded at the end of Stage 2 as the design process enters a more detailed phase. The <b>Project Brief</b> is superseded by the <b>Architectural Concept</b> as it moves into Stage 3. However, some <b>Procurement Strategies</b> may require the <b>Project Brief</b> to form part of the <b>Employer's Requirements</b>, to reinforce aspects that are required in the <b>Building Contract</b> but have not yet been designed. In these circumstances, the <b>Project Brief</b> will remain a live project document and all members of the project team should regularly confirm that any <b>Building Contract</b> documentation is checked against its requirements.</p>
<b>Project Budget</b>	<p>The client's budget for the project, which includes the construction cost, the cost of the professional services and the cost of certain items required post completion and during its operational use.</p> <p>A crucial task at Stage 1 is determining the <b>Project Budget</b>. This must be based on the <b>Spatial Requirements</b> set out in the <b>Project Brief</b> and needs to take into account the <b>Quality Aspirations</b> of the client, which may dictate a high level of specification for fittings and finishes. The <b>Project Budget</b> should also allow for professional fees and, where a construction project is proposed, financing or land costs, planning and <b>Building Regulations</b> submission costs, contingencies and any other anticipated project costs.</p>
<b>Project Execution Plan</b>	<p>The plan, produced with contributions from the project team, that sets out the processes and protocols to be used during each stage of the project.</p> <p>As project teams transition from traditional ways of working to more digitally integrated working methods, the <b>Project Execution Plan</b> becomes a core project tool. It allows the project team to agree how they will communicate with each other, what tools will be used for <b>Design Reviews</b>, how information will be transmitted, how queries will be raised and monitored, and other day-to-day considerations. Consider the case of a client who is not keen on using technology working with a progressive digital design team, or vice versa, and it is easy to understand why the <b>Project Execution Plan</b> is an essential project document.</p> <p>There is a correlation between the <b>Project Execution Plan</b> and the <b>Information Requirements</b>, as well as with the BIM execution plan or <b>Digital Execution Plan</b> that specifically sets out how the design team will work together.</p>
<b>Project Outcomes</b>	<p>The desired outcomes for the project, including <b>Sustainability Outcomes</b>, set out in Stage 0 to inform the <b>Client Requirements</b>. For a hospital, a reduction in recovery times might be a key <b>Project Outcome</b>. The outcomes may include operational aspects, as well as a mixture of subjective and objective criteria, and will influence the preparation of the <b>Project Brief</b>.</p>

Term/task	Definition (guidance is included in grey boxes)
<b>Project Performance</b>	<p>The performance of the project process and project team, determined using <b>Feedback</b> following completion of a building.</p> <p>The RIBA Plan of Work is a circular process and at the end of each building project cycle it is recommended that a <b>Feedback</b> exercise is undertaken with the project team to gather lessons learned on <b>Project Performance</b>. With the majority of the project team leaving the project prior to, or at the end of, Stage 5, the timing for undertaking this needs to be carefully considered.</p>
<b>Project Programme</b>	<p>The overall period for the briefing, design, manufacturing, construction and post-completion activities of a project.</p> <p>Setting the <b>Project Programme</b> is a crucial project task and one of the biggest challenges for the client team. The programme determines the time required for each project stage as the brief is prepared, the design developed and manufacturing and construction undertaken. These periods vary depending on the size and complexity of the project. The timing of the <b>Planning Application</b> needs to be considered, along with how the <b>Procurement Strategy</b> will shape the programme. Key drivers of the durations for the <b>Project Programme</b> include the following:</p> <ul style="list-style-type: none"> <li>• The complexities of the briefing process at Stage 1 – speeding up these activities can prove counterproductive.</li> <li>• The need, at Stage 2, to create the <b>Architectural Concept</b>, incorporate <b>Strategic Engineering</b> aspects and undertake <b>Design Reviews</b> with key <b>Project Stakeholders</b>.</li> <li>• The complexities of coordination at Stage 3.</li> <li>• Deciding when to submit a <b>Planning Application</b> and the period for determining the application.</li> <li>• The timing of Stage 4 design, as dictated by the <b>Procurement Strategy</b>.</li> <li>• The impact of modern methods of construction.</li> <li>• The timing and process of a <b>Building Regulations</b> application.</li> </ul> <p>At present, with traditional design and construction models still prevalent, there are limited opportunities to shorten the <b>Project Programme</b> timescales. BIM has not delivered faster projects because it is still plugged into traditional methods of designing. At present, there are only two ways to reduce time: by compressing the time allocated to a stage or by overlapping stages. Either strategy creates risk to the project and, while that risk may be contractually accepted by one party, compressing time does make it less likely that the project team will be able to deliver the <b>Project Outcomes</b> that the client is seeking to achieve.</p>



Term/task	Definition (guidance is included in grey boxes)
<b>Project Risks</b>	<p>Issues that cannot be fully determined at a particular time/stage that may impact on the design, cost or delivery of a project. Lack of clarity regarding <b>Project Risks</b> can necessitate a redesign or result in cost overruns or programme delays.</p> <p>Some <b>Project Risks</b> may be deal-breakers that prevent the project from proceeding past the end of Stage 0. For example, the costs of providing energy to the building, the risk of failing to obtain planning consent for the areas required to make the scheme viable or a key <b>Project Stakeholder</b> who is unlikely to support the proposals. Determining the <b>Project Risks</b> at Stage 0 is therefore a crucial task. Should the project proceed, identified risks should be actively managed throughout each project stage, with each risk allocated to, and managed by, a member of the project team.</p>
<b>Project Stakeholders</b>	<p>Parties outside the project team that may have an influence on the design development. <b>Project Stakeholders</b> include any party with a vested interest in a project, such as local authorities, planning departments, statutory consultees, non-statutory consultees, specialist amenity groups, building users, local community groups, neighbours, utility companies and transport bodies.</p> <p><b>Project Stakeholders</b> might include, for example, a local community that may have concerns about parking or amenity spaces, utility companies that can provide information on their networks' ability to accommodate a new building or a conservation group that might have specific comments in relation to how a building sits in its context.</p> <p>As it can take time to arrange meetings with some <b>Project Stakeholders</b>, the project team need to consider each <b>Project Stakeholder</b> individually and determine when an approach might be appropriate, although this can be a difficult task when the design process has just started and the issues and challenges have yet to be identified. Discussing a design which has not been sufficiently developed can be counterproductive and, conversely, discussions entered into too late in the design process may result in significant iterations of the design.</p> <p>The project team need to be alert to the risks posed by <b>Project Stakeholders</b>. At the commencement of a project it is important to map out who those stakeholders are. On larger projects it is common to have a stakeholder engagement plan or to include the risks flagged in early discussions with each stakeholder in a record of <b>Project Risks</b>.</p>

Term/task	Definition (guidance is included in grey boxes)
<b>Project Strategies</b>	<p>Strategies to support the design process, generally developed in parallel with the design stages (Stage 2-3) and to respond to the <b>Business Case</b> or <b>Project Brief</b> before they are concluded or support the use of the building. These strategies typically include the following:</p> <ul style="list-style-type: none"> <li>• Conservation Strategy</li> <li>• Cost Strategy</li> <li>• Fire Safety Strategy</li> <li>• Health and Safety Strategy</li> <li>• Inclusive Design Strategy</li> <li>• Planning Strategy</li> <li>• Plan for Use Strategy</li> <li>• Procurement Strategy</li> <li>• Sustainability Strategy</li> </ul> <p>These strategies are usually prepared in outline at Stage 2 and in detail at Stage 3, with the recommendations absorbed into the technical design and information exchanges. The strategies are not typically used as <b>Construction Information</b> but may inform the construction process.</p> <p>Guidance and stage specific tasks for the above <b>Project Strategies</b> are covered in detail in chapter Six.</p>
<b>Quality Aspirations</b>	<p>The objectives that set out the quality aspects of a project. The objectives may comprise both subjective and objective aspects.</p> <p><b>Quality Aspirations</b> can relate to the building, a space, or materials and finishes or to the quality of construction. Some clients base their <b>Quality Aspirations</b> on value. Regardless of the client's particular views on the subject, it is a crucial briefing topic. Quality Aspirations can be conveyed by written statements but are better expressed using images from similar exemplar projects.</p>
<b>Research and Development</b>	<p>Project-specific <b>Research and Development</b> in response to the <b>Project Brief</b> or the <b>Concept Design</b> as it is developed.</p>
<b>Responsibility Matrix</b>	<p>A matrix determining who is responsible for the different tasks to be undertaken at each stage. It can set out which project team member should lead on each task and who should provide support. It can be broken down by <b>Building System</b> and will be closely aligned to the <b>Information Requirements</b>. This document sets out the extent of any performance specified design. The <b>Responsibility Matrix</b> is created at a strategic level at Stage 1 and fine tuned in response to the <b>Architectural Concept</b> at the end of Stage 2 in order to ensure that there are no design responsibility ambiguities or omissions at Stages 3 and 4.</p> <p>A robust <b>Responsibility Matrix</b> is a core project document. It ensures that everyone is aware of what they have to do and the stage during which they have to do it, allowing those tendering for professional services to set their fees appropriately. A <b>Responsibility Matrix</b> can work at project level, bringing clarity to the tasks to be undertaken by the client, design and construction teams. It can also be used to assign design responsibility for the different <b>Building Systems</b> to members of the design team – and for determining whether the design team will prepare <b>Descriptive Information</b> or <b>Prescriptive Information</b> at Stage 4, establishing the boundary between the design team and any specialist subcontractors.</p> <p>A key challenge is who should set the <b>Responsibility Matrix</b>. In the case of a client who is appointing the design team independently, the client would be responsible for preparing the document. However, if the client is appointing the whole design team as a single entity, the <b>Responsibility Matrix</b> might be set by the lead designer in response to the <b>Information Requirements</b>.</p>





Term/task	Definition (guidance is included in grey boxes)
<b>Site Appraisal</b>	A review of the site or potential sites, which may include an existing building or collection of buildings, to determine the viability of the <b>Client Requirements</b> .
<b>Site Information</b>	<p>Specific project information in the form of surveys or reports relating to the particular site/context for a project, including <b>Site Surveys</b>.</p> <p>See chapter Nine: <i>Setting Information Requirements</i> for guidance on <b>Site Information</b>.</p>
<b>Site Logistics</b>	<p>Site and construction supply chain management items prepared by the contractor for consideration as part of a tender and, if successful, prior to starting on site.</p> <p><b>Site Logistics</b> may include the following aspects:</p> <ul style="list-style-type: none"> <li>• Understanding how materials will arrive and be unloaded on site. A small residential site down a narrow lane will have different issues to a city centre site where just-in-time deliveries are required.</li> <li>• How to move materials around the site, including the use of cranes, hoists and other mechanical equipment.</li> <li>• Location of site cabins providing management and welfare facilities for site operatives.</li> <li>• Fencing to mark the boundaries of the site, for security and health and safety purposes.</li> <li>• Measures to minimise issues with neighbours; for example, where generators might best be positioned or how the wheels of trucks are to be washed before leaving site.</li> </ul>
<b>Site Queries</b>	<p>Questions directed to the design team by the contractor (sometimes more formally called 'a request for information') to clarify information in the <b>Building Contract</b> documentation or requesting information that was not complete when the <b>Building Contract</b> was agreed.</p> <p>Construction on site using <b>Prescriptive Information</b> from the design team commonly generates <b>Site Queries</b>. While it is usual for the designer responsible to respond to such queries, this designer may not be part of the construction team, or the contractor might wish to handle queries in a different way. The design team should be clear about any ongoing commitments when they submit their proposals. Similarly, the client may wish to establish who will deal with <b>Site Queries</b> as this may impact <b>Construction Quality</b>. The frequency of site visits should also be considered. Although it is possible to deal with <b>Site Queries</b> remotely, in many instances there is no substitute for communicating directly with the construction team on site.</p>
<b>Site Surveys</b>	Surveys of sites carried out before design work starts. As the construction industry moves towards more 3D, data-centric methods of working, it is becoming common for 3D <b>Site Surveys</b> to be undertaken. Point cloud or photogrammetric surveys are the most common types. Some surveys might need to be converted into a model that can be used by the design team. The type of survey undertaken is determined by how the information will be used and the level of accuracy required.
<b>Spatial Requirements</b>	A schedule of rooms and/or spaces that will achieve the <b>Client Requirements</b> . The <b>Spatial Requirements</b> for the building as a whole are set at Stage 0. By the end of Stage 1, the <b>Spatial Requirements</b> will have been developed in detail and incorporated into the <b>Project Brief</b> .

Term/task	Definition (guidance is included in grey boxes)
Spatially Coordinated	<p>Design in which the client's <b>Spatial Requirements</b> and the spaces required for any <b>Building Systems</b> – such as structural and building services engineering aspects, including grids, risers and plant rooms – have been determined and fixed to allow Stage 4 to progress without any further iterations.</p> <p>Stage 3 provides a bridge between the strategic outputs of Stage 2 and the significant detail produced at Stage 4. During Stage 3, further layers of detail are added to the design. The core goal of Stage 3 is a design that is <b>Spatially Coordinated</b>. This stage has two key aims. First, it allows each <b>Building System</b> to be developed independently at Stage 4. Second, a <b>Planning Application</b> can be made with the certainty that changes will not be required once planning consent has been granted.</p> <p>Coordination is a continual process throughout all of the design stages. This might involve coordinating the client documents with the emerging design; for example, adjusting the <b>Project Brief</b> to align with an aspect of the design. However, <b>Spatial Coordination</b> principally relates to the ongoing coordination of the design by the lead designer, and includes the tasks of coordinating the <b>Project Strategies</b> and designs of the different design team members.</p> <p>The lead designer needs to coordinate design efforts and the direction of the design team throughout every design stage, and individual designers must also coordinate their own efforts. For example, at Stage 4, the building services engineer must ensure that the various services installed above the ceilings have been correctly coordinated in the zone set out for all services during Stage 3 as part of the <b>Engineering Analysis</b> contributions.</p> <p>Defining <b>Spatially Coordinated</b> is difficult; however, it is fundamentally about ensuring that every space in a building is conclusively defined, from the client's functional spaces, such as living rooms, classrooms, operating theatres or departure lounges, to the spaces required for building services including plant rooms and risers. Simply put, if all of a building's spaces are not determined during Stage 3 it can cause a great deal of disruption during Stage 4, as designers discover that areas of a building are in a state of flux precisely when they are undertaking the detailed design of every <b>Building System</b>.</p>
Stage Report	<p>A report produced at the end of Stage 2 and Stage 3 to capture decision making during the stage and record the outcome of the design process as reviewed by the client. The <b>Stage Report</b> will also contain the <b>Project Strategies</b> and other useful project information. The <b>Stage Report</b> is signed off by the client at the end of the stage.</p> <p>For more information on the <b>Stage Report</b>, see chapter Nine: <i>Setting Information Requirements</i>.</p>



Term/task	Definition (guidance is included in grey boxes)
<b>Strategic Engineering</b>	<p>Engineering information which is crucial to the development of the <b>Architectural Concept</b>, including plant room or riser information, or required to develop the <b>Cost Plan</b> or for the consideration of <b>Project Risks</b>.</p> <p>During Stage 2, a core challenge for the civil, structural and building services engineers is to refrain from undertaking detailed <b>Engineering Analysis</b> and instead to provide more general, 'rule of thumb' <b>Strategic Engineering</b> contributions to the development of the <b>Architectural Concept</b>. Aspects to consider include agreeing the floor-to-floor heights, the structural grid, the locations of plant rooms or risers and any issues that might influence the <b>Cost Plan</b>, from the need for new road junctions or new utility connections to the complexity of the energy strategy. The depth of engineering contributions at Stage 2 will depend on the robustness of the <b>Architectural Concept</b>. There is a great deal to be gained by ensuring that any proposed options are robust and considered. In addition, some engineering aspects will be capable of development in isolation. For example, developing an energy or security strategy.</p> <p>It is crucial that everyone in the project team understands that there is no point in dogmatically adhering to a <b>Design Programme</b> if the <b>Architectural Concept</b> is still undergoing iterations in response to conflicting and contradictory comments from the client team and other <b>Project Stakeholders</b>.</p>
<b>Sustainability Outcomes</b>	<p><b>Project Outcomes</b> related to sustainability. These start as the client's aspirations for sustainability, then will be developed into detailed target metrics as the design progresses. The Sustainability Strategy is prepared in response to the <b>Sustainability Outcomes</b>.</p> <p>See section Seven – Sustainability Strategy and the <i>RIBA Sustainable Outcomes Guide</i> (2019) for more advice on <b>Sustainability Outcomes</b>.</p>
<b>Verified Construction Information</b>	<p>An option for enhanced <b>Asset Information</b> based on post construction surveys of the works. If this information is required, the project team must determine what tasks are required during Stage 5 to generate the specific <b>Verified Construction Information</b> needed for each project.</p> <p>More information on <b>Verified Construction Information</b> can be found in section Eight: <i>Setting Information Requirements</i>.</p>

## Acknowledgements

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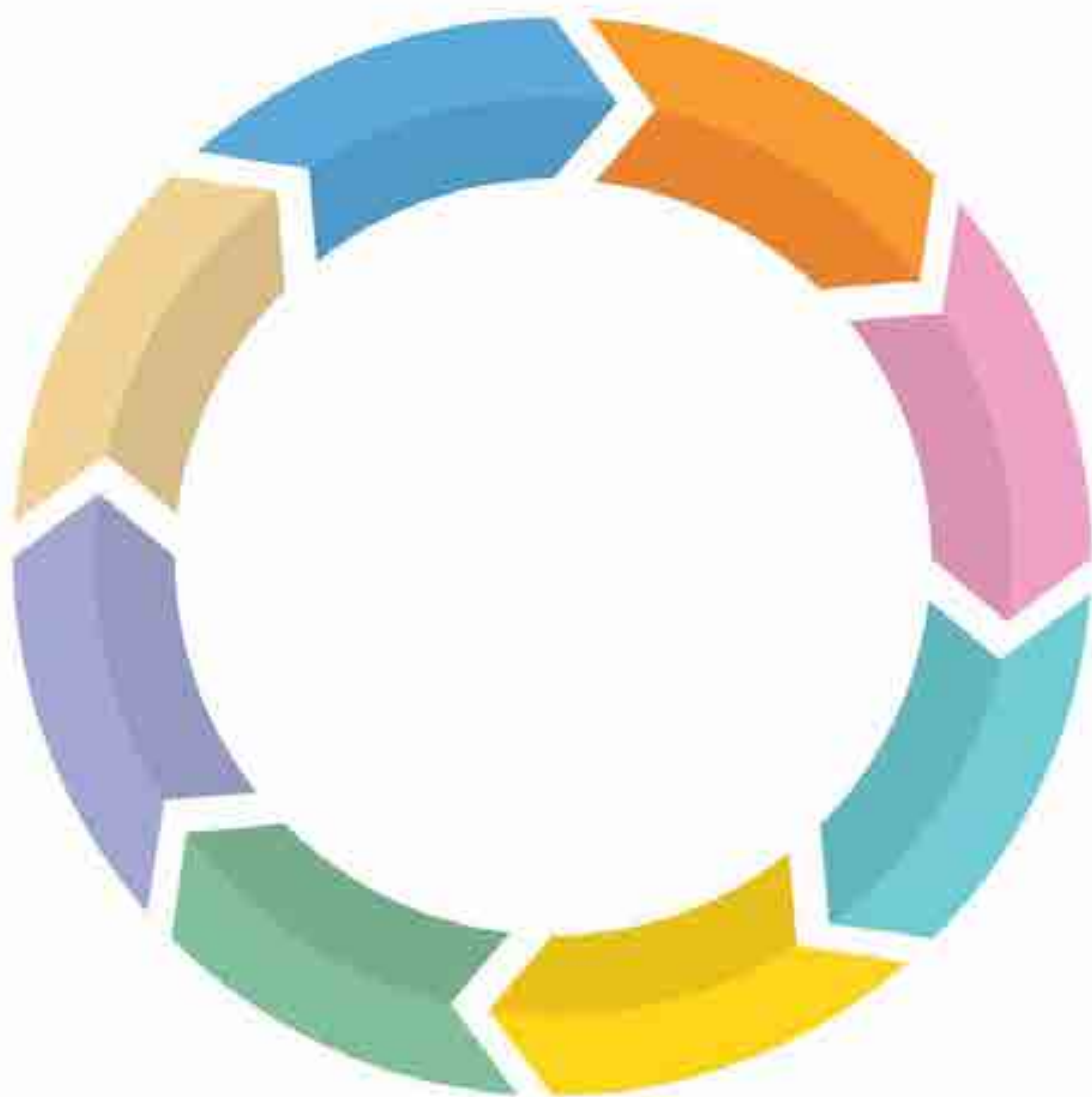
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# RIBA Plan of Work 2020

The RIBA Plan of Work organises the process of briefing, designing, delivering, maintaining, operating and using a building into eight stages. It is a framework for all disciplines on construction projects and should be used solely as guidance for the preparation of detailed professional services and building contracts.

### Stage Boundaries:

Stages 0-4 will generally be undertaken one after the other.

Stages 4 and 5 will overlap in the **Project Programme** for most projects.

Stage 5 commences when the contractor takes possession of the site and finishes at **Practical Completion**.

Stage 6 starts with the handover of the building to the client immediately after **Practical Completion** and finishes at the end of the **Defects Liability Period**.

Stage 7 starts concurrently with Stage 6 and lasts for the life of the building.

### Planning Note:

**Planning Applications** are generally submitted at the end of Stage 3 and should only be submitted earlier when the threshold of information required has been met. If a **Planning Application** is made during Stage 3, a mid-stage gateway should be determined and it should be clear to the project team which tasks and deliverables will be required. See **Overview** guidance.

### Procurement:

The RIBA Plan of Work is procurement neutral - See **Overview** guidance for a detailed description of how each stage might be adjusted to accommodate the requirements of the **Procurement Strategy**.

- Employer's Requirements
- Contractor's Proposals

### Stage Outcome

at the end of the stage

### Core Tasks

during the stage

**Project Strategies** might include:

- Conservation (if applicable)
- Cost
- Fire Safety
- Health and Safety
- Inclusive Design
- Planning
- Plan for Use
- Procurement
- Sustainability

See **RIBA Plan of Work 2020 Overview** for detailed guidance on **Project Strategies**.

### Core Statutory Processes

during the stage:

Planning  
Building Regulations  
Health and Safety (CDM)

<b>Procurement Route</b>	Traditional
	Design & Build 1 Stage
	Design & Build 2 Stage
	Management Contract
	Construction Management
	Contractor-led

### Information Exchanges

at the end of the stage

**0**

**Strategic Definition**

**1**

**Preparation and Briefing**

**2**

**Concept Design**

The best means of achieving the **Client Requirements** confirmed

If the outcome determines that a building is the best means of achieving the **Client Requirements**, the client proceeds to Stage 1

Prepare **Client Requirements**

Develop **Business Case** for feasible options including review of **Project Risks** and **Project Budget**

Ratify option that best delivers **Client Requirements**

Review **Feedback** from previous projects

Undertake **Site Appraisals**

No design team required for Stages 0 and 1. Client advisers may be appointed to the client team to provide strategic advice and design thinking before Stage 2 commences.

Strategic appraisal of **Planning** considerations

	Appoint client team		
		Appoint design team	
			Appoint contractor
			ER

**Client Requirements**

**Business Case**

**Project Brief** approved by the client and confirmed that it can be accommodated on the site

Prepare **Project Brief** including **Project Outcomes** and **Sustainability Outcomes**, **Quality Aspirations** and **Spatial Requirements**

Undertake **Feasibility Studies**

Agree **Project Budget**

Source **Site Information** including **Site Surveys**

Prepare **Project Programme**

Prepare **Project Execution Plan**

Source pre-application **Planning Advice**

Initiate collation of health and safety **Pre-construction Information**


**Project Brief**

**Feasibility Studies**

**Site Information**

**Project Budget**

**Project Programme**

**Procurement Strategy**

**Responsibility Matrix**

**Information Requirements**

**Architectural Concept** approved by the client and aligned to the **Project Brief**

The brief remains "live" during Stage 2 and is derogated in response to the **Architectural Concept**

Prepare **Architectural Concept** incorporating **Strategic Engineering** requirements and aligned to **Cost Plan**, **Project Strategies** and **Outline Specification**

Agree **Project Brief Derogations**

Undertake **Design Reviews** with client and **Project Stakeholders**

Prepare stage **Design Programme**

Obtain pre-application **Planning Advice**

Agree route to **Building Regulations** compliance

Options: submit outline **Planning Application**


**Project Brief Derogations**

**Signed off Stage Report**

**Project Strategies**

**Outline Specification**

**Cost Plan**

Core RIBA Plan of Work terms are defined in the RIBA Plan of Work 2020 Overview glossary and set in **Bold Type**.

<p>3</p>  <p><b>Spatial Coordination</b></p>	<p>4</p>  <p><b>Technical Design</b></p>	<p>5</p>  <p><b>Manufacturing and Construction</b></p>	<p>6</p>  <p><b>Handover</b></p>	<p>7</p>  <p><b>Use</b></p>
<p>outcome of Stage 0 may be the decision to initiate a project and Stage 7 covers the ongoing use of the building →</p>				
<p>Architectural and engineering information <b>Spatially Coordinated</b></p>	<p>All design information required to manufacture and construct the project completed</p> <p>Stage 4 will overlap with Stage 5 on most projects</p>	<p>Manufacturing, construction and <b>Commissioning</b> completed</p> <p>There is no design work in Stage 5 other than responding to <b>Site Queries</b></p>	<p>Building handed over, <b>Aftercare</b> initiated and <b>Building Contract</b> concluded</p>	<p>Building used, operated and maintained efficiently</p> <p>Stage 7 starts concurrently with Stage 6 and lasts for the life of the building</p>
<p>Undertake <b>Design Studies, Engineering Analysis</b> and <b>Cost Exercises</b> to test <b>Architectural Concept</b> resulting in <b>Spatially Coordinated</b> design aligned to updated <b>Cost Plan, Project Strategies</b> and <b>Outline Specification</b></p> <p>Initiate <b>Change Control Procedures</b></p> <p>Prepare stage <b>Design Programme</b></p>	<p>Develop architectural and engineering technical design</p> <p>Prepare and coordinate design team <b>Building Systems</b> information</p> <p>Prepare and integrate specialist subcontractor <b>Building Systems</b> information</p> <p>Prepare stage <b>Design Programme</b></p> <p>Specialist subcontractor designs are prepared and reviewed during Stage 4</p>	<p>Finalise <b>Site Logistics</b></p> <p>Manufacture <b>Building Systems</b> and construct building</p> <p>Monitor progress against <b>Construction Programme</b></p> <p>Inspect <b>Construction Quality</b></p> <p>Resolve <b>Site Queries</b> as required</p> <p>Undertake <b>Commissioning</b> of building</p> <p>Prepare <b>Building Manual</b></p> <p>Building handover tasks bridge Stages 5 and 6 as set out in the <b>Plan for Use Strategy</b></p>	<p>Hand over building in line with <b>Plan for Use Strategy</b></p> <p>Undertake review of <b>Project Performance</b></p> <p>Undertake seasonal <b>Commissioning</b></p> <p>Rectify defects</p> <p>Complete initial <b>Aftercare</b> tasks including light touch <b>Post Occupancy Evaluation</b></p>	<p>Implement <b>Facilities Management</b> and <b>Asset Management</b></p> <p>Undertake <b>Post Occupancy Evaluation</b> of building performance in use</p> <p>Verify <b>Project Outcomes</b> including <b>Sustainability Outcomes</b></p> <p>Adaptation of a building (at the end of its useful life) triggers a new Stage 0</p>
<p>Review design against <b>Building Regulations</b></p> <p>Prepare and submit <b>Planning Application</b></p> <p>See <b>Planning Note</b> for guidance on submitting a <b>Planning Application</b> earlier than at end of Stage 3</p>	<p>Submit <b>Building Regulations Application</b></p> <p>Discharge pre-commencement <b>Planning Conditions</b></p> <p>Prepare <b>Construction Phase Plan</b></p> <p>Submit form F10 to HSE if applicable</p>	<p>Carry out <b>Construction Phase Plan</b></p> <p>Comply with <b>Planning Conditions</b> related to construction</p>	<p>Comply with <b>Planning Conditions</b> as required</p>	<p>Comply with <b>Planning Conditions</b> as required</p>
<p>Pre-contract services agreement</p> <p>Preferred bidder</p>	<p>Tender</p> <p>Appoint contractor</p> <p>ER CP</p> <p>Appoint contractor</p> <p>CP</p> <p>Appoint contractor</p> <p>CP</p> <p>Appoint contractor</p>			<p>Appoint <b>Facilities Management</b> and <b>Asset Management</b> teams, and strategic advisers as needed</p>
<p>Signed off <b>Stage Report</b></p> <p><b>Project Strategies</b></p> <p>Updated <b>Outline Specification</b></p> <p>Updated <b>Cost Plan</b></p> <p><b>Planning Application</b></p>	<p><b>Manufacturing Information</b></p> <p><b>Construction Information</b></p> <p><b>Final Specifications</b></p> <p><b>Residual Project Strategies</b></p> <p><b>Building Regulations Application</b></p>	<p><b>Building Manual</b> including <b>Health and Safety File</b> and <b>Fire Safety Information</b></p> <p><b>Practical Completion</b> certificate including <b>Defects List</b></p> <p><b>Asset Information</b></p> <p>If <b>Verified Construction Information</b> is required, verification tasks must be defined</p>	<p><b>Feedback on Project Performance</b></p> <p><b>Final Certificate</b></p> <p><b>Feedback</b> from light touch <b>Post Occupancy Evaluation</b></p>	<p><b>Feedback</b> from <b>Post Occupancy Evaluation</b></p> <p>Updated <b>Building Manual</b> including <b>Health and Safety File</b> and <b>Fire Safety Information</b> as necessary</p>





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## FBC KSAR Deliverables List

Date: 17 December 2021

NOTE: This list must be read in conjunction with the FBC KSAR Workbook.

Action Plan	
0	Provide the current, completed Action Plan
Response to KSAR Workbook - Evidence Expected	
Project Governance and General Arrangements	
1.1	<p><b>To demonstrate evaluation of changes detailed from previous KSAR</b></p> <ul style="list-style-type: none"> <li>Assessment of any substantive changes in highlighted areas from previous review stage and all actions have been implemented</li> </ul>
1.2	<p><b>To demonstrate verification that CIG recommendations have been implemented with respect to prescribed in scope areas</b></p> <ul style="list-style-type: none"> <li>Review of the implementation of all CIG recommendations. Evaluation of any deviation from previous submissions or reviews.</li> </ul>
1.3	<p><b>To demonstrate cross-referencing with NDAP and AEDET recommendations have been implemented</b></p> <ul style="list-style-type: none"> <li>An assessment if there is full compliance with the applicable recommendations and actions from the preceding step.</li> </ul>
1.4	<p><b>To demonstrate service / clinical input into design decisions based on a current and comprehensive knowledge of patient cohorts</b></p> <ul style="list-style-type: none"> <li>Recorded and updated input taken from service lead(s) / clinician(s) about relevant patient cohort characteristics and their typical needs in terms of the accommodation's environment, safety and infection control standards.</li> <li>Demonstrable expertise of service lead(s) / clinician(s) in providing this advice.</li> </ul>
1.5	<p><b>To demonstrate a unified and recorded understanding of needs of main users and patient cohorts of the proposed accommodation and how this has influenced the design of critical building, engineering and infection prevention and control quality and safety standards</b></p> <ul style="list-style-type: none"> <li>Updated and current list available of all stakeholders, service users and patient cohorts impacted by this project, plus the identification of any high risk groups and their specialist needs</li> <li>Updated and recorded engagement on these design issues having taken place between the project team and service lead(s) / clinician(s), infection prevention and control team, and other key stakeholders (e.g. Estates, Medical Physics, IPC, the AEDET, NDAP or other design briefing workshops)</li> <li>Details available of how service users / patient cohort needs and their expected use of the accommodation are influencing the design brief, including critical building, engineering and infection prevention and control quality and safety standards.</li> </ul>
1.6	<p><b>To demonstrate the planned approach towards determining the necessary standards for this accommodation</b></p> <ul style="list-style-type: none"> <li>Updated and current list of the relevant NHS and non-NHS guidance that is being used and adopted (see previous section of workbook FBC KSAR (Page 9) for examples of appropriate guidance).</li> <li>Updated and current list of all proposed derogations from NHS guidance with a detailed technical narrative on each derogation and/or list of known gaps in guidance that will need to be resolved in order to meet the needs of the patient / user cohort</li> <li>Knowledge of the role of infection prevention and control advisors (IPCN and ICD) to be used throughout the final design stages, and details of the resource plan in place to ensure continuity into the construction phase</li> </ul>
1.7	<p><b>To demonstrate there is an effective infection prevention and control management structure in place and how it relates to the development of the project, as well as, demonstrate leadership and commitment to infection prevention and control to ensure a culture of continuous quality improvement throughout the organisation, and that there is an effective IPC structure in place and how it relates to the design development</b></p> <ul style="list-style-type: none"> <li>Evidence IPC and clinical teams have been integrated into all decisions regarding any derogations through the design process and are satisfied this will not impact on patient safety such as, specific sign off, supporting meeting minutes, risk assessments, risk registers relating to IPC with evidence of escalation through the agreed NHS board governance process</li> </ul>
1.8	<p><b>To demonstrate implementation of evidence based infection prevention and control measures</b></p> <ul style="list-style-type: none"> <li>The Health Board can demonstrate the current version of the National Infection Prevention and Control Manual has been adopted by the organisation and all staff are aware of how and where to access this. (Ask staff)</li> </ul>
1.9	<p><b>To demonstrate the Infection Prevention and Control Strategy</b></p> <ul style="list-style-type: none"> <li>Assessment of the Health Boards approach to all IPC related matters in relation to the development of the design, HAISCRIBE etc.</li> </ul>
1.10	<p><b>To demonstrate monitoring and records</b></p> <ul style="list-style-type: none"> <li>Evidence that the Health Board integrating this project with wider IPC requirements within the context of the FBC. For example, evidence that the proposals for equipping incorporate IPC requirements?</li> </ul>



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Action Plan	
0	Provide the current, completed Action Plan
Response to KSAR Workbook - Evidence Expected	
Project Governance and General Arrangements	
1.11	<p><b>To demonstrate the planned approach for managing the design process to ensure successful compliance with agreed and approved standards</b></p> <ul style="list-style-type: none"> <li>The project governance arrangements and resource plan in place to ensure that the necessary decision making authority and technical expertise is available to take responsibility for and deliver the project as planned and agreed.</li> <li>Details of how gaps in expertise are being filled.</li> <li>Details of how compliance with the appropriate guidance, design brief and other standards are being agreed, signed off, monitored, reported against and if necessary escalated / adjudicated throughout the design, construction and commissioning stages.</li> <li>Details of how all stakeholders' interests are being agreed, signed off, monitored, reported against and if necessary escalated / adjudicated throughout the design, construction and commissioning stages.</li> </ul>
1.12	<p><b>To demonstrate the approach on the procurement journey with evidence of the plans on how the Board will provide assurance, particularly emphasis on the critical system identified earlier</b></p> <ul style="list-style-type: none"> <li>Evidence on how this requirement is being managed and how it fits with the project governance arrangements</li> <li>Plans to identify any gaps in the procurement approach that may require to be addressed.</li> <li>Evidence on how Infection Prevention and Control are involved with the conceptual procurement approach to the design stage and future plans for project.</li> <li>Evidence that the Health Boards selected procurement route has gone through the Board's Governance channels.</li> </ul>
1.13	<p><b>To demonstrate the approach on those areas of design that the procurement route has provided identification as possibly being Contractors Designed Portions (CDP's).</b></p> <ul style="list-style-type: none"> <li>Evidence that the procurement of the lead designer will encompass these areas in their oversight and sign off of the complete design</li> <li>Evidence that a clear demarcation of design responsibility is being developed.</li> </ul>
1.14	<p><b>To demonstrate evaluation of the commissioning plan</b></p> <ul style="list-style-type: none"> <li>Evidence that the Health Board has recorded plans that are comprehensive and adequate to address the needs of the project and that they are fully resourced.</li> </ul>
1.15	<p><b>To demonstrate evaluation of the duty holder matrix</b></p> <ul style="list-style-type: none"> <li>Evidence that the Health Board have a fully recorded matrix of the required roles and responsibilities and have a clear governance structure that is fully resourced together with plans in place for the implementation.</li> <li>Evidence that Health Boards have appropriate number of competent, qualified staff to carry out specific duties throughout the life cycle of the project e.g., IPC, Engineers, Estates staff etc. The number of competent, qualified staff will depend on the type and size of the Build Project.</li> </ul>
Water and Internal Plumbing / Drainage Systems	
2.1	<p><b>To demonstrate completed competency checks on the water and drainage consultant designers</b></p> <ul style="list-style-type: none"> <li>Recorded evidence that the design team are experienced and have a comprehensive knowledge of the relevant design standards.</li> <li>Where anyone does not have a record of extensive health care experience what recorded plans are to be put in place by the Consultant Designers?</li> <li>Recorded evidence that input from the Health Authorising Engineer for Water (AE(W)) has been requested.</li> <li>Evidence that all contractors and sub-contractor competency checks have been completed and signed off</li> </ul>
2.2	<p><b>To demonstrate how the Health Board ensures that water services are designed in a fashion which will retain space for minor additions and modifications to services in the future</b></p> <ul style="list-style-type: none"> <li>Evidence that the engineers are presented their co-ordination drawings (B M model), with space for future flexibility identified, to the Board.</li> <li>Evidence that the Design Consultant has considered and agreed with the Board, space for future flexibility in the service installations.</li> <li>Evidence that the designers have presented each of the main service runs plus plant rooms to the Board's FM team, to highlight space for future flexibility.</li> <li>Evidence that the Board has agreed a strategy (percentage) for spare capacity and a documented allowance to be incorporated into the design.</li> <li>Are plant/tank rooms, IPS sections, horizontal distribution runs and risers appropriately sized for the equipment being installed and facilitate safe adequate maintenance.</li> </ul>

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Project Governance and General Arrangements	
2.3	<p><b>To demonstrate how the Health Board assures itself that all variations / derogations which may be required to water systems are investigated and agreed by all parties before they are incorporated in the design</b></p> <ul style="list-style-type: none"> <li>Evidence that the each variation / derogation has a detailed technical analysis and has been referred to the Board and agreed with their water management group clinical, engineering, Estates, infection prevention and control and FM teams</li> </ul>
2.4	<p><b>To demonstrate the Water Management Strategy</b></p> <ul style="list-style-type: none"> <li>Assessment of Health Board proposed water management strategy and how this relates to the specification, guidance and project requirements.</li> <li>What involvement has there been from the water management group?</li> </ul>
2.5	<p><b>To demonstrate water governance arrangements</b></p> <ul style="list-style-type: none"> <li>Has the Health Board commenced its planning and recorded how it will ensure appropriate numbers of trained staff (AP and CP) and AE(W) will be appointed, is there an established project water management group that ensures the water management strategy is adhered to for the Board and is it clear how this project will interface with this existing group?</li> </ul>
2.6	<p><b>To demonstrate the development of commissioning proposals</b></p> <ul style="list-style-type: none"> <li>Evaluation of the suitability of the proposed plans in the context of the FBC, are these sufficient to meet the requirements of the project, guidance and the design of the system.</li> <li>Evidence that the design has considered the commissioning of the water system including:               <ul style="list-style-type: none"> <li>Safe storage of materials</li> <li>Agreed type of chemical (to avoid warranty and corrosion issues)</li> <li>Adequate time scale</li> <li>Competency checks on all contractors</li> <li>Water sampling scope</li> </ul> </li> <li>Water sampling test results and approval process.</li> </ul>
2.7	<p><b>To demonstrate evaluation of the planned preventative maintenance (PPM) proposals</b></p> <ul style="list-style-type: none"> <li>Has the Health Board commenced its planning and recorded the PPM requirements and approach to ensure appropriate levels of maintenance, comprehensive statutory compliance and robust management processes, including:               <ul style="list-style-type: none"> <li>Adequate numbers of staff</li> <li>Water management PPM including all outlets, TMT &amp; TMV, plumbing and drainage systems, etc?</li> </ul> </li> </ul>
Ventilation	
3.1	<p><b>To demonstrate completed competency checks on the ventilation consultant designers</b></p> <ul style="list-style-type: none"> <li>Recorded evidence that the design team are experienced and have a comprehensive knowledge of the relevant design standards.</li> <li>Where anyone does not have a record of extensive health care experience what recorded plans are to be put in place by the Consultant Designers?</li> <li>Recorded evidence that input from the Health Boards Authorising Engineer for Ventilation (AE(V)) has been requested.</li> </ul>



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Project Governance and General Arrangements	
3.2	<p><b>To demonstrate how the Health Board ensures that ventilation services are designed in a fashion which will retain space for minor additions and modifications to services in the future and there is an appropriate plant access strategy</b></p> <ul style="list-style-type: none"> <li>- Evidence that the design engineers have presented their co-ordination drawings (BIM model), with space for future flexibility identified, to the Health Board.</li> <li>- Evidence that the design consultant has considered and agreed with the Board, space for future flexibility in the service installations.</li> <li>- Evidence that the design engineers have presented each of the main service runs plus plant rooms to the Health Board's Estates team and / or FM team, to highlight space for future flexibility</li> <li>- Evidence that the ventilation solution has been agreed with clinical and IPC colleagues.</li> <li>- Evidence that the Health Board has agreed a strategy (percentage) for spare capacity and a documented allowance to be incorporated into the design.</li> <li>- Are plant rooms, horizontal distribution runs and risers appropriately sized for the equipment being installed and facilitate safe adequate maintenance?</li> <li>- Evidence that a plant access strategy for the entire ventilation system has been provided to ensure safe, adequate access, including access for cleaning.</li> </ul>
3.3	<p><b>To demonstrate how the Health Board assures itself that all variations / derogations which may be required to the ventilation systems are investigated and agreed by all parties before they are incorporated in the design</b></p> <ul style="list-style-type: none"> <li>- Evidence that the each variation / derogation has a detailed technical analysis and has been referred to the Health Board and agreed with their ventilation safety group, clinical, engineering, Estates, infection control and FM teams.</li> </ul>
3.4	<p><b>To demonstrate a strategy for ventilation (for rooms where this is permitted within the SHTM/SHPN guidance)</b></p> <ul style="list-style-type: none"> <li>- Evidence of agreed environmental matrix.</li> <li>- Evidence that the Dynamic thermal modelling confirms what the design must include (e.g. structure, solar shading/protection, orientation, equipment optimisation, etc.) to ensure that room temperatures comply with SHTM guidance, in naturally ventilated rooms.</li> <li>- Floor plans with associated plant locations highlighted plus simple schematic of strategy. This must also identify the air intake and exhaust strategy / locations.</li> </ul>
3.5	<p><b>To demonstrate evidence of stakeholder input to ventilation strategies</b></p> <ul style="list-style-type: none"> <li>- Addition to or supplement to the Environmental Matrix which confirms the following, on a room by room basis: <ul style="list-style-type: none"> <li>- a) the type of ventilation (to SHTM 03-01) b) patient group and / or function related to the space.</li> <li>- c) name of the Consultant, Clinical Lead or Department Lead who has agreed to the room requirements.</li> <li>- d) name of the Infection Prevention and Control Doctor or equivalent who has agreed to the room requirements.</li> <li>- e) name of the Infection Prevention and Control Nurse who has agreed to the room requirements.</li> <li>- f) name of the Estates / FM team representative who has agreed to the room requirements.</li> <li>- g) name of the NHS Project Manager who has agreed to the room requirements.</li> <li>- h) name of the Decontamination Manager who has agreed to the room requirements (where this is part of the project).</li> </ul> </li> </ul>
3.6	<p><b>To demonstrate development of Ventilation Commissioning Proposals</b></p> <ul style="list-style-type: none"> <li>- Evaluation of the suitability of the proposed plans in the context of the FBC, are these sufficient do they meet the requirements of the project, guidance and the design of the system?</li> <li>- What plans have been made for independent validation of the ventilation systems?</li> <li>- What plans have been made for independent verification of the ventilation system?</li> <li>- What plant and ductwork cleaning has been specified?</li> <li>- What safe adequate access has been allowed for access to dampers?</li> </ul>
3.7	<p><b>To demonstrate development of ventilation governance arrangements</b></p> <ul style="list-style-type: none"> <li>- Has the Health Board commenced its planning and recorded how it will ensure appropriate numbers of trained staff (AP and CP) staff and appointment of AE(V) for the project and is it clear how this project will interface with the Health Boards existing arrangements for management of the ventilation installations?</li> </ul>



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Project Governance and General Arrangements	
3.8	<p><b>To demonstrate evaluation of the planned preventative maintenance (PPM) proposals</b></p> <ul style="list-style-type: none"> <li>- Has the Health Board commenced its planning and recorded the PPM requirements and approach to ensure appropriate levels of maintenance, comprehensive statutory compliance and robust management processes?</li> </ul>
Electrical	
4.1	<p><b>To demonstrate completed competency checks on the electrical consultant designers</b></p> <ul style="list-style-type: none"> <li>- Recorded evidence that the design team are experienced and have a comprehensive knowledge of the relevant design standards.</li> <li>- Where anyone does not have a record of extensive health care experience what recorded plans are to be put in place by the Consultant Designers?</li> <li>- Recorded evidence that input from the Health Boards Authorising Engineer for Electrical (AE(E)) has been requested.</li> </ul>
4.2	<p><b>To demonstrate how the Health Board ensures that electrical services are being designed in a fashion which will provide ease of access for future maintenance and which will retain space for minor additions and modifications to services in the future</b></p> <ul style="list-style-type: none"> <li>- Evidence that the designers have presented their co-ordination drawings (BIM model) to the Health Board</li> <li>- Evidence that the designers have presented each of the main service runs plus plant rooms to the Health Board's FM team.</li> <li>- Evidence that the Health Board has agreed a strategy (percentage) for spare capacity and a documented allowance has been incorporated into the design.</li> <li>- Are sub stations, switch rooms, distribution board cupboards, horizontal distribution runs and risers appropriately sized for the equipment being installed and facilitate safe, adequate maintenance?</li> </ul>
4.3	<p><b>To demonstrate how the Health Board assures itself that all variations / derogations which may be required to electrical systems are investigated and agreed by all parties before they are instigated</b></p> <ul style="list-style-type: none"> <li>- Evidence that the each variation / derogation has a detailed technical analysis and has been referred to the Board and agreed with their electrical safety group, clinical, Estates, infection prevention and control and FM teams</li> </ul>
4.4	<p><b>To demonstrate availability of adequate supply from the local utility infrastructure</b></p> <ul style="list-style-type: none"> <li>- Confirmation from the Regional Electricity Company as to how the supply will be provided from their network and if single or dual supplies are being made available.</li> <li>- What is the Health Board's resilience strategy for the electrical infrastructure (including dual supplies, renewables, generators, UPS, etc.)?</li> </ul>
4.5	<p><b>To demonstrate provisions for emergency supplies during loss of the utility incoming supply</b></p> <ul style="list-style-type: none"> <li>- Floor plans with standby generator locations highlighted plus simple schematic.</li> </ul>
4.6	<p><b>To demonstrate a strategy for locating substations</b></p> <ul style="list-style-type: none"> <li>- Floor plans with substation locations highlighted plus simple schematic of strategy.</li> </ul>
4.7	<p><b>To demonstrate a strategy for locating switchrooms</b></p> <ul style="list-style-type: none"> <li>- Floor plans with switchroom locations highlighted plus simple schematic.</li> </ul>
4.8	<p><b>To demonstrate a strategy for locating Medical IT distribution equipment</b></p> <ul style="list-style-type: none"> <li>- Floor plans with Medical IT board locations highlighted plus simple schematic.</li> <li>- Compliance with BS7671 section 710</li> <li>- Compliance with SHYM 06-01</li> </ul>
4.9	<p><b>To demonstrate a strategy for distribution</b></p> <ul style="list-style-type: none"> <li>- Floor plans with containment distribution routing (horizontal and vertical).</li> </ul>

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Project Governance and General Arrangements	
4.10	<p><b>To demonstrate the development of electrical commissioning proposals</b></p> <ul style="list-style-type: none"> <li>Evaluation of the suitability of the proposed plans in the context of the FBC, are these sufficient do they meet the requirements of the project, guidance and the design of the system?</li> <li>Has sufficient time been allocated for a full commissioning program?</li> </ul>
4.11	<p><b>To demonstrate early thinking for the electrical governance arrangements for the operational phase</b></p> <ul style="list-style-type: none"> <li>Has the Health Board commenced its planning and recorded how it will ensure appropriate trained staff and appointment of AE for the project and is it clear how this project will interface with the Health Board existing arrangements for management of the electrical installations, inclusive of third party providers?</li> </ul>
4.12	<p><b>To demonstrate evaluation of the planned preventative maintenance (PPM) proposals</b></p> <ul style="list-style-type: none"> <li>Has the Health Board commenced its planning and recorded the PPM requirements and approach to ensure appropriate levels of maintenance, comprehensive statutory compliance and robust management processes, inclusive of third party providers?</li> </ul>
Medical Gases	
5.1	<p><b>To demonstrate completed competency checks on the medical gases consultant designers</b></p> <ul style="list-style-type: none"> <li>Recorded evidence that the design team are experienced and have a comprehensive knowledge of the relevant design standards.</li> <li>Where anyone does not have a record of extensive health care experience what recorded plans are to be put in place by the consultant designers?</li> <li>Recorded evidence that input from the Health Boards Authorising Engineer for Medical Gases (AE(MG)) has been requested.</li> <li>Evidence that all contractors and sub-contractor competency checks have been completed and signed off.</li> </ul>
5.2	<p><b>To demonstrate how the Health Board assures itself that all variations / derogations' which may be required to medical gas systems are being investigated and agreed by all parties before they are instigated</b></p> <ul style="list-style-type: none"> <li>Evidence that the each variation / derogation has a detailed technical analysis and has been referred to the Board and agreed with their medical gases management group, clinical, Estates, infection control and FM teams.</li> </ul>
5.3	<p><b>To demonstrate how the Health Board ensures that medical gas services are designed in a fashion which will provide ease of access for future maintenance and which will retain space for minor additions and modifications to services in the future</b></p> <ul style="list-style-type: none"> <li>Evidence that the designers have presented their co-ordination drawings (BIM model) to the Board.</li> <li>Evidence that the designer has presented each of the main service runs to the Board's FM team.</li> </ul>
5.4	<p><b>To demonstrate development of medical gases commissioning proposals</b></p> <ul style="list-style-type: none"> <li>Evaluation of the suitability of the proposed plans in the context of the FBC are these sufficient do they meet the requirements of the project, guidance and the design of the system?</li> </ul>
5.5	<p><b>To demonstrate development of medical gases governance arrangements for the operational phase</b></p> <ul style="list-style-type: none"> <li>Is the Health Board considering how it will ensure appropriate numbers of trained staff (AP and CP) and AE(V) for the project? And is it clear how this project will interface with the Board existing arrangements for management of the medical gases installations?</li> </ul>
5.6	<p><b>To demonstrate a strategy for bulk gas and bottle gas storage</b></p> <ul style="list-style-type: none"> <li>Floor plans with vacuum insulated evaporator (VIE) locations highlighted plus simple schematic of strategy.</li> <li>Confirmation that the medical gas strategy is adequate.</li> <li>Floor plans with pipework distribution routing and manifold locations.</li> </ul>
5.7	<p><b>To demonstrate evaluation of the planned preventative maintenance (PPM) proposals</b></p> <ul style="list-style-type: none"> <li>Has the Health Board commenced its planning and recorded the PPM requirements and approach to ensure appropriate levels of maintenance, comprehensive statutory compliance and robust management processes?</li> </ul>



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Fire	
6.1	<p><b>To demonstrate completed competency checks on the Fire Engineering consultant designers</b></p> <ul style="list-style-type: none"> <li>Recorded evidence that the design team are experienced and have a comprehensive knowledge of the relevant design standards applicable to healthcare premises.</li> <li>Recorded evidence that input from the Health Boards Fire Advisors has been requested.</li> <li>Evidence that all contractors and sub-contractor competency checks have been completed and signed off.</li> </ul>
6.2	<p><b>To demonstrate a completed written fire strategy, which provides evidence, where there is a variance from statutory and mandatory guidance, that an equivalent level of safety has been achieved by alternative means.</b></p> <ul style="list-style-type: none"> <li>Is there documented evidence that fire suppression systems have been considered for life safety and property protection?</li> <li>Is progressive horizontal evacuation available for all patient areas that continuously moves away from the fire area?</li> <li>Does the design considerations of the fire and detection system, for in-patient facilities, provide L1 coverage including voids?</li> <li>Does the design provide for a compliant emergency lighting system?</li> <li>Are free swing arm self-closers fitted to all leafs of doors serving sleeping accommodation?</li> <li>Have escape lifts been considered for the evacuation of patients and others with mobility issues?</li> <li>Are multi sensor fire detectors installed to reduce the occurrence of unwanted fire alarm signals?</li> <li>Are there adequate storage facilities to ensure escape routes are not used for this purpose?</li> <li>Are measures in place to provide safe charging of electrical and personal electronic equipment?</li> <li>In addition to the prescribed list in the Building Standards Technical Handbook have fire hazard rooms been designated based on fire load?</li> <li>Where there is a mechanical ventilation system - have all compartments, sub-compartments and corridors serving sleeping accommodation been designed to be fitted with fire and smoke dampers?</li> </ul>
6.3	<p><b>To demonstrate how the Health Board assures itself that all variations / derogations which may be required to fire systems are investigated and agreed by all parties before they are instigated.</b></p> <ul style="list-style-type: none"> <li>Evidence that the each variation / derogation and any fire engineering proposals are being referred to the Board and agreed with their fire safety advisors, NDAP group, clinical, engineering, Infection Prevention and Control, FM teams and regulatory authorities.</li> </ul>
6.4	<p><b>To demonstrate how the Health Board assures itself that all fire dampers and fire/smoke dampers are designed to allow for inspection, resetting and maintenance</b></p> <ul style="list-style-type: none"> <li>Safe and adequate access has been allocated on both sides of all fire dampers for maintenance.</li> </ul>
6.5	<p><b>To demonstrate how the Health Board assures itself that any smoke control and/or clearance systems are fit for purpose</b></p> <ul style="list-style-type: none"> <li>Evidence that the smoke system is being designed by an accredited Fire Engineer.</li> <li>Evidence that Building Control are being consulted.</li> <li>Confirmation that the Health Boards fire advisors and NDAP team are satisfied with the design proposal.</li> </ul>
6.6	<p><b>To demonstrate the development of the fire system outline commissioning proposals</b></p> <ul style="list-style-type: none"> <li>Is there an established fire management group that will ensure the fire strategy is adhered to?</li> </ul>
6.7	<p><b>To demonstrate early thinking for the Fire Safety arrangements for the operational phase</b></p> <ul style="list-style-type: none"> <li>Has the Health Board commenced its planning and recorded how it will ensure appropriate trained staff and appointment of Fire Officers for the project in the operational phase and is it clear how this project will interface with the Health Boards existing arrangements for management of the Fire Safety?</li> </ul>
IPC Built Environment	

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Action Plan		
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Project Governance and General Arrangements		
7.1	<p><b>To demonstrate that there is an effective infection prevention and control management structure in place, and leadership and commitment to infection prevention and control to ensure a culture of continuous quality improvement throughout the organisation and that there is an effective IPC structure in place: inputting into the design process</b></p> <ul style="list-style-type: none"> <li>• The Health Board provides evidence that there is an IPC Management Structure with the necessary expertise and leadership skills to support the design work</li> <li>o The Health Board provides evidence that there is an IPC Management Team with the necessary expertise and leadership skills to support the project.</li> <li>o Executive board reports or minutes, Risk registers or equivalent, Minutes from operational and governance groups, (and action points)</li> <li>o Structure of infection prevention and control team (IPCT) and qualifications held, previous experience supporting new build projects.</li> <li>o Evidence IPC and clinical teams have been involved with any derogation through the design process and are satisfied this will not impact on patient safety. This can be meeting minutes, risk assessments, and risk registers. There is IPC evidence of escalation through the agreed NHS board governance process.</li> <li>o Evidence the Executive Board Member assigned to lead on IPCT has been kept informed of IPC risks identified and associated with the project this can be demonstrated by the board</li> <li>o Evidence that fixtures fitting and equipment have not been proposed for the project that would represent an identified IPC risk</li> <li>o Evidence that all contractors and sub-contractor competency checks have been completed and signed off.</li> </ul>	
7.2	<p><b>To demonstrate implementation of evidence based infection prevention and control measures during the design process</b></p> <ul style="list-style-type: none"> <li>• The Health Board can demonstrate the current version of the National Infection Prevention and Control Manual has been adopted by the organisation and all staff are aware of how and where to access this and it is being referred to during the design process.</li> <li>• The Health Board can demonstrate IPC advisors have been included within the design phase and development of HAISCRIBE</li> </ul>	
7.3	<p><b>To demonstrate how the Health Board assures itself that the designers have a proper understanding of the infection prevention and control procedures required</b></p> <ul style="list-style-type: none"> <li>• The Health Board evidences that:           <ul style="list-style-type: none"> <li>o All relevant staff within the designers' organisation are provided with clear guidance on roles and responsibilities in relation to infection prevention and control.</li> <li>o The contractors' organisation will provide evidence of education in relation to infection prevention in the built environment for all staff involved in the project.</li> </ul> </li> </ul>	
7.4	<p><b>To demonstrate how the Health Board assures itself that equipment being proposed meets the required IPC standard</b></p> <ul style="list-style-type: none"> <li>• The IPC Team are involved and IPC advice followed in all procurement decisions for new equipment prior to purchase. IPCT are satisfied that all equipment purchased can be decontaminated safely in line with National Guidance and manufacturers' instructions.</li> </ul>	
7.5	<p><b>To demonstrate evaluation of the planned preventative maintenance (PPM) proposals for equipment issues and the Built Environment in relation to IPC issues</b></p> <ul style="list-style-type: none"> <li>• Has the Health Board considered how they will undertake assessment of and report cleanliness of the proposed facility and equipment within the healthcare environment, this is inclusive of planned programmes of maintenance?</li> <li>• Does the Health Board plan to seek feedback from patients, staff and visitors for their views?</li> <li>• Is it clear how the work for this project will interface with the Health Board existing arrangements for management of the IPC in the Built Environment in the wider estate?</li> </ul>	
To support the KSAR Response and Technical Assessment - Deliverables Expected		
Item	Deliverables - including drawings, specifications, reports	Further Information
1	NHS Board Authority Construction Requirements (ACRs)	Noting any changes from OBC
2	PSCP/Design Team Contracts/Appointment Documents	
3	Evidence of Board Competency Checks on Design Team/Contractors	
4	Clinical Brief	Noting any changes from OBC
5	Project Brief	This document should be in place from IA and OBC Stages. Changes/departures from brief during FBC to be clearly identified. May be linked to ACRs if they are project specific.
6	Project Programme	To include key construction & commissioning milestones.



## FBC KSAR Deliverables List

Date: 17 December 2021

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Action Plan		
0	Provide the current, completed Action Plan	
Response to KSAR Workbook - Evidence Expected		
Project Governance and General Arrangements		
7	Responsibility/Duty Holder Matrix	Evidence that the Board have a fully recorded matrix of the required roles and responsibilities and have a clear governance structure that is fully resourced together with plans in place for the implementation. Evidence that Health Boards have appropriate number of competent, qualified staff (or have a strategy to procure) to carry out specific duties throughout the life cycle of the project e.g., IPC, Engineers, Estates staff etc. The number of competent, qualified staff will depend on the type and size of the Build Project.
8	Provide report(s) on building services issues as part of concept design report(s). The following topics must be covered as minimum:	
8.1	Stage 4 MEP Report - Outline system strategies to satisfy the clinical and project brief	<p>Include details of ventilation strategy (natural/mechanical); outline control strategy. Identify requirements for pressure cascades in clinical areas. Identify any specialist areas requiring dedicated/specialist ventilation services e.g. decontamination units, infectious diseases, etc. Evidence of dynamic modelling should be provided to support the strategies (e.g. TM52 all 3 criteria, TM59 for bedrooms, use 2020 High local weather data, plus test for 2030).</p> <p>Identify strategy for heating/cooling to each area/room including how temperatures and peak percentage relative humidity will match the level of control selected by the clinical team.</p> <p>Identify common design criteria including summer/winter external design criteria both for building loads and for plant selection.</p> <p>Primary plant strategies to be defined, including details on how loads have been assessed and indicative plant selections made.</p> <p>Provide a breakdown of water supply grade to be provided to each space. This should include details of any areas required to be provided with dedicated water supplies independent to the remainder of the main facility, as well as any specialist clinical/process requirements.</p> <p>Identify requirements for Medical IT systems to BS7671.</p> <p>Identify the safety systems &amp; resilience requirements.</p>
8.2	MEP Technical Specifications	<p>Provide detailed technical MEP specifications. Specifications should include reference to the following:</p> <ul style="list-style-type: none"> <li>Scope of works for all mechanical, electrical and public health engineering systems.</li> <li>Modifications/reurbishment/replacement works associated with existing systems. Include details of interfaces to existing infrastructure.</li> <li>Materials &amp; workmanship requirements.</li> <li>Description of controls systems and narrative for each controls algorithm.</li> <li>Generator/standby power systems sequence of operations.</li> <li>Fire detection &amp; alarm system cause &amp; effect.</li> </ul>

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0	Provide the current, completed Action Plan	
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Project Governance and General Arrangements		
8.3	Sustainability Strategy	<p>Document should include detail of:</p> <p>Sustainability targets – what does project brief entail and how is it satisfied?</p> <p>Net zero/carbon negative strategy/roadmap.</p> <p>Planning considerations detailed.</p> <p>How loads and load profiles have been assessed/benchmarked to inform strategy.</p> <p>Renewable and lowzero carbon technologies considered (LZCT Report). Where new and emerging technologies are considered, evidence should be provided to support their use in a healthcare environment, including impact on patient safety, HAI, resilience and maintainability/serviceability.</p> <p>Integration into site plant strategy, including resilience, control and seasonal/weather considerations (e.g. external design air temperatures, ground temperatures, demand profiles).</p> <p>A clear statement on the solutions which have been chosen and the logic behind their selection.</p>
8.4	Energy strategy	<p>Report should include finalised estimates of regulated in-use energy consumption. Report should state all assumptions made in relation to loads, how these have been benchmarked, etc. Dynamic thermal modelling outputs should be provided in support of strategy (e.g. NCM templates).</p> <p>Consideration of occupancy profiles and levels of unregulated electrical loads which have been agreed with the stakeholders.</p>

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0.5	Utility Report	<p>Document should include detail of:</p> <ul style="list-style-type: none"> <li>Anticipated demand/peak loads plus profiles for each utility (e.g. power/water/gas) (this should include details of any loads for medical equipment that have been agreed with the stakeholders).</li> <li>Connection point(s) to utility provider network, including review of resilience, single points of failure and reliability of supply (including any historical/seasonal variations in supply).</li> <li>Incoming water quality and evidence of variations which have been discussed with the supplier.</li> <li>Evidence of engagement with utility provider.</li> <li>Planning considerations.</li> <li>Site logistics, space planning and requirement for any wayleaves. Consideration to be given to service routes and co-ordination with site operation (e.g. blue light routes).</li> <li>Phasing considerations.</li> <li>Required diversions.</li> <li>The impact of any issues which have been determined through surveys or site works.</li> </ul>
8.6	Environmental assessments	HAI considerations should also be considered as part of FBC HAI-SCRIBE e.g. contaminated land, impact of surroundings/proximity to neighbouring buildings. Identify whether any site specific tests have been undertaken in support of natural ventilation - e.g. air quality monitoring, etc. Provide details of any mitigating measures which have been adopted.
8.7	Building control and planning approvals status, including Building Regulations Compliance - e.g. Section 6, fire protection measures, life safety systems, etc	Provide evidence of current approvals status, including details of any appeals.
8.8	Constraints arising from the brief or local authority policy	
8.9	Hierarchy of design standards	Detail applicable design standards to project. Updated from OBC
8.10	Daylight analysis	Climate Based Daylighting Modelling (CBDM) approach to test solutions. Provide details of the influence that the modelling has had on the building design.
8.11	Site selection & building form	Details on how building form/orientation/site selection have been considered to maximise energy performance of building.
8.12	Future-proofing strategy	Plant capacity, provision of spares, spatial co-ordination, services routes, adaptability of services to meet clinical brief, etc.
8.13	Optioneering/technical reports	Provide optioneering/technical reports to supplement/support engineering design and strategy decisions.



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Action Plan		
0	Provide the current, completed Action Plan	
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8.14	Research on/proposals for innovative solutions	For example digital services and technology to be adopted. Any specialist medical equipment e.g. robotics and impact on services. How have these been assessed for use in a healthcare setting e.g. maintenance, reliability, lifecycle considerations?
8.15	Considerations for offsite manufacture	HAI considerations should also be considered as part of GBC HAI-SCRIBE. Evidence should be provided of the measures to be implemented to ensure that domestic water components are not tested offsite or in the factory using water.
8.16	Limitations or considerations for future design development	This may be captured via project risk register, design development checklists or other documents. Processes should be clearly defined for monitoring purposes, including input from all key stakeholders (this should include limitations on the capacity of medical equipment that are imposed by the assumptions made). Stakeholders should be identified.
9	Resilience strategy	This should be prepared as a standalone document. Resilience strategy to be provided for all MEP systems in a single report. Evidence of stakeholder consultation should be provided. Generator/UPS provision. Redundancy of plant. Emergency protocols e.g. emergency water fill. Impact of maintenance shutdowns. Impact to facility on loss of essential MEP systems.
10	Water management strategy, including strategy for maintaining water temperatures	This should outline proposed control measures in relation to the project. Where in relation to an existing facility, control mechanisms should be detailed to take cognisance of existing facility water quality/supply. Strategy for maintaining hot and cold water at acceptable temperatures for control of legionella, plus how will system be monitored and escalated if temperature deviate from specified conditions? DSM modelling to support assumptions/proposals, including consideration of heat gain from void spaces and other areas/equipment. All of this information should be presented in the form of a report with risk assessment.
11	Designers risk assessment (Water)	
12	Environmental Matrix	Environmental matrix based on the NHS Scotland Assure Environmental Matrix template or technically equivalent.
13	Provide report on adequacy of existing building services to incorporate extended or refurbished works	<p>The report should consider resilience to existing and future works, impact of shutdowns and compliance with current guidance.</p> <p>The report should also detail how capacity within the existing systems has been assessed, including consideration of whether any spare capacity needs to be maintained for future works.</p> <p>It should identify how assurance is provided that systems are safe, suitable for re-use and how they will impact on compliance with current engineering best practice, standards and guidance. Cognisance of existing building O&amp;M/H&amp;S must be made, including where information is not available.</p> <p>Report should clearly detail tie-ins to existing infrastructure and include details of any tests/studies which have been completed or are required on the existing infrastructure.</p>
14	Provide specifications for final commissioning and handover	Including designers commissioning brief in accordance with SHTM 03-01 and SHTM 04-01
15	Detailed commissioning plan & programme	Document to clearly outline phasing requirements, control measures to be implemented, consideration of system or plant arrangements, sequencing of activities, testing & commissioning plan, define responsibilities, define deliverables for commissioning certification



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Project Governance and General Arrangements		
16	Dynamic Thermal Modelling Outputs & Report	Including Section 6 compliance review, overheating & thermal comfort analysis and BRUKI.
17	Fire Strategy	Detailed strategy for fire safety (such as compartmentation, location of fire/evacuation lifts, fire detection and suppression philosophy, consultation with relevant authorities). Ensure strategies are supported by risk assessments where required. Ensure all key stakeholders required to input to the strategy are identified and provide evidence they have been consulted in creation of the fire strategy & any supporting risk assessments. Provide supporting drawings.
18	Fire and smoke control measures, with respect to building services	For example: locations selected for the use of fire rated ductwork or the provision of fire/smoke dampers, fire stopping methods, etc.
19	BREEAM Report & Scorecard	Particular focus on early stage credits & how these are evidenced.
20	Acoustic Report	Details should also be provided as to how plant has been designed to satisfy acoustic requirements (including the siting of plant relative to sensitive areas). This should consider both primary plant and distribution. Needs to identify whether any specialist requirements for the project e.g. specialist departments such as Audiology. Identify whether any site specific tests have been undertaken in support of natural ventilation - e.g. background noise, etc. Identify measures which have been taken in the design to ensure that the designs are in compliance with SHTM 08-01, including cross talk attenuation.
21	Provide technical design information model including appropriate geometric detail, defined level of clash detection and object information.	
22	Provide technical design drawings	<ul style="list-style-type: none"> <li>Plant Room Layouts</li> <li>Ventilation</li> <li>Heating &amp; Cooling</li> <li>Water Services</li> <li>Medical Gas</li> <li>Above Ground Drainage</li> <li>External Services</li> <li>Utility layouts</li> <li>External Lighting</li> <li>Lighting &amp; Emergency Lighting including controls</li> <li>IT/Comms Room Layouts</li> <li>Containment</li> <li>Small Power &amp; Data</li> <li>Earthing</li> <li>Fire Detection &amp; Alarm</li> <li>Intruder Alarm/Security/CCTV</li> <li>Nurse Call</li> <li>Lightning Protection</li> <li>Existing services diversions/modifications (if applicable to project).</li> </ul>

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23	Provide technical design schematics	They must be produced, as a minimum, for the following services - Water services plant Water services networks Ventilation plant Ventilation systems networks Above ground drainage Heating plant Heating networks Cooling plant Cooling networks HV Distribution LV Distribution UPS and Medical IT Distribution Systems Earthing & Bonding Lighting Controls Fire detection & alarms Intruder Alarm/Security/CCTV Nurse Call Fuel supply systems Fire suppression systems Medical gas plant and manifolds Dry Risers BMS controls CSFD controls architecture
24	Provide design calculations	Calculations including: 1. All Ventilation systems, including pressure cascades, air flow calculations, detailed theatre air flow rates to match doors, duct sizing. 2. Heating & Cooling calculations - may be linked to DSM 3. Electrical distribution calculations, including protection study (fault study & selectivity) 4. Lighting calculations 5. Electrical load calculations 6. MGPS Calculations 7. Domestic water pipework sizing 8. Fuel storage 9. Water storage 10. Drainage pipework sizing
25	Provide technical design builders work information as applicable	Provide evidence that the plant weights have been coordinated with the Structural Engineer.

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26	Provide performance specifications & drawings for specialist/contractor designed elements of the works.	<p>Specialist/Contractor design portions should contain sufficient detail to provide assurance on spatial co-ordination including ceiling voids and plant rooms, as well as electrical loads.</p> <p>If PSCP/Contractor is already in place they should provide a delivery plan for when CDP's will be issued and how they will be monitored for compliance with the project brief. The Board should also identify what assurance measures they have in place for reviewing CDP's submitted post FBC. The CDP briefing specifications must give clear instruction on standards to be achieved and the method by which they will be verified.</p>
27.1	Provide mechanical & public health plant & equipment schedules.	<p>Detailed schedules to be provided for mechanical &amp; public health systems including but not limited to:</p> <ol style="list-style-type: none"> <li>1. Air Handling Units</li> <li>2. Pumps</li> <li>3. Chillers</li> <li>4. Boilers</li> <li>5. Fan Coil Units</li> <li>6. Heat emitters (e.g. radiant panels/radiators/etc).</li> <li>7. Heat Pumps</li> <li>8. Solar/PV</li> <li>9. Boilers</li> <li>10. BMS (including points list).</li> <li>11. Water filtration plant</li> <li>12. Cooling units</li> <li>13. Water chillers</li> <li>14. Power Factor Correction</li> <li>15. Louvres</li> <li>16. Fans</li> <li>17. Attenuators</li> <li>18. Grilles &amp; Diffusers</li> <li>19. Terminal heating &amp; cooling coils</li> <li>20. Terminal filters</li> <li>21. Fire/smoke dampers</li> <li>22. Booster sets</li> <li>23. Pressurisation and expansion units</li> </ol> <p>Schedules should provide information on equipment rating, type, configuration of components, etc</p>



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27.2	Provide electrical plant & equipment schedules.	<p>Detailed schedules to be provided for electrical systems including but not limited to:</p> <ol style="list-style-type: none"> <li>1. Switchgear assemblies (low and high voltage)</li> <li>2. Distribution boards</li> <li>3. Cable schedules (for all main, sub-main and final circuits) and/or busbar schedules where applicable.</li> <li>4. Transformers</li> <li>5. Generators</li> <li>6. Luminaire schedule, including photometric performance information.</li> <li>7. Uninterruptible Power Supply (UPS) systems</li> <li>8. Fire detection &amp; alarm system</li> <li>9. Any other standby/emergency power systems including emergency lighting static inverter/central battery.</li> <li>10. Intruder alarm/security systems</li> <li>11. Power Factor Correction</li> </ol> <p>Schedules should provide information on equipment rating, type, configuration of components, etc.</p>
28	Provide coordinated reflected ceiling plans based on agreed architectural information for all components.	
29	Provide coordinated room elevations based on agreed architectural information for all components.	
30	Plant access, maintenance and replacement strategy	Report with drawings
31	Mitigation Strategy	
32	Provide report on any proposals or agreed outcomes following participation in any Soft Landings process	
33	Health and safety risk assessments for the technical/detailed design	Refurbishment or extension/expansions projects should take cognisance of any residual H&S risk assessments pertaining to the existing estate.
34	FBC HAI-SCRIBE	To be developed in accordance with SHFN 30. Input from all stakeholders to be identified, including all members of the DTM. Evidence of actions and integration of recommendations into design should be provided. This is an integral part of the design process that all parties have a responsibility to contribute to.
35	FBC Derogations Schedule	Evidence of stakeholder engagement/review/sign off to be provided. Mitigations must be described in full for all derogations and should identify how the mitigations achieve a standard no less than that achieved via compliance with guidance.
36	Design responsibility matrix	Including details of allocated Contractor Design Packages. Where a multi-stage procurement strategy is in place, this must be clearly reflected. Evidence of space planning associated with the GDPs should be shown and described.
37	Project Risk Register	
38	Equipping responsibility matrix	
39	Reviewable Design Data (RDD) schedule	



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40.1	Provide a report in consideration of any alternative plant, equipment, and component selections.	Report should clearly outline quality control measures in place by the Board, PSCP and design team to ensure that any alternatives meet the requirements of the respective technical specification/performance criteria.
40.2	Provide report on the specialist designers' proposals within the main contract.	As applicable dependant on procurement timelines.
40.3	Provide calculations and/or software files in support of specialist design proposals	As applicable dependant on procurement timelines.
41	Construction Phase Plan	This should be prepared prior to the project starting on site as per CDM regulations. Dependant on the timing of the KSAR this document may not yet be in place - if that is the case, assurance must be provided as to project protocols to ensure this document is provided within required programme timescales.
42	Draft Handover Checklist	Ensure requirements are identified prior to commencing construction. Phased handover and commissioning/system milestone requirements should be defined as applicable.
43	Evidence of client/key stakeholder consultation, review and approval of FBC documents	The Board must be able to demonstrate their internal governance and control measures, including input/review from suitably qualified/competent persons including Authorising Engineers, infection prevention and control team, the clinical team and a peer review of technical documentation

The above list has been developed based on a modified version of BSRIA (BG6/2018) Design Framework for Building Services 5th Edition, RIBA Plan of Work 2020, SCIM, various healthcare guidance documents and other lessons learned. It is not intended to be considered as an exhaustive list, rather it should be considered as the minimum information to be provided at the denoted workstage.

**BSRIA BG6 2018 Appendix A: Allocating Design Responsibility****PROJECT NAME:** RHCYP+DCN HVC107**SITE ADDRESS:** Little France Cres, Edinburgh EH16 4SA**Parties to the project:**

(The following letters are used as shorthand references in the completed proformas)

<b>A</b>	Hoare Lea
<b>B</b>	IMTECH
<b>C</b>	Architect
<b>D</b>	C&S Engineer
<b>E</b>	CDM Principal Designer
<b>Z</b>	Contractor (as-yet unknown team member)

**Notes:**

L, S and R indicate responsibility for leadership, support and review of the activity respectively.

Activities and deliverables not required for the project are either struck through or noted as "N/A" in the comments column.

The proformas are reproduced from BSRIA BG 6/2018 A Design Framework for Building Services 5th edition.

Text that has been changed or added to the BSRIA original are shown in red.

These pro-formas are to be read in conjunction with the relevant associated appointment / contract documents.

**Pro-forma status:****Date:** 30/03/2020**Prepared by:****Name:** Paul Winning**Organisation:** Hoare Lea

Reproduced from BSRIA BG 6/2018 A Design Framework for Building Services 5th edition

PROFORMA 2: CONCEPT (RIBA STAGE 2)								
Ref	Design activity in connection with building services	Allocated to .... L=Lead, S=Support, R=Review						Comments
		A	B	C	D	E	Z	
<b>General obligations, external liaison (statutory bodies, utilities)</b>								
2.1.1	Consult local authorities about matters of principle in connection with the services design of the works including requirements over and above statutory requirements.	S	L					
2.1.2	Put known utility supplies or site-based utilities onto a model to support the engineering services philosophy for the project (energy generation/supply, water supply, waste removal, communications, fire-fighting).	L						
2.1.3	<del>Advise on the requirements for utilities and services diversions, based on desktop study and provided information.</del>							Not Required
2.1.4	Advise on regulatory compliance of MEP concept design.	L						
2.1.5	<del>Prepare initial strategy for fire safety (such as compartmentation, location of fire lifts, fire detection and suppression philosophy, consultation with relevant authorities).</del>							Not required
2.1.6	Establish impact of fire strategy on building services design.	L						
<b>Client liaison (briefing, handover, surveys)</b>								
2.2.1	Evaluate physical, environmental, functional and regulatory constraints from clients' brief, for potential schemes.	S	L	S				
2.2.2	Visit site(s) and/or example project(s) to assess physical restrictions that might influence the design philosophy or the development of the design.	S	L	S				
2.2.3	Advise the client on the need for arrangements to be made for and define the extent of special investigations or tests (could be intrusive or non-intrusive).	S	L					
2.2.4	Review and report on the condition/status of any existing services installations (usually only required for buildings being refurbished/extended).	S	L					Matterport Survey, Verification Surveys.
2.2.5	<del>Review feasibility of renewable technologies.</del>							Not Required for this project
2.2.6	Define performance metrics and design targets for the building.	L						
2.2.7	Give initial recommendations to the client in the development of an operating and maintenance strategy.	S	L					
2.2.8	<del>Establish targets for the post-occupancy review.</del>							
<b>Team liaison (builders' work, spatial coordination, energy targeting)</b>								
2.3.1	Undertake the role of lead project designer.	S	L					
2.3.2	Fulfil role of Principal Designer under CDM Regulations 2015.					L		
2.3.3	Discuss potential mechanical, electrical and public health schemes for the preferred solution selected in RIBA Stage 1, with the rest of the design team.	L						
2.3.4	Advise team members (architect, structural engineer) of significant implications (size, weight, access requirements for installation and replacement) of mechanical, electrical, public health systems including central plant.	L						
2.3.5	Agree builders' work philosophy (such as the treatment of structural openings) for principal mechanical, electrical and public health systems.	S	L					
2.3.6	Agree dimensional and other numerical tolerances to be applied to building services design and deliverables at different project stages.	S	L					E.g. weights, quantities of components
2.3.7	<del>Carry out or commission surveys relating to energy strategy options.</del>							
2.3.8	<del>Undertake energy strategy studies for the building fabric and engineering services to support the design – typically generic thermal simulation (and modelling) with simplified boundary conditions to give qualitative feedback.</del>							
2.3.9	Undertake generic daylight computer modelling required to support the design and obtain qualitative feedback (state particular requirements for the project).	L						Only required if the proposals were to impact on the daylight to existing rooms.
2.3.10	<del>Review architect's proposals for compliance with Building Regulations in relation to energy performance.</del>							
2.3.11	Develop and update BIM execution plan during project.	S	L					As per PAS 1192-2
2.3.12	Develop and update master information delivery plan during project.	S	L					As per PAS 1192-2
2.3.13	Develop and update building services task information delivery plan during project.	L						As per PAS 1192-2
2.3.14	Federate information models from separate task teams and oversee the clash avoidance process.	S	L					As per PAS 1192-2. See also 3.3.15
2.3.15	Remove critical clashes from the building services concept design.	L						See section 2.5 of BG 6
2.3.16	Prepare programme/Gantt chart for the design activities and schedule of design deliverables.	S	L					
2.3.17	Prepare risk assessments for the design, covering health and safety during construction, operation and end-of-life, and technical risks.	S	L	S	S			
2.3.18	Contribute to risk assessments for the design covering programme, cost and quality.	S	L	S	S			
2.3.19	Detailed review of existing health and safety file (for refurbishment projects or additional construction on an existing site).	S	L	S	S	R		
2.3.20	Team-wide design review to signal end of concept design stage.	S	L	S	S	S		See section 3.8 of BG 6
<b>Selection of plant and specialist designers</b>								
2.4.1	Identify activities needing early specialist design input by others.	S	L					E.g. lightning protection, earthing
2.4.2	Advise client on assessment and selection of specialist designers.	S	L					
2.4.3	Advise client on selection of Contractor Design Portions and plan for covering these topics until the relevant contractors are appointed.	S	L					
2.4.4	Advise on potential for off-site manufacture of building services plant and distribution equipment, including implications for construction strategy, project milestones and	S	L					Only external plantroom possibilities.
2.4.5	Agree initial off-site delivery strategy including programme milestones.	S	L					If deemed possible
2.4.6	Establish areas/zones for central plant in line with mechanical, electrical and public health design philosophies.	L						
2.4.7	Consider and define need for provisional sums.	S	L					
<b>Mechanical design</b>								
2.5.1	Determine mechanical systems philosophy.	L						
2.5.2	<del>Determine passive design philosophy.</del>							Not required
2.5.3	Undertake assessment of comfort conditions and overheating risk	L						
2.5.4	Design review.	L						See section 3.8 of BG 6
<b>Electrical design</b>								
2.6.1	Determine electrical systems philosophy (degree of system integration, redundancy, life-cycle, cross reference to lighting studies, etc).	L						
2.6.2	Design review.	L						See section 3.8 of BG 6
<b>Public health design</b>								
2.7.1	Determine water supply and waste-handling philosophy (recycling, storage).	L						
2.7.2	Design review.	L						See section 3.8 of BG 6
<b>Commissioning</b>								
2.8.1	Establish phased handovers, system configuration or plant arrangements to simplify commissioning.	S	L					
2.8.2	Prepare strategic commissioning plan.	L						
<b>Deliverables – including drawings, specifications, reports</b>								
2.9.1	Provide report on building services issues as part of concept design report. Specific considerations for this report include the items below. See BSRIA BG 71/2017 <i>Building Services Reports</i> for further details.							Usually as a desk study on matters affecting design options
2.9.1a	<del>recommendations for renewables,</del>							
2.9.1b	considerations for offsite manufacture,	L						
2.9.1c	environmental assessments,	L						
2.9.1d	building control requirements,	S	L	S				
2.9.1e	Building Regulations compliance (e.g. Section 6),	L						
2.9.1f	<del>Initial energy strategy.</del>							

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PROFORMA 2: CONCEPT (RIBA STAGE 2)								
Ref	Design activity in connection with building services	Allocated to .... L=Lead, S=Support, R=Review						Comments
		A	B	C	D	E	Z	
2.9.1g	noise and acoustic measures,	L						For MEP acoustics and architectural duties
2.9.1h	fire and smoke control measures,	S	L					
2.9.1i	future-proofing strategy,	L						
2.9.1j	<del>limitations or considerations for future design development,</del>							
2.9.1k	adequacy of utilities supplies,	L						
2.9.1l	constraints arising from the brief,	S	L					
2.9.1m	high-level metering strategy,	L						
2.9.1n	plant replacement strategy,	L						
2.9.1o	research on innovative solutions,	L						
2.9.1p	daylight analysis.	L						Only required of the proposals impact on the existing daylighting
2.9.2	<del>Provide MEP concept design information model including appropriate geometric detail and object information.</del>							BIM model will be a deliverable at a future stage.
2.9.3	Provide concept sketch drawings for preferred preliminary design(s).	L						
2.9.4	Provide concept schematics for preferred preliminary design(s).	L						
2.9.5	Provide information for early-stage life-cycle cost and life-cycle assessment studies.	S	L					
2.9.6	<del>Provide tender documentation for inclusion in a tender package if the procurement method requires it.</del>							See also 3.9.24 and 4.9.9
2.9.7	Provide outline cost plan for building services based on floor area / building type / system assumptions.	S	L					
2.9.8	<del>Provide COBie tables for BIM Level 2 Information Exchange 2.</del>							BIM model will be a deliverable at a future stage.
2.9.9	<del>Provide preliminary energy statement for planning submission, where required by the planning authority.</del>							
2.9.10	Provide concept design builders' work information as applicable.	L						
2.9.11	Provide report on adequacy of existing building services to incorporate extended or refurbished works.	L						
2.9.12	Provide preliminary estimate of regulated in-use energy consumption.	L						For the Isolation rooms only
2.9.13	<del>Provide report on any proposals or agreed outcomes following participation in any Soft Landings process.</del>							
2.9.14	Provide health and safety risk assessments for the concept design.	S	L	S	S	R		
2.9.15	Sign off the concept design report.							Usually by the client



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PROFORMA 4: TECHNICAL DESIGN (RIBA STAGE 4)								
Some activities in RIBA Stage 4 may continue after the start of the project's construction stage.								
Ref	Design activity in connection with building services	Allocated to ... L=Lead, S=Support, R=Review						Comments
		A	B	C	D	E	Z	
	<b>General obligations, external liaison (statutory bodies, utilities)</b>							
4.1.1	Carry out ongoing checks for compliance with regulations.	S	L	S	S			
4.1.2	<del>Advise on impact of any changes from scheme used to calculate the Building Emissions Rate for Building Regulations energy compliance and (if relevant) EPC.</del>							
4.1.3	Provide information for pre-site building control approval.	S	L	S	S			
4.1.4	<del>Obtain final quotations for incoming services based on final agreed building loads.</del>							
4.1.5	<del>Seek utility company comments on the spatial requirements and builders' work associated with the provision of incoming services.</del>							
	<b>Client liaison (briefing, handover, surveys)</b>							
4.2.1	Prepare the building services Employers Information Requirements in accordance with PAS 1192-2.						As per PAS 1192-2	
4.2.2	Prepare pre-contract BIM Execution Plan for building services installation (as required by procurement route).						As per PAS 1192-2	
4.2.3	Advise on an appropriate method of procuring maintenance expertise.							
4.2.4	Define the scope and content of operating and maintenance manuals appropriate for the project.						Already defined.	
4.2.5	Review the design against operational design targets, involving the future building manager(s) and update/reissue design reports, specifications and/or Soft Landings.							
4.2.6	Define the requirement for MEP handover information.						Already defined.	
4.2.7	Specify form of delivery and method of production of MEP handover information.						Take account of any phased handover or partial	
4.2.8	Prior to commencement of works, prepare method statement for the maintenance of existing services.		L					
	<b>Team liaison (builders' work, spatial coordination, energy targeting)</b>							
4.3.1	<del>Undertake checks in relation to Building Regulations energy performance compliance and (if relevant) EPC criteria.</del>							
4.3.2	<del>Review proposals from others in relation to Building Regulations energy performance compliance and (if relevant) EPC criteria.</del>							
4.3.3	Review dimensional and other numerical tolerances to be applied to building services design and deliverables at different project stages.	S	L					
4.3.4	Make submissions to obtain Building Regulations approval in relation to energy	S	L	S				
4.3.5	Design weatherproofing details for all services passing through external elements of the building.	S	L	S	S			
4.3.6	Provide typical details for all acoustic stopping for services penetrating builders' work elements.	L	S	S				
4.3.7	Develop and update BIM Execution Plan during project.		S				As per PAS 1192-2.	
4.3.8	Develop and update building services Task Information Delivery Plan.		L				As per PAS 1192-2.	
4.3.9	Develop and update Master Information Delivery Plan during project.		S				As per PAS 1192-2	
4.3.10	Federate information models from separate task teams and oversee the clash avoidance process.		S				As per PAS 1192-2	
4.3.11	Carry out project-wide design review of MEP feasible-generic design.	R	L				See section 3.8 of BG6	
4.3.12	Agree the principles relating to reflected ceiling plans.	S	S	L				
4.3.13	Carry out Stage 4 coordination between building services, structure and architecture prior to selection or procurement of actual equipment. (Feasible for building services contractor/ trade-contractor pricing and installation without major re-routing).	S	L	S			Major spaces: plant rooms, risers, ceiling and floor voids. Removal of critical clashes – see section 2.5 of BG 6	
4.3.14	Carry out Stage 4 coordination between different building services prior to selection or procurement of actual equipment. (Feasible for building services contractor/trade contractor pricing and installation without major re-routing).	S	L	S			Removal of critical clashes – see section 2.5 of BG 6	
4.3.15	Consider requirements for cable pulling (routes and anchor points).	S	L					
4.3.16	Review MEP design risk assessments incorporating specialist design input.	S	L				Specify extent of risk assessments (H&S, technical, commercial)	
4.3.17	Check the provision for and adequacy of builders' work information provided for specialist elements (including CDP).	S	L	S				
4.3.18	Select and detail sleeves, inserts, frames, and fixing anchors, and any other items required to be cast or built into the structures by others, including coordination of positions to such extent and accuracy to allow structural construction to proceed.		L		S			
4.3.19	Detail and coordinate all access platforms, stairs, rails and protection elements required for future maintenance and operation of plant/equipment.	S	L	S	S		Includes selecting proprietary platforms, access covers, gratings, ladders, walkways, balustrades, guardrails and all additional structural steelwork, associated with specific items of plant, where indicated in the Tender documentation.	
4.3.20	Carry out final detailed location and dimensioning of 2nd fix equipment based on architectural information.	S	L	S			State extent (luminaires, control devices, outlets, and grilles)	
4.3.21	Determine location of access panels.	S	L	S			For example, rodding eyes and pipework valves	
4.3.22	Carry out project-wide design review of coordinated-generic design.	S	L	S			See section 3.8 of BG6	
4.3.23	Confirm builders' work information for specified equipment or materials, or where alternatives to those provisionally or pre-selected are agreed.	S	L	S			Bases, supports and structurally significant holes	
4.3.24	Provide final details for all acoustic stopping for services penetrating builders' work	S	L	S				
4.3.25	Carry out Stage 4 coordination between all building services trade contractors after the selection or procurement of actual equipment.	S	L	S			Removal of critical clashes – see section 2.5 of BG 6	
4.3.26	Carry out Stage 4 coordination between the building services, structure and architecture after the selection or procurement of actual equipment.	S	L	S	S		Removal of critical clashes – see section 2.5 of BG 6	
4.3.27	Prepare detailed construction programme for installation and remaining design		L					
4.3.28	Carry out project-wide design review of coordinated-specific design.	R	L				See section 3.8 of BG6	
4.3.29	Design elements of the scheme to account for self-weight and other applied forces / loadings in reasonable use (eg the design of anchorage, encasement and foundations for buried tanks or buried piping).		L		S			
4.3.30	Design acoustic treatment (including attenuators, silencers, absorption materials, baffles, mutes, cladding and jacketing) or modification of equipment, to comply with the noise levels specified, including when all building engineering services systems and	S	L					
4.3.31	Chair drawing production / co-ordination workshops / meetings to resolve the effective production of the Co-ordinated Working Drawings, Installation Drawings, Builder's Work Information and Builder's Work Details for each and every discipline.	S	L	S	S			
4.3.32	Attend drawing production / co-ordination workshops / meetings as 4.3.31.	S	L	S	S			
4.3.33	Chair co-ordination meetings / workshops to resolve the effective production of the MEP Production Information Model and the MEP Installation Model and equivalent models for each and every discipline and to agree the resolution of any clashes	S	L	S	S		Main contractor to chair or nominate one of the sub-contractors to do so.	
4.3.34	Attend co-ordination meetings / workshops as 4.3.33.	S	L	S	S			
4.3.35	Undertake the responsibilities of "Lead co-ordinator" as defined in HL specification section A11 clause 200.		L				Main contractor to lead or nominate one of the sub-contractors to do so.	
4.3.36	<del>Designing thrust blocks associated with underground pipework installations.</del>							
	<b>Selection of plant and specialist designers</b>							
4.4.1	Develop initial technical design for systems to be procured as Contractor Design Portions (where building services contractor not already appointed).	S	L					
4.4.2	Advise of significant allowances or constraints incorporated in the main design that may affect the specialist design.	S	L					
4.4.3	Obtain indicative quotations for plant not requiring specialist design.		L					

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**PROFORMA 4: TECHNICAL DESIGN (RIBA STAGE 4)**

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		A	B	C	D	E	Z	
4.4.4	Review that all plant and equipment incorporated into the works can be safely maintained and accessed in compliance with current legislation.	R	L					
4.4.5	Check plant and system sizing once Stage 4 coordination of the works has been undertaken with selected or procured equipment (4.3.25).		L					Removal of critical clashes – see section 2.5 of BG 6
4.4.6	Select plant, equipment, components and material to meet the specified performance. Where items or manufacturers differ from provisional selections ensure they are fully compatible with all the other system parameters components and design		L					Includes the preparation and issue of technical submittals for each item or plant and equipment selected in line with HL specification section A11 clause
4.4.7	Advise whether the proposed alternative items or manufacturers comply with the selection criteria.		L					
4.4.8	Advise whether the proposed alternative items or manufacturers are acceptable.	R	L					
4.4.9	Re-evaluate all parts of the services design which may be affected by acceptance of alternative items or manufacturers.		L					
4.4.10	Re-evaluate all parts of the architectural or structural design which may be affected by acceptance of alternative items or manufacturers.		L					
4.4.11	Amend the building services design to incorporate agreed alternative items or		L					
4.4.12	Prior to confirming agreed final fixed costs with the client, agree final equipment selections and manufacturers.		L					
4.4.13	Monitor the specialist design input for compliance with the design intent.	R	L					
4.4.14	Evaluate the impact of the specialist design on those parts of the overall design that are provisional.		L					
4.4.15	Monitor the ongoing progress of the procurement, manufacture, installation and commissioning of all plant items.	R	L					
4.4.16	Review all plant and equipment incorporated into the works with respect to safe maintenance and access in compliance with current legislation.		L					
4.4.17	<del>Select the fire alarm system(s), and their components and cabling requirements, to meet the requirements of the particular manufacturer and the requirements of the specification. Ensure that the design of the fire alarm system(s) and voice alarm system(s) comply with the edition of BS 5839 current at the time of Tender.</del>							
4.4.18	<del>Size and design earthing and electromagnetic screening of electrical power systems and ensuring compliance with the appropriate EMC directives.</del>							
4.4.19	<del>Select plant, equipment and components from the UK Government's 'Energy Technology Product List' unless directed otherwise.</del>							
4.4.20	<del>Select plant, equipment and components from the UK Government's 'Water Technology List' unless directed otherwise.</del>							
4.4.21	<del>Design all temporary works, facilities and provisions required during construction, to meet the requirements of the Specification.</del>							
<b>Mechanical design</b>								
4.5.1a	<del>Determine parameters of boiler flues to incorporate the requirements of the plant manufacturer, building control, environmental health officer and current legislation such as the Clean Air Act, ensuring that the flue gas is discharged at the required velocity and altitude, and providing the Contract Administrator with a copy of the application for approval of the flue system under the Clean Air Act.</del>							
4.5.1b	<del>As 4.5.1a but for diesel generator flues</del>							
4.5.1c	<del>As 4.5.1a but for other flues (to be defined for each project)</del>							
4.5.2	Finalise detailed design calculations for all mechanical services being included in the technical design in accordance with recognised national standards.	L	R					See Appendix B for specific services
4.5.3a	<del>Determine detailed flue, duct and pipe sizes and routes (boiler flues).</del>							
4.5.3b	<del>As 4.5.3a but for diesel generator flues</del>							
4.5.3c	<del>As 4.5.3a but for other flues (to be defined for each project)</del>							
4.5.4	Following equipment procurement, modify distribution systems and equipment capacities as may be required as a result of coordination (4.3.25).		L					
4.5.5	Design all necessary facilities for flushing, and commissioning.		L					Includes providing all the facilities required (whether temporary or permanent), for pre-commissioning flushing and cleaning of water systems, all in accordance with the current edition of BSRIA Application Guide 'Pre-commission cleaning of pipework
4.5.6	Size, select and determine final locations of commissioning sets based on coordination of procured equipment (4.3.25).		L					
4.5.7	Carry out final sizing of sections of ductwork between terminal units and diffusers to ensure the specified acoustic criteria and duct velocities.		L					
4.5.8	Carry out final detailing and confirm the location and sizes of duct connections to external louvres.		L					
4.5.9	Carry out detailed design of anchors, guides and other provision for movement of services and systems due to thermal expansion and contraction and building movement.		L					Includes the provision of anchors, bellows, compensators, loops and bends, and for designing systems to safely and reliably accommodate and control their movement due to hydraulic pressures.
4.5.10	Check fan and pump system resistances based on coordination of procured equipment (4.3.25).		L					And based on the co-ordinated working drawings. Also includes checking natural gas pipework pressure drop downstream of meter, based on the final equipment selection and co-ordinated installation drawings, to ensure compliance with applicable regulations and guidance. Suggest checker is independent person from
4.5.11	Check system water capacities and quantities of chemical additives based on the final equipment selection.		L					And based on the co-ordinated working drawings. Suggest checker is independent person from selector
4.5.12	Carry out final detailing of drain and vent points.		L					
4.5.13	Carry out final selection of all terminal devices.		L					
4.5.14	Carry out final selection of pressurisation units and expansion vessels.		L					Based on the final equipment selection and co-ordinated working drawings. Includes calculating system water capacities based on the installation drawings and actual equipment intended for installation, in order to properly determine the required capacity of expansion vessels, expansion cisterns, pressure vessels and thermal inertia [buffer] vessels.
4.5.15	<del>Detailed design and sizing of refrigerant pipework between items of equipment provided under the contract works based on the final equipment selection and co-ordinated working drawings.</del>							
4.5.16	Select and confirm location of fire dampers and any other fire-stopping for mechanical systems.		L					
4.5.17	Select and confirm location of control dampers and control valves to achieve the specified function and to suit the characteristics of items served and final system configurations based on the final equipment selection and coordinated working		L					
4.5.18	Carry out final selection of control valves to suit pipework and authority of controls based on final installation drawings.		L					Includes calculating sub-circuit resistances based on the piping layouts shown on the installation drawings and taking into account items of plant and equipment selected for incorporation into the works, and selecting control valves based on the calculated sub-circuit
4.5.19	Carry out final selection of all anti-vibration mountings.		L					

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**PROFORMA 4: TECHNICAL DESIGN (RIBA STAGE 4)**

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		A	B	C	D	E	Z	
4.5.20	Design review.	R	L					See section 3.8 of BG 6
4.5.21	<del>Design and obtain certification of the sprinkler system, its components and configuration, to meet the particular and the performance requirements of the specification including submitting calculations and all other design information.</del>							
4.5.22	<del>Design the gaseous fire suppression system(s), its components and configuration, to meet the requirements of the specification.</del>							
4.5.23	Design and determine the required extent of the trace heating system(s) in accordance with section the specification.		L					
4.5.24	<del>Carry out stress calculations for steam and HTHW piping using the 'Caesar II' software (if applicable).</del>							
4.5.25	Design pump inertia bases to meet the specified vibration isolation requirements.		L					
4.5.26	Undertake bracket and support detailed design and the selection of appropriate locations for them taking account of any known restrictions on types or location of fixing. Detail, supply and install all sleeves, inserts, frames, fixing anchors etc, and any other items required to be cast or built into the structure by others, including co-ordination of positions to such extent and accuracy to allow structural construction to proceed. Declare all types, loads and locations ten working days prior to installation, for comment. Obtain approval from the structural engineer and / or architect of		L					
4.5.27	Design all secondary support steelwork required to support the engineering systems within installer's works package where not specifically detailed on the Structural Engineering drawings.		L					
4.5.28	Design and select attenuators to satisfy the particular and performance requirements of the specification, including spatial allowances shown on the Tender drawings.		L					
4.5.29	Determine exact locations of instruments, control sensors, detectors and thermostats.		L					
4.5.30	Carry out the final selection of fire rated ductwork systems and ductwork fire protection systems, including obtaining all necessary statutory approvals.		L					
4.5.31	<del>Undertake detailed design and sizing of underfloor heating pipework systems to achieve the specified heat outputs.</del>							
4.5.32	<del>Design of each Direct Expansion (DX) and Variable Refrigerant Flow (VRF) system. This includes the selection of indoor and outdoor units and other equipment as required, their mounting systems and all interconnecting pipework.</del>							
4.5.33	Carry out final detailed location and dimensioning of second fix equipment (including but not limited to: control devices etc.; grilles and diffusers) based on architectural		L					
4.5.34	<del>Carry out detailed design of laboratory and medical gases and bulk cryogenic storage systems and associated monitoring and alarm systems (including oxygen depletion monitoring and alarm).</del>							
	<b>Electrical design</b>							
4.6.1	Finalise detailed design calculations for all electrical services being included in the technical design in accordance with recognised national standards.	L						See Appendix B for specific services
4.6.2	Determine detailed cable and containment sizes, switchgear sizes and locations, control panel locations, user equipment sizes and locations, and sensor locations for small power, lighting, high voltage systems, and metering.	L						
4.6.3	<del>Determine approximate sensor locations, control panel locations for fire safety and security systems.</del>							
4.6.4	Design automatic controls systems as required to meet the operational, functional and spatial requirements of the specification.		L					
4.6.5	<del>Determine control strategy for lighting.</del>							
4.6.6	Design fixing, connection, earthing and bonding details as required for final installation of lightning protection systems.		L					
4.6.7	Modify distribution systems and equipment capacities as may be required as a result of Stage 4 coordination with intended or procured equipment.		L					
4.6.8	Verify spatial requirements for cable pulling and installation.		L					
4.6.9	Verify cable sizes for primary electrical supply based on coordination of procured equipment (4.3.25) and cable lengths.		L					Includes ensuring that the specified cable sizes are not invalidated by the selection of alternative cable routes.
4.6.10	Verify cable sizes for specialist systems based on coordination of procured equipment (4.3.25) and cable lengths.		L					Such as fire alarm, datacomms, CCTV, and access control. Includes ensuring that the specified cable sizes are not invalidated by the selection of alternative cable
4.6.11	Select and confirm location of fire-stopping for electrical systems.		L					
4.6.12	Check control panel cable entry and exits are possible in the final location and that safe operating and maintenance clearances are provided.		L					Includes designing cable and cable trunking terminations on to electrical equipment provided under the sub-contract and dimensioning of, and final installation details of, electrical switchgear.
4.6.13	Check compatibility of building services plant and equipment with the controls systems.		L					
4.6.14	Carry out design and incorporation of all interfaces (including relays or other devices or modifications to hardware or software).		L					
4.6.15	Incorporate final information for electrical systems into the design via schedules or BIM objects, including control addresses for lighting and fire alarm systems, BMS points.		L					
4.6.16	Design review.	R	L					See section 3.8 of BG 6
4.6.17	Design earthing and bonding requirements for electrical building engineering systems, mechanical building engineering systems, architectural elements and structural elements that require earthing and bonding		L					
4.6.18	Where there are interfaces (including relays or other devices or modifications to hardware or software), between equipment and the automatic control system, be responsible for their design and the incorporation of them.		L					
4.6.19	Carry out all electrical design activities, as detailed herein, relating to the automatic controls system.		L					
4.6.20	Ensure that control panel doors are not fouled by other plant, equipment, services or structural elements.		L					Applies to switchgear and control panels
4.6.21	Select the capacity, location and design of electrical conduits and containment systems smaller than 50mm.		L					
4.6.22	Select cable terminations on items of equipment provided by the installer to suit the cable sizes proposed by other Installers (including the electrical Installer, the automatic control system installer, etc.) or the specified cable sizes, as appropriate.		L					
4.6.23	<del>Ensure that the design of the lightning protection system components meets the particular manufacturer's and the specification's requirements.</del>							
4.6.24	<del>Ensure that the design of the security system(s) components and cabling requirements meet the particular manufacturer's and the specification's requirements.</del>							
4.6.25	<del>Undertake design of Photovoltaic systems including interconnecting wiring and fixings to meet the requirements of the performance specification.</del>							
4.6.26	Carry out final detailed location and dimensioning of second fix equipment (including but not limited to: luminaires; electrical switches, control devices etc.) based on architectural information.		L					
4.6.27	Detailed sizing, location, routes and design of electrical conduit systems including capacity, locations, routes and fixing.		L					
4.6.28	Ensure fuse sizes installed in plug tops are appropriate for the rating of connected		L					
4.6.29	Complying with all requirements set out within BS 7671 Requirements for Electrical Installations. The Wiring Regulations. Current edition and HSE publications.		L					



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		A	B	C	D	E	Z	
4.6.30	<del>Be responsible for the complete design, coordination, installation and testing of the converged network system by engaging a recognised specialist systems integrator to facilitate full operation of the building engineering systems in accordance with the tender drawings and the particular and performance requirements of the</del>							
4.6.31	Check software engineering and programming is completed so that systems function in the prescribed manner.		L					
<b>Public health design</b>								
4.7.1	Finalise detailed design calculations for all public health services being included in the technical design in accordance with recognised national standards.	L						See Appendix B for specific services
4.7.2	Determine detailed pipe sizes and routes for gravity and pumped drainage systems.	L						
4.7.3	Determine final positions of cast-in drainage gullies ensuring coordination with structural design and final mechanical plant locations.	L						
4.7.4	Finalise vent termination locations to coordinate around final AHU and air vent intake positions.	L						
4.7.5	Determine final power, BMS and Controls interface requirements from equipment.	L						
4.7.6	Coordinate all surface water domestic and waste water pipework rodding eye locations with other services, structural and architectural elements to ensure suitable maintenance access can be provided.	L						
4.7.7	<del>Verify storm water discharge flow rate satisfies planning and statutory authority requirements including SuDS.</del>							
4.7.8	Determine detailed routing of pipework and drainage to/from risers.	L						
4.7.9	Carry out detailed design of pipework gradients for builders' work and coordination.	S	L					Includes domestic and waste drainage (gravity/pumped), surface drainage and condensate runs. Includes designing drainage system to safely and efficiently dispose of condensate produce by plant and equipment, in accordance with the equipment manufacturers' recommendations and in compliance
4.7.10	Modify distribution systems and equipment capacities as may be required based on coordination of procured equipment (4.3.25).		L					
4.7.11	Make allowance for anchors, guides and provision for movement of services and systems due to thermal expansion and contraction and building movement.		L					
4.7.12	Select and confirm location of fire collars and any other fire-stopping for public health systems.		L					
4.7.13	<del>Check all surface water, domestic and waste drainage discharge flow rates with external civils interface package.</del>							
4.7.14	<del>Check all utility interface details (locations, pipe sizes and invert levels) with civils package to ensure internal and external services coordinate.</del>							
4.7.15	Design review.	R	L					See section 3.8 of BG 6
<b>Commissioning</b>								
4.8.1	Review all designs to ensure that systems are commissionable.		L					
4.8.2	Determine witnessing and commissioning requirements for items installed on site.	L						Other than those covered by 3.8.2
4.8.3	Identify and incorporate into system designs the essential components and features necessary to enable the proper commissioning of building services (including		L					For example, including test points
4.8.4	Review the commissioning plan.	R	L					
4.8.5	Update the commissioning plan.		L					
4.8.6	Review proposals and method statements from prospective commissioning	R	L					
4.8.7	Finalise location of test points.		L					
4.8.8	Appoint an independent specialist commissioning contractor responsible for testing and commissioning.		L					See also 3.8.4
<b>Deliverables – including drawings, specifications, reports</b>								
4.9.1	Provide a technical design report up to the level of feasible-generic components and equipment, as an update to the Developed Design Stage 3 report	L						
4.9.2	Provide health and safety risk assessments for the MEP design.	L	L					
4.9.3	Provide an approximate cost plan using feasible-generic components and equipment for mechanical, electrical and public health services based on floor area, building type and typical system type or other agreed approximate methodology.		L					
4.9.4	Provide any information that is required in connection with any application for planning permission including reviews and/or appeals where applicable.			L				
4.9.5	<del>Provide updated estimate of regulated [RP] in use energy consumption.</del>							
4.9.6	Provide updated assessment of comfort conditions and overheating risk	L						
4.9.7	Provide updated report on adequacy of existing mechanical, electrical and public health services to incorporate extended or refurbished works.	L						Agree level of further intrusion and physical testing if applicable
4.9.8	Provide technical design or performance information and specifications to modify, refurbish or replace existing mechanical, electrical and public health engineering services and plant to incorporate new and extended engineering services.	L						
4.9.9	Provide tender documentation for inclusion in a tender package if the procurement method requires it.	L						See also 2.9.6 and 3.9.24
4.9.10	<del>Provide report on proposals or agreed outcomes following participation in any Soft Landings process.</del>							
4.9.11	<del>Provide information for detailed whole life cost studies.</del>							
4.9.12	<del>Provide information to the Environmental Assessment Method Assessor to allow credits to be checked and awarded.</del>							
4.9.13	Provide specifications for final commissioning and handover.		L					
4.9.14	Provide detailed commissioning plan.		L					
4.9.15	Provide information for Construction Phase Plan as per CDM Regulations.		L					
4.9.16	Provide calculations and/or software files as evidence of Technical Design model and/or drawings.	S	L					Agree format
4.9.17	Provide schedules to cross-reference cables to containment systems.	S	L					
4.9.18	Provide technical design model in line with defined level of clash resolution and agreed tolerances.	S	L	S				Using generic objects, feasible to price and to install without major re-routing
4.9.19	Provide MEP Technical Design drawings.	L						
4.9.20	Provide MEP Technical Design schematics.	L						
4.9.21	Provide updated schedule/drawings of builders' work information based on technical design information.	S	L	S	S			
4.9.22	Produce MEP materials and workmanship specifications.	L						
4.9.23	Produce performance specifications for specialist designed elements of the works.		L					
4.9.24	Produce MEP equipment schedules.	L	S					
4.9.25	Provide design stage information towards log book and/or building user guide(s).		L					
4.9.26	Provide mechanical, electrical and public health information necessary to obtain statutory approvals.	L	S					
4.9.27	Provide detailed specifications for mechanical, electrical, public health services, if	L						
4.9.28	Sign off detailed specifications.	S						
4.9.29	Contribute to draft construction programme for the project.		L					
4.9.30	Produce Construction Phase Plan before work starts on site, as per CDM Regulations.		L					
4.9.31	Provide updated Technical Design model.	L	S	S	S			Using generic objects and coordinated to demonstrate resolution of clashes between architecture, structure and services in line with level of clash resolution and agreed tolerances.



Reproduced from BSRIA BG 6/2018 A Design Framework for Building Services 5th edition

**PROFORMA 4: TECHNICAL DESIGN (RIBA STAGE 4)**

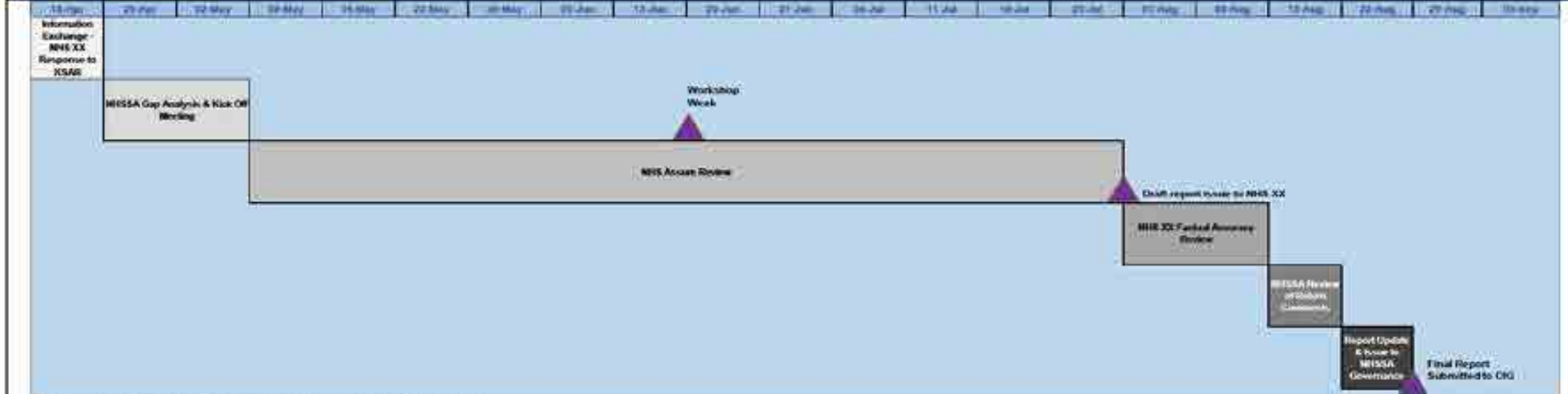
Some activities in RIBA Stage 4 may continue after the start of the project's construction stage.

Ref	Design activity in connection with building services	Allocated to ... L=Lead, S=Support, R=Review						Comments
		A	B	C	D	E	Z	
4.9.32	Provide building services coordinated working drawings.		L					State whether for generic or specific (agreed/procured) equipment.
4.9.33	Provide coordinated reflected ceiling plans based on agreed architectural information for all components.	S	S	L				
4.9.34	Provide coordinated room elevations based on agreed architectural information for all components.	S	S	L				
4.9.35	Provide detailed cost plan.		L					
4.9.36	Provide final construction programme.		L					
4.9.37	Provide detailed commissioning programme.		L					
4.9.38	Provide updated Technical Design model with revised or new design details.		L					Using specific objects and coordinated to demonstrate resolution of clashes between architecture, structure and services in line with level of clash resolution and agreed tolerances.
4.9.39	Provide report on the specialist designers' proposals within the main contract.		L					
4.9.40	Provide a report in consideration of any alternative plant, equipment, and component selections.		L					
4.9.41	Provide calculations and/or software files in support of specialist design proposals.		L					
	<b>Amended and additional activity descriptions</b>							
4.10.1	<insert text here>							

NHS Scotland Assure NHS SCOTLAND ASSURE - CONSTRUCTION KEY STAGE ASSURANCE REVIEW (KSAR) HIGHLIGHT REPORT

Health Board	Project Name	Lead Reviewer	Last Updated	Project Status
Health Board	Project Name	KSAR Lead Name	13 May 2022	<div style="background-color: #90EE90; padding: 20px; border-radius: 15px; font-size: 24px; font-weight: bold; margin-bottom: 5px;">On Track</div> <div style="background-color: white; padding: 5px; border: 1px solid black; font-weight: bold;">Construction</div>
Progress vs. Programme	Key Risks	Key Progress	Key Actions	
<ul style="list-style-type: none"> <li>Full programme to be developed in conjunction with NHS XX</li> <li>KSAR review ongoing</li> <li>Weekly touch down meeting occurred on 11 May 2022</li> </ul>	<ul style="list-style-type: none"> <li>Availability of client team and NHS Scotland Assure Team should an adverse event occur.</li> </ul>	<ul style="list-style-type: none"> <li>Weekly touch down meeting occurred on 11 May 2022</li> <li>KSAR review ongoing</li> </ul>	<ul style="list-style-type: none"> <li>KSAR review team to issue DRAFT report</li> <li>PSOP to upload additional information by 13 May 2022</li> <li>After this date no other information to be uploaded unless approved by NHS SA</li> <li>Weekly touchpoint meeting to occur on 18 May 2022</li> </ul>	

Project Timeline



Key

	Low programme risk, low level of governance issues identified
	Moderate programme risk, moderate non-compliance issues identified
	High programme risk, significant non-compliance issues identified

## **Scottish Health Technical Memorandum 03-01 (Interim Version – Additional guidance related to COVID 19 to be added in an update in 2022)**

Specialised ventilation for healthcare premises  
Part A: The concept, design, specification, installation  
and acceptance testing of healthcare ventilation systems

February 2022  
Interim Version 3.0

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## Executive Summary

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Scottish Health Technical Memorandum 03-01 – 'Specialised ventilation in healthcare premises' is published in two parts:

Part A: The concept, design, specification, installation and acceptance testing of healthcare ventilation systems.

Part B: The management, operation, maintenance and routine testing of existing healthcare ventilation systems.

The documents give comprehensive advice and guidance on the legal requirements, design implications, maintenance and operation of specialised ventilation in healthcare premises providing acute care. The use of these premises is very intense, the occupancy level high and the patients may be particularly susceptible to airborne infection risks. Their condition may also require close control of the environment.

The ventilation of non-healthcare facilities within the hospital curtilage should be designed to suit the application and specific guidance relating to the activity should be followed, for example pharmacy, central decontamination unit, etc. However, as they are on the hospital site, the means of providing ventilation should not adversely impact upon the hospital (for example, evaporative cooling towers should not be installed, sound levels should be appropriate and if the facility is within or attached to an area accessed by patients, their needs and the risk of airborne contamination should be considered).

In other types of healthcare facility that are outside of the hospital curtilage, for example GP practices, health centres, minor injuries units, dental, ophthalmic and podiatry clinics, mental health facilities, respite and long stay care homes and hospices, a risk assessment of the nature of the treatment being delivered, condition of the patients and intensity of use needs to be undertaken by those responsible for the facility in order to determine the extent to which this guidance will be applicable.

The guidance contained in Part A of this Scottish Health Technical Memorandum applies to new installations and major refurbishments of existing installations and should be considered as the standard to be achieved.

The guidance contained in Part B of this Scottish Health Technical Memorandum applies to all ventilation systems installed in healthcare premises irrespective of the age of the installation and should be considered as the standard to be achieved.

Scottish Health Technical Memorandum 03-01 (2022) supersedes all previous versions of Scottish Health Technical Memorandum 03-01 – 'Specialised ventilation in healthcare premises' (2014). It also supersedes SHTM 2025 (1994) and DV4 (1983).

### Who should use this guidance?

This document is aimed at specifiers, designers, suppliers, installers, estates and facilities managers and operations. Elements of the document will also be relevant to



managers concerned with the day-to-day management of healthcare facilities and senior healthcare management.

### Main changes since the 2014 edition

- design information for specific healthcare applications has been revised and information on the reason for ventilation given. For example, endoscopy rooms may now be either negative (to contain and remove odours and manage airborne risks to staff) or positive pressure (to maintain a higher level of cleanliness where it is intended to puncture body membranes with the endoscope). These endoscopy-specific risks (i.e. waste anaesthetic gases and pathogenic material (for example, multi-drug-resistant tuberculosis) discharged by the patient during the procedure being undertaken) were identified prior to the SARS-CoV-2 pandemic. As with other elements in Part A, the application of this change is not retrospective but applies to new installations and major refurbishments (see Preamble above);
- the client's needs and legal requirements are more clearly explained;
- this edition of Scottish Health Technical Memorandum 03-01 introduces the concept of the Ventilation Safety Group in healthcare organisations (similar to the Water Safety Group in Scottish Health Technical Memorandum 04-01 and the Electrical Safety Group in Scottish Health Technical Memorandum 06-01). This is a multidisciplinary group whose remit will be to assess all aspects of ventilation safety and resilience required for the safe development and operation of healthcare premises;
- the SHTM introduces a standard method of identifying and labelling ventilation systems and the creation of an inventory of installed systems;
- the issues of resilience and diversity are addressed;
- guidance is provided on refurbishments or when changing the use of an existing installation;
- guidance is given on lifecycle and the updating of mid-life plant;
- design information for specific healthcare application has been extensively revised;
- issues around rooms where anaesthetic agents are used are addressed;
- airflow rates are more tailored to the applications to take advantage of new fan and control technology and so reduce energy consumption;
- revised air quality and filter standards are given;
- new and emerging technologies are catered for;
- advice is given on installation standards and the appointment of an independent validator;
- more detailed information is given on the commissioning process;
- validation acceptance standards and methodology has been completely revised;
- routine inspection and maintenance guidance has been revised and updated.

## Net Zero Carbon

Scottish Health Technical Memorandum 03-01 supports UK legislation to bring all greenhouse gas emissions to net zero by 2045, and promotes sustainable methods of ventilation in healthcare facilities.

SHTM's core principle is that the default method of ventilation should as far as possible be natural ventilation followed by mixed mode (natural with mechanical ventilation), with mechanical ventilation being the last option.

The energy consumption of ventilation systems should be further minimised by specifying solutions with the lowest lifecycle environmental cost. The basic objective of energy-saving strategies in this SHTM is to provide the required ventilation service using the minimum energy. To this end, Scottish Health Technical Memorandum 03-01 recommends switching a system "off" when not required to be the most energy-efficient policy. If the system is needed to maintain a minimum background condition, reducing its output by "setting back" to the minimum necessary to achieve and maintain the desired condition is the next best option.

Fans represent an enormous potential for energy savings to reduce carbon emissions, as they are among the largest single users of energy (they use approximately 40% of all electricity in ventilation systems). The European Regulation 1253/2014, implementing the Energy-related Products (ErP) Directive, has significantly reduced the power to drive fans. Accordingly, Scottish Health Technical Memorandum 03-01 recommends using electronically commutated fans, as these have been proven to be the most energy-efficient, while also advising that belt-driven fans should no longer be installed.

There have been many legislative changes aimed at reducing energy consumption and technical advances that have increased operational efficiency. This revised SHTM incorporates those changes and has amended many of the design parameters for healthcare ventilation. Designs that are simply repeated from previous installations designed to superseded standards and guidance will not meet the revised energy or operational standards and will not produce a compliant result.



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---

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# 1. Introduction

---

## The needs of the building occupants

- 1.1 Ventilation is used extensively in all types of healthcare premises to provide a safe and comfortable environment for patients and staff and control odours. More specialised ventilation is provided to help reduce airborne infection risks in areas such as operating departments, critical care facilities, isolation rooms and primary patient treatment areas.
- 1.2 The Health and Social Care Act places a duty of care on healthcare providers. Increased health risks to patients will occur if ventilation systems do not achieve and maintain the required standards. The link between surgical site infection and theatre air quality has been well established. If the ventilation plant has been installed to dilute or contain harmful substances, its failure may expose people to unacceptable levels of risk. Proven breaches of the statutory requirements can result in prosecution and may also give rise to a civil suit against the operators.

## The building environment

- 1.3 Healthcare buildings are visited and used by large numbers of people. Many will be unwell or anxious so a well-ventilated environment with a fresh feel and an absence of noxious odours is essential.
- 1.4 Ventilation may also be installed:
- to ensure compliance with highly regulated quality assurance requirements of items processed in pharmacies and central decontamination units;
  - to protect staff from airborne microorganisms and toxic substances (for example, in laboratories and anaesthetic rooms);
  - to contain the spread of smoke between fire compartments as part of the fire strategy.
- 1.5 Healthcare buildings are continuously occupied, intensively used and because of the specialised nature of the facilities it may be extremely difficult to provide the service elsewhere if the ventilation fails. In order to ensure continuity of service, ventilation systems should be designed and installed so that they can be quickly and easily maintained. The resilience of the proposed system in the event of service outage should also be considered.
- 1.6 The ventilation of healthcare facilities consumes a significant portion of their energy load, so wherever possible natural ventilation is the preferred option. Where mechanical ventilation is used, sustainable design concepts allied to good-quality installation and the provision of controls that maintain the desired environment when the facility is in use will result in the minimum energy input for the maximum benefit.



## Airborne risks to staff

- 1.7 Most healthcare staff are no more at risk from airborne hazards when at their workplace than they are when not in a healthcare environment; however, certain groups as detailed below may be exposed to a variety of airborne contaminants.
- staff who administer anaesthetic agents or who work in areas where they are routinely used will be at risk of casual exposure to these agents;
  - staff who routinely work in areas where they may come into close contact with patients who have respiratory symptoms will be at risk of exposure to the microorganisms causing the symptoms;
  - staff who routinely work in areas where they may come into close contact with patients that have skin lesions, an infectious disease or a dermatological condition will be at risk of exposure to the microorganisms causing the condition;
  - staff who routinely process pathology specimens;
  - staff who decant, mix and/or process chemicals used as reagents for the setting or processing of pathology specimens;
  - staff who harvest organs, tissues and specimens at a post-mortem;
  - staff who handle drugs or the components of drugs;
  - staff who pre-clean used scopes, surgical instruments and equipment prior to decontamination;
  - staff who may be routinely exposed to airborne hazards listed in EH40 issued under the Control of Substances Hazardous to Health Regulations (COSHH) (for example, woodworking dust, welding fumes, chemical vapours).
- 1.8 A well-designed ventilation system can mitigate the airborne risks to staff. It should:
- supply sufficient unvitiated air to dilute the possible contaminants;
  - have air terminals located to efficiently scour the ventilated space;
  - move the air from the clean to the less clean space and/or out of the building;
  - supply the air at high level and remove it at low level so that the breathing zone of staff is in a clean airflow path.
- 1.9 Adoption of these principles will be sufficient to control the general risk to the staff identified above in their particular working environment. More specific airborne hazards should be captured at source and removed by local exhaust ventilation (LEV) systems provided under the COSHH Regulations (see paragraphs 3.3–3.5).

## Airborne risks to patients

- 1.10 In general terms an environment that is satisfactory for staff will be satisfactory for patients. There are, however, exceptions as below:
- intensive treatment units of any type;
  - haematology/oncology units;

- transplant units and units treating patients that have had their immune system compromised;
- bone marrow transplant units (BMT);
- burns units;
- cystic fibrosis units;
- operating theatres.

Patients being treated in these areas will need an environment supplied with good-quality filtered air and that is maintained at a positive pressure with respect to surrounding areas

**Note:** Patients who are particularly at risk from airborne microorganisms will normally be placed in an isolation room or suite that is maintained at a positive pressure. Patients who have a condition that could be transmitted to others are normally placed in a negative pressure isolation suite. When the patient's exact condition is unknown they may be placed in a neutral pressure (PPVL) isolation suite (see Health Building Note 04-01 Supplement 1 – 'Isolation facilities for infectious patients in acute settings for detailed guidance).

- 1.11 A more general airborne risk will result from poorly designed and constructed air handling units (AHUs) that allow water to stagnate inside; they can then become a source of microorganisms such as Legionella. If their intake is badly sited or housekeeping in the area is poor, fungal spores such as aspergillus can be drawn in. The ventilation system will then become a means of spreading these microorganisms and fungal spores around the healthcare building.
- 1.12 All ventilation systems should conform to the principles set out in the Health and Safety Executive's (HSE) Approved Code of Practice and guidance document HSG274 'Legionnaires' disease: the control of Legionella bacteria in water systems' and Scottish Health Technical Memorandum 04-01 – 'Safe water in healthcare premises'.

### Specialist equipment environment

- 1.13 Imaging and other non-invasive scanning equipment will require stable environmental conditions to stay within calibration and provide accurate repeatable results. Health Building Note 06-01 and Health Building Note 10 (2021) give detailed guidance and the equipment manufacturers should be consulted.

**Note:** Health Building Note 26 – 'Facilities for surgical procedures' (2004) and Health Building Note 10-02 – 'Facilities for day surgery units' (2007) are under revision at the time of writing and will become Health Building Note 10-01 once updated.

Health Building Note 06-01 (2001) on diagnostic imaging and interventional radiology is also under revision at the time of writing.



## Medicinal products environment

- 1.14 Pharmacists are required to ensure that any manufacture or preparation activities involving medicinal products undertaken in their units conform with the requirements of the Medicine Act. Processes must be carried out in a suitable facility usually termed an aseptic preparation facility. The quality of air supply and design of the ventilation cascade are essential to ensure a suitable environment for the activities undertaken.

## Fire and smoke control fundamentals

- 1.15 Scottish Health Technical Memorandums 81 to 87 (including sub-parts) are the base documents for fire aspects. When designing a ventilation system, a fire and smoke control strategy should be developed that is relevant to the site and its function. The fire and smoke strategy should take account of the planned activity within the area, the type of patient present, staff-to-patient ratio and treatment being delivered (see also Chapters 5 and 7).
- 1.16 When ventilation systems are originally designed, they will conform to an agreed fire strategy. This will determine the compartmentation, provision of fire-rated ductwork, fitting of sprinklers, the siting of fire and smoke dampers and an agreed control action for the ventilation in the event of a fire. The agreed fire and smoke control strategy must be clearly set out as part of the design specification.
- 1.17 The fire regulations require that, if ventilation ductwork penetrates the fabric of a building, it should be designed and installed to contain the spread of fire (see Health Technical Memorandum 05-02 – 'Guidance in support of functional provisions for healthcare premises' for further guidance).
- 1.18 If a ventilation system is upgraded or altered to suit a change of use, it will be necessary to reassess the fire strategy.
- 1.19 It is management's responsibility to ensure that the fire strategy applied during the design and installation of a system is not reduced during the subsequent operation and maintenance of the equipment.
- 1.20 The number and location of fire and smoke dampers can be problematic. Fire-rated ductwork within fire zones will reduce the need for fire and smoke dampers. It will eliminate the need to provide access for routine damper testing and the infection control problems associate with reversed airflow paths resulting from damper failures and nuisance tripping (see also Chapter 7 for ventilation control in the event of fire).

**Note:** In developing a fire and smoke containment strategy the design of ventilation for infection control cannot be ignored. Over-compartmentation and poorly chosen fire lines can prevent air moving from clean to less clean areas and thus increase the infection risk. This can be a particular problem in operating departments where the desire to create a protected escape route can be at odds with the need to cascade air through a suite of rooms and out into a corridor in order to control the airborne infection risk.

## 2. The User Requirements

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2.1 Patient treatment falls into four basic categories:

- surgical procedures – physical interventions to diagnose, repair, remove or rebuild damaged or infected tissue;
- medical care – the administering of drugs or various forms of practical, non-invasive treatment to diagnose, cure or reduce the severity of an infection or condition;
- mental health – the use of counselling, often in conjunction with drugs, to control or alleviate abnormal behavioural or false perception issues in patients;
- palliative care – treatment to temporarily or partially relieve or mitigate long-term conditions;

In all cases a patient may require treatment in one or more of the categories as either an in-patient or an out-patient.

### Surgical procedures

2.2 It is thought that up to 25% of infections that occur as a result of a surgical intervention are caused by the airborne route. The source of these infections are predominantly as a result of airborne microorganisms, typically skin scales, liberated during the surgical procedure becoming airborne and landing in the wound or on surgical instruments. These then become a means of inoculating the patient with the contaminant. There are five possible routes that may result in airborne infections:

- skin scales liberated by the surgical team during the procedure;
- organic material liberated from the patient as a result of the procedure;
- microorganisms remaining from a previous use of the space becoming airborne;
- airborne microorganisms liberated outside of the space entering during the procedure;
- microorganisms in the supply air from a ventilation system that has been contaminated with biological material.

2.3 The level of airborne organic material present or biological burden (bioburden) is typically defined in terms of the number of colony forming units (cfus) present at the wound site during the procedure. It will be dependent on:

- the number of persons present;
- the completeness and effectiveness of their gowning;
- the duration of the procedure;
- the type of procedure;
- the use of air-driven power tools;
- the extent to which a patient contributes to the bioburden in the space;



- the general cleanliness of the space;
- the discipline of the surgical team;
- the measures that have been taken to prevent or control contaminants from outside sources entering the space;
- the quality and volume of the incoming supply air;
- the efficiency of the incoming air to "scour" the space;
- the means of removing contaminated air from the space.

2.4 Good surgical discipline, effective patient preparation, the cleanliness of the space and control of the entry and exit of personnel during the procedure will all contribute to reducing the bioburden present.

2.5 A well-designed ventilation scheme that provides a suitable quality of air and efficiently scours the space will further reduce the bioburden. If the ventilation maintains the space at a positive pressure to adjoining areas, the risk of contaminants originating outside of the space entering will be reduced.

2.6 In addition to controlling the bioburden, the ventilation should provide comfortable conditions for the staff and patient.

2.7 The ventilation system should also control the risks to staff from anaesthetic agents and other hazardous fumes and emissions typically found in surgical facilities (see paragraphs 1.10–1.12).

2.8 Minor procedures may be carried out in a treatment room or at the bedside so surgical procedures are not exclusive to the operating department. (See Humphreys et al (2012) for further guidance on facilities for minor surgical procedures and minimal access interventions).

### Medical care

2.9 In general the main requirement will be to ensure that staff and patients are kept in comfortable conditions.

2.10 There are specific instances where staff can be at risk of contracting an illness by the airborne route from a patient. This is the case in infectious disease units where the ventilation will be designed to maintain the unit and individual patient rooms at negative pressure relative to adjacent areas. This will protect persons outside of the unit from infection by the airborne route but not staff entering and working in the unit, who may need to take additional precautions to protect themselves.

2.11 The opposite problem occurs when patients are neutropenic, that is, they have a reduced or extremely low resistance to infection. They are then at risk of infection by the airborne route from other persons such as staff and visitors. This will be the case in cancer/oncology units, critical care areas, and bone marrow and general transplant units. The ventilation in these areas will need a higher air quality and be set to maintain a positive pressure to adjacent areas.

## Mental health

- 2.12 Any specific patient needs should be assessed and addressed. The main requirement will be to ensure that staff and patients are kept in comfortable conditions (see comments on other types of healthcare facility in the Executive Summary).
- 2.13 The fire risk may be considered more likely and additional steps may need to be taken to control it.

## Palliative care

- 2.14 The main requirement is to ensure that staff and patients are kept in comfortable conditions. Temperature control may be more stringent for patients with long-term and/or end of life conditions (see the Executive Summary for further information).
- 2.15 Difficulties with evacuating patients in the event of fire may need to be considered.

## Diagnostic and support services

### Imaging and Interventional imaging

- 2.16 There are major advances in diagnosis and minimally invasive treatment involving imaging. It may be necessary during these invasive or non-invasive procedures to provide sedation or general anaesthesia to help with anxiety or pain. This may involve the use of inhaled anaesthetic agents and/or nitrous oxide (N<sub>2</sub>O). Staff working in these areas may be exposed to these anaesthetic agents when they are administered or subsequently when they are exhaled as the patient is recovered.
- 2.17 A similar situation occurs in maternity units, where a mixture of nitrous oxide and oxygen (N<sub>2</sub>O/O<sub>2</sub>) (Entonox) is used as an inhaled analgesic.
- 2.18 In both of the above cases ventilation should be designed to provide a clean airflow path and dilute any casual spillages of the gas. This approach will help control the casual exposure of staff to the anaesthetic agent (see paragraphs 3.3–3.5).

### Post-mortem and pathology

- 2.19 Staff who harvest organs and specimens at a post-mortem and place them into preservative solutions may be exposed to the microorganisms present and fumes from the preservative.
- 2.20 Staff who section organs and prepare specimens for analysis may be exposed to the microorganisms present and the chemicals used for staining and fixing the specimens.
- 2.21 In both of the above situations local exhaust ventilation (LEV) in the form of downflow benches, safety cabinets and fume cupboards need to be provided to control the risk.

## Pharmacy

- 2.22 Exposure to the active ingredients of drugs represents a hazard to pharmacy staff who are involved in their production. These activities are carried out in an aseptic



preparation facility to ensure that the drugs themselves are not contaminated. The actual production typically takes place inside an isolator so that there is a physical barrier between the hazard and the operator.

2.23 Alcohol sprays are used and staff exposure may be controlled by the provision of downflow LEV systems to remove the hazard.

2.24 Comfortable conditions are essential for staff working in preparation facilities as they need to be fully gowned, and entry and exit is restrictive.

#### **Decontamination facilities**

2.25 Staff may be exposed to airborne biological material and chemicals when handling and processing used scopes, surgical instruments and equipment as part of the decontamination process. The ventilation should provide a clean airflow path to control staff exposure. The quality, quantity and flow pattern of the air are also critical to the protection of the decontaminated items.

#### **Estates and facilities**

2.26 Staff may be engaged in welding, soldering, machining wood or paint- spraying. They may also decant chemicals in quantity (for example, for boiler treatment or hydrotherapy-pool dosage). LEV systems are routinely used to control the hazards arising.

## 3. Legal Requirements – Applicable Legislation

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### Health and Safety at Work etc. Act

- 3.1 The Health and Safety at Work etc. Act 1974 is the core legislation that applies to ventilation installations. As these installations are intended to prevent contamination, closely control the environment, dilute contaminants or contain hazards, their very presence indicates that potential risks to health have been identified.
- 3.2 The Act places a duty of care on ALL to provide and maintain a safe workplace. This includes designers and suppliers of goods or services. Those trading as competent designers or suppliers are therefore liable to provide outcomes that meet the client's needs and are without hazard to staff, patients and others who may be affected by the work activity.

### Control of Substances Hazardous to Health Regulations

- 3.3 The Control of Substances Hazardous to Health (COSHH) Regulations 2002 place upon management an obligation to ensure that control measures are in place to protect their staff and others affected by the work activity. These methods may include both safe systems of work and the provision of a specialised ventilation system. In laboratories the requirements are often met by the provision of fume cupboards and microbiological safety cabinets.
- 3.4 Where specialised ventilation plant is provided as part of the control measures, there is a statutory requirement that it be correctly designed, installed, commissioned, operated and maintained. The local exhaust ventilation (LEV) section of COSHH requires that the system be examined and tested at least every 14 months by a competent person (P601 certified) and that management maintain comprehensive records of its performance, repair and maintenance.
- 3.5 Certain substances have workplace exposure limits (WELs) as set out in the Health and Safety Executive's (2005) Guidance Note EH40 – 'Workplace exposure limits'. This contains the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations 2002 (as amended). If specialised ventilation systems are provided in order to achieve these standards, they will be subject to the COSHH Regulations.

### Workplace (Health, Safety and Welfare) Regulations

- 3.6 These state that:
- all enclosed workplaces must be ventilated by natural or artificial means;
  - any plant provided under this legislation must include an effective device to give an audible or visual warning of plant failure where necessary for health and safety;
  - the Regulations require that ventilation systems are maintained in an efficient state, in efficient working order and in good repair.



## The Building Regulations

3.7 Approved documents L and F:

- apply to domestic and non-domestic buildings;
- clarify satisfactory methods of providing ventilation and give ventilation rates;
- set minimum standards for:
  - the protection of the supply position;
  - precautions against *Legionella*;
  - the purity of recirculated air;
  - access for service and maintenance;
  - documentation and proof of performance;
  - energy performance.

## Health and Social Care Act 2008 (Regulated Activities)

### Regulations 2014

3.8 Regulation 12(2)(h) of the Act decrees that registered providers must assess the risk of, and prevent, detect and control the spread of, infections, including those that are healthcare associated.

3.9 Appropriate standards of cleanliness and hygiene should be maintained in premises used for the regulated activity. DH (2015) issued 'The Health and Social Care Act 2008 Code of Practice on the prevention and control of infections and related guidance' (the HCAI Code of Practice), which contains statutory guidance about compliance with regulation 12(2)(h).

3.10 Regulation 15 of the Act states that:

All premises and equipment used by the service provider must be:

- clean;
- secure;
- suitable for the purpose for which they are being used;
- properly used;
- properly maintained; and
- appropriately located for the purpose for which they are being used.

The registered person must, in relation to such premises and equipment, maintain standards of hygiene appropriate for the purposes for which they are being used.

**Note:** The "registered person" means, in respect of a regulated activity, the person who is the service provider or a registered manager in respect of that activity. A "service provider" means a person registered with the CQC under Chapter 2 of Part 1 of the Health and Social Care Act 2008 as a service provider in respect of that regulated activity.

### **The Medicines Act 1968 and Human Medicines Regulations 2012**

- 3.11 Pharmacy aseptic preparation facilities should conform to the requirements of EudraLex – Volume 4 – Good Manufacturing Practice (GMP) guidelines or equivalent UK legislation, and the requirements of the UK Medicines Inspectorate (MHRA) if a licensed manufacturing unit.
- 3.12 There are specific requirements under the Medicines Act 1968 to maintain accurate records of plant performance, room conditions and maintenance events. Such records would need to be preserved for up to 25 years as part of a quality assurance audit trail.
- 3.13 Specialised ventilation plant installed in laboratories dealing with research, development or testing, whether involving drugs, animals or genetically modified microorganisms, may be subject to legislation regarding their operation in addition to that mentioned above.

### **Indoor air quality (IAQ)**

- 3.14 There is increasing awareness that IAQ has an important impact on health and well-being. The World Health Organization and the Royal College of Paediatrics and Child Health (2020) have produced papers on the importance of IAQ, and the National Institute for Health and Care Excellence (NICE) (2020) has issued guidelines for domestic environments. Indoor and outdoor sources of contaminants are important contributors to IAQ, and designers of ventilation systems should consider both. The Department for Environment, Food and Rural Affairs (Defra) gives data for outdoor air quality by postcode for the UK. This enables designers to choose suitable filter grades by location and application (see the Specialised Ventilation for Healthcare Society's (2018) SVHSoc.02 – 'Change in air filter test and classification standards' for further information).

### **Other relevant standards and sources of guidance**

- 3.15 The Chartered Institution of Building Services Engineers (CIBSE) Guides and associated published documents (TMs) are the principal source of general ventilation specification and design guidance.
- 3.16 ISO 14644 and ISO 17141 provide basic information on cleanrooms used in pharmacy preparation facilities and inspection, assembly and packing (IAP) rooms for the processing of medical devices in central decontamination units.
- 3.17 BS EN 15780 applies to both new and existing ventilation and air-conditioning systems and specifies the assessment criteria of cleanliness and cleaning procedures of these systems.



- 3.18 HSG 258 issued by the Health & Safety Executive provides guidance on the design of local exhaust ventilation (LEV) systems.
- 3.19 Other relevant guidance is listed in the References.
- 3.20 The Board and their supply chain must ensure that the competence of all parties is considered at the point of their introduction and on an ongoing basis. The philosophies that are included in the HSE leaflet INDG368 (current revision), "Using Contractors" should be adopted. In addition, the outputs from the "Setting the Bar" report should be adopted as they are introduced through legislation. Evidence that the recommendations of "Setting the Bar" are being implemented in advance of the legislation would be considered to be good practice, particularly for high risk buildings. BSI Flex 8670 "Built environment. Core criteria for building safety in competence frameworks. Code of practice" should also form part of the project planning.

**Note:** In all cases the most recent version of any legislation, regulation, standard or guidance document should be consulted.

## 4. The Design and Specification Process

### Project brief

- 4.1 The ventilation aspects of a contract will normally form part of a wider project to provide, upgrade or replace a healthcare facility. It is important that the ventilation designer closely liaises with the architect, as the layout of the facility and the adjacency of spaces within it will have a major impact on the ability of the ventilation system to achieve the client's requirements. All new major projects are required to use building information modelling (BIM) in order to ensure a coordinated design and provide information for the subsequent operation and possible future development of the facility.
- 4.2 The Building Services Research and Information Association (BSRIA) has produced an approach to project delivery known as "Soft landings" (BSRIA, 2018). It aims to ensure that the client's success criterion is kept in focus during the inception and briefing, design, construction, pre-handover, initial aftercare and extended aftercare phases of a project. It is strongly recommended that the client and project contractor adopt this approach.

### Basis of design

- 4.3 This SHTM assumes that designers will be familiar with current CIBSE guidance and will use it as the basis for specifying and designing ventilation systems. However, the actual guidance contained in this SHTM may differ from the CIBSE guidance due to healthcare-specific issues and will take precedence over the CIBSE guidance where there are conflicts.

**Note:** Scottish Health Technical Memorandum 03- 01 Parts A and B need to be read and considered in their entirety when specifying and designing ventilation systems to ensure that the end result will comply with the client's needs.

### Ventilation Safety Group (VSG)

- 4.4 The management of the ventilation systems of a healthcare provider should be overseen by a Ventilation Safety Group (VSG). The VSG should have clearly defined roles and responsibilities, be part of a healthcare organisation's governance structure and report to the "Designated Person" at Board level. It should be led and chaired by a person who has appropriate management responsibility, knowledge, competence and experience (for example, the Designated Person). (See Chapter 2 in Part B of Health Technical Memorandum 03-01 for further information.)
- 4.5 The VSG should be a multidisciplinary group and should typically comprise:
- an Authorising Engineer/independent adviser for ventilation (AE(V));
  - an Infection Prevention and Control person;
  - the Authorised Person(s) for ventilation services (AP(V));
  - estates (operations and projects) staff;



- clinicians and specialist departments (for example, theatres, critical care areas, pharmacy, medical microbiology, nursing, decontamination);
- personnel from the finance department with accountability for capital and revenue evaluation;
- other stakeholders as appropriate;
- coopted expertise (for example, ventilation designers, consultants and suppliers).

4.6 The VSG remit should be to assess all aspects of ventilation safety and resilience required for the safe development and operation of healthcare premises. It should inform the following areas:

- the design process for new healthcare premises;
- the design process for modifications to existing premises;
- the commissioning and validation process;
- operational management and maintenance;
- annual verification and performance testing;
- prioritising the plant replacement programme;
- decommissioning and removal of redundant equipment.

**Note:** Where estates and facilities provider services are part of a contract (including PFI), it is essential that these providers participate fully in all those aspects of estate and facilities management that can affect patients. This includes responding to specific requests from the VSG, which may be in addition to relevant guidance and documentation.

4.7 It is important that decisions affecting the resilience, safety and integrity of the ventilation systems and associated equipment are not taken without the agreement of the VSG. The VSG should ensure that appropriate expertise and competence is available when making such decisions.

4.8 Whenever significant building work is undertaken, the VSG should consider its effects on the existing ventilation system air intakes. These may need to be protected from airborne dust during construction by the fitting of temporary additional filtration. There will also be a need to identify any risks to construction personnel who may be working in the vicinity of extract air discharges.

4.9 When construction or alteration work is undertaken inside an occupied building, its effects on the occupiers should be considered. The VSG should be consulted, and they may require that the area be sealed off from the occupied parts of the building and that a temporary extract be provided to maintain the worksite at a negative pressure to prevent the spread of dust into the rest of the building.

## Derogations and alternative design strategies

- 4.10 Any derogations or alternative design strategies from this guidance should be subject to the scrutiny and agreement in writing by the VSG. The reason for the derogation or alternative design strategy and limits to its application should be recorded.
- 4.11 Designers proposing a derogation or alternative design strategy should be able to supply a body of evidence that their proposal will provide a degree of safety no less than if the guidance in this document had been followed.

## Definition of clinical areas and critical systems

- 4.12 Healthcare ventilation may serve clinical or non-clinical areas of the estate:
- clinical areas are defined as spaces within the building where surgical or medical treatment is administered to patients. This includes patient bedrooms;
  - non-clinical areas are defined as spaces where patients may be present but are not under direct treatment. It also includes staff and healthcare services areas.
- 4.13 Certain clinical and non-clinical areas within a healthcare establishment are considered critical to its ability to provide healthcare. Typically, ventilation systems serving the following are considered critical:
- operating suites of any type including rooms used for image-guided surgical procedures and their recovery areas;
  - airborne isolation facilities, both source and protective;
  - critical care areas and neonatal units;
  - invasive treatment, endoscopy and bronchoscopy rooms;
  - containment level 3 laboratory;
  - pharmacy aseptic preparation facility;
  - inspection, assembly and packing (IAP) room in a central decontamination unit;
  - MRI, CAT and other types of emerging imaging technologies that require particularly stable environmental conditions to remain within calibration;
  - any system classified as an LEV system under the COSHH Regulations;
  - any other system that clearly meets the definition that “a loss of service from such a system would seriously degrade the ability of the premises to deliver optimal healthcare”.

**Note:** If any doubt exists about whether a system falls within this definition, the VSG should be consulted regarding the risk to patient safety and business continuity.

## Resilience and diversity

- 4.14 When planning the ventilation of healthcare facilities, it is important at the outset to consider how the service will be delivered if the installed ventilation system fails or the area served has to close due to the effects of fire, flood or an outbreak of



infection. The loss of power, primary heating or cooling medium, or an integrated control system can cause the loss of ventilation to an area, so subsystem resilience is an important consideration.

- 4.15 Resilience in critical healthcare areas can be provided by splitting the ventilation load between two or more AHUs and/or employing a design that allows two or more AHUs to feed a common plenum with isolation dampers on individual branches to each critical zone. (Note that it is not proposed that duplicate back-up units be provided.) As an example, a large critical care area (CCA) level 2 or 3 could be split into two sections with an AHU for each. A small CCA cannot easily be split, so a decant area with a suitable level of ventilation should be pre-designated.
- 4.16 Diversity can be achieved by having several facilities each served by its own AHU. As an example, in an operating department, if each theatre suite is fed from its own dedicated AHU, the loss of one suite, while inconvenient, will not shut the department. The same scenario applies to isolation rooms if several of them are each independently ventilated (see Health Building Note 04-01 for further information).

**Note:** Providing twin ventilation fans in an AHU delays the time at which the system needs to be completely shut down in the event of a fan failure. It does not in itself provide resilience in terms of delivering healthcare (see Chapter 9 for further guidance).

### New build facilities

- 4.17 New build healthcare facilities must be fully compliant with the requirements of all legislation in force at a date agreed when signing the contract. They should comply with the guidance contained in the current SHTM unless a derogation has been agreed with the VSG (see paragraphs 4.10 and 4.11).

### Assessment of service requirements: selection of design criteria

#### External design conditions

- 4.18 The most accurate data that is available for the summer and winter conditions at the site should be used. The Meteorological Office supplies data for the United Kingdom; data is also available from CIBSE and other sources. It is essential that the designer agrees with the client as to which source of data is used and the design risk associated with the chosen external design conditions.

**Note:** It is essential to design to future climate projection to ensure design temperatures are maintained even in the event of prolonged heatwave conditions. CIBSE (2014) publishes design summer year weather files morphed to reflect future climate change.

- 4.19 Local adjustments for height above sea level, exposure factor, or other local climate peculiarities should be made as appropriate.

#### Internal design conditions

- 4.20 The design conditions selected within patient areas should strike a balance between the comfort requirements of staff and patients, who often have very different levels of clothing and activity.



- 4.21 Recommendations for the operative temperature and humidity of individual spaces are given in Activity Data A-Sheets (see Chapter 8 for specific requirements). Particular departmental requirements are given in the respective SHPN/HBN and room data sheets. However, the determination of the room environment must be driven by the patient cohort plus the range of procedures envisaged for that room.

#### Minimum fresh air requirements

- 4.22 In general areas and wards within healthcare premises, odour control is the main reason for providing ventilation. In the absence of other guidance, 10 L/s/person should be taken as the minimum ventilation requirement. Healthcare ventilation systems will normally be "full fresh air" either by natural, mixed mode or mechanical means, with energy recovery from the extracted air.
- 4.23 In non-clinical areas recirculated air systems may be considered. At least 20% of the recirculated air should be fresh. Additional filtration will be required to remove airborne particulate contamination and, if necessary, odours. This will affect running and maintenance costs and, given the high ErP rating of heat recovery devices, it will be necessary to prove that recirculating the air will be more energy- efficient overall.

**Note:** Ultra clean ventilated (UCV) operating theatres use air recirculation. The fresh air requirements of this specific application are given in Chapters 8 and 9.

- 4.24 Smoking is generally not permitted in healthcare premises, so no allowance need be made. Reference should be made to local national policy guidance.
- 4.25 In treatment and support areas the overriding requirement may be due to airborne infection control, hazard containment, the stability of specialist equipment or relate to a specific department's function. Each case should be considered independently in order to determine the overriding minimum requirement for ventilation (see Chapter 8 for specific guidance).

#### Limiting supply air conditions

- 4.26 For most applications in healthcare buildings, it is the temperature differential between the supply and room air, rather than the actual temperature of the supply air, which is the critical factor. The maximum recommended supply-to-room air temperature differential is:
- summer cooling: 7 K
  - winter heating: 10 K
- 4.27 Room air humidity should be kept below 70% in order to minimise risks associated with condensation and mould growth. There is no lower limit in unoccupied spaces.
- 4.28 Some types of diagnostic imaging technologies require close control of both temperature and humidity as well as the rate of change of conditions to ensure clarity of the image and accuracy of the data generated. The manufacturer's guidance should be followed.



### Air purity

- 4.29 In healthcare premises, the standard of filtration will depend on the activities within the occupied spaces. Except for special areas (for example, manufacturing pharmacies), the requirement for aerobiological needs is not stringent and filtration is only required to:
- maintain hygienic conditions for the health and welfare of occupants, or for processes such as centralised food preparation facilities;
  - protect finishes, fabrics and furnishings – to reduce redecoration costs;
  - protect equipment either within the supply air system – to prevent blocking of coils – or in the space itself to prevent dust accumulation
- 4.30 Given that almost all viable particles will originate from the occupants of a space and not from the incoming air, dilution is the more important factor aerobiologically. Therefore, for general areas an ISO ePM 2.5  $\geq 55\%$  filter may be suitable. More critical areas would require an ISO ePM1  $\geq 50\%$  filter. Efficiency or high-efficiency (EPA or HEPA) filters will only normally be required in ultra-clean systems, designated “cleanrooms” (see Chapter 9 for specific information) or for some immune-suppressed patient areas
- 4.31 In some inner-city areas the local airborne particulate level may be particularly high. In those special cases filters to ISO ePM1  $\geq 50\%$  may be required to achieve the required indoor air quality. (See Defra's website and the Specialised Ventilation for Healthcare Society's (2018) SVHSoc.02 – ‘Change in air filter test and classification standards’.)

### Humidity control requirements

- 4.32 Close control of humidification was originally required for some healthcare applications (for example, operating theatres) in order to control the risk associated with the use of flammable anaesthetic gases. The use of such gases has now ceased.
- 4.33 Providing humidification is expensive in terms of plant, running costs and maintenance, and therefore its use should be restricted to where it is necessary for physiological or operational reasons (see Chapter 8 and associated SHPNs/HBNs).
- 4.34 In general terms the humidity within an occupied building or space will naturally float between 30% and 70% RH (relative humidity). Humidity should not be allowed to rise above 70% at any time but there is no need to maintain a background minimum level when the building or space is unoccupied.

### Maximum noise levels

- 4.35 Noise will be generated in an air distribution system by the fan, ductwork fittings, dampers and grilles. The specified maximum noise level will depend on the activities within the occupied spaces.
- 4.36 Attenuation should be incorporated into the ductwork system or plant arrangement as necessary to reduce noise from fans and plant items in order to achieve the acceptable limits within the rooms at the design airflows.



- 4.37 Plant room noise level from fans when starting up or running should not be greater than 80 dB(A), and should be reduced where the plant is near to departments sensitive to noise.
- 4.38 Attention should be given to the reduction of tonal components. High tonal components from air diffusers etc. can seriously disturb concentration over longer periods even when the overall noise level is low. Broadband noise causes less annoyance.
- 4.39 The values recommended in Table 1 are for the total noise environment of space. In general, there will be noise transmitted into the space and noise generated within the space. The designer requires knowledge of the total hospital layout and operational policies, to assign acceptance magnitudes to all the possible noise sources, in order to arrive at the correct rating.
- 4.40 In Table 1 the overall noise level takes account of all internal and external noise sources. The noise level is the level measured with a sound-level meter in the unoccupied room, taking account of the external noise together with the noise generated by the ventilation system. The ventilation plant design noise level is that generated by the plant alone with no other noise source being considered. The levels suggested make recognised allowance for the ingress of environmental noise which will have to be considered in the overall design, that is, in specifying the attenuation of walls, partitions, ceilings, etc.

Table 1: Interior Noise Level

Area	Room: overall noise level – dB(A)	Ventilation design value – dB(A)
Operating department all rooms including preparation, anaesthetic, scrub and utility, interventional and diagnostic imaging departments – all rooms	48	Operating department all rooms including preparation, anaesthetic, scrub and utility, interventional and diagnostic imaging departments – all rooms
UCV operating theatre and adjacent open-plan scrub only	53	–
Treatment rooms Consulting rooms Sleeping areas/rooms Recovery rooms	35	Treatment rooms Consulting rooms Sleeping areas/rooms Recovery rooms
Sanitary facilities	45	40
Aseptic preparation facility	45	40
Industrial areas	50	45
Circulation waiting areas	50	45
Plantrooms	85	80

- 4.41 The recommended criterion is measured as the "A" weighted sound pressure level expressed in decibels, which should not be exceeded for more than 10% of the time. See Scottish Health Technical Memorandum 08-01 – 'Acoustics' for further information.
- 4.42 The designer should also consider noise escaping to the external environment and this should not be unacceptable to occupants of adjacent buildings.



## Calculation of building loads

### Air infiltration

- 4.43 Air infiltration occurs due to a complex combination of wind pressure, thermal effects, location relative to other features and the construction standard of the building. The infiltration rate is governed by the size and number of doors and other openings in the building envelope and the complexity of internal air paths.
- 4.44 CIBSE guide TM52 provides information and formulae for the calculation of air infiltration in buildings. In all cases the requirements of the appropriate section of the current Building Regulations Part L (airtightness minimum requirements) must be met.

### Summertime temperatures

- 4.45 To prevent overheating and avoid the future need for portable room air- conditioners, thermal modelling should be undertaken to ensure that internal temperatures in all areas do not exceed CIBSE Guide A guidance. Thermal modelling should be carried out whether the space is ventilated by natural, mixed mode or mechanical means. The modelling should be undertaken by a competent software user and take into account not only absolute values but also the time component.
- 4.46 Where thermal modelling indicates internal temperatures will exceed the recommended levels defined in CIBSE Guide A, additional measures should be explored to achieve compliance such as reducing solar and casual gains, improving building fabric performance, etc.

### Peak heating load

- 4.47 Peak heating local calculations are necessary on all mechanical supply systems to establish the size of heater-batteries and subsequently the central plant. Note that with the introduction of the requirement to fit energy recovery set out in EU 1253, the heater-battery size will be reduced. If the energy-recovery value is ignored, the heater-battery and its control valve will be oversized and the system when put to use will be unstable and liable to hunt.
- 4.48 Where ventilation systems provide tempered air to spaces which have supplementary low pressure hot water (LPHW) to offset the building fabric losses, the AHU heating load should be calculated based on the external winter design temperature, the design internal air temperature, and the calculated total air volume (including a suitable allowance for leakage).
- 4.49 Where the ventilation system is the only means of heating a space, an increase in load equivalent to the calculated fabric heat losses from the space should be added to the ventilation load. A check of supply temperature difference should be made. If it exceeds that recommended in paragraph 4.26 the ventilation supply volume should be increased to suit.

### Peak cooling load

- 4.50 In addition to the base data of airflow rates and temperatures, when calculating cooling loads, the designer should take into account:
- solar cooling loads;



- surface conduction cooling loads;
- internal gain cooling loads;
- air infiltration cooling loads;
- cooling loads due to high limit humidity control;
- method of control of internal conditions;
- fluctuations in internal temperatures.

Allowances must be made for all medical equipment in every space. Where the final item has not yet been selected, a unit that is reflective of the needs must be agreed with the stakeholders. A record must be included in the design documentation as to the unit which has been included in the design and the impact on all MEP systems of this unit. The stakeholders must have access to this data to ensure the compatibility of equipment and MEP systems can be checked against final medical equipment selections.

- 4.51 When the peak internal loads have been assessed and a suitable allowance made for non-coincidence, the supply temperature can be calculated.
- 4.52 Once the lowest required supply temperature of the air handling unit has been established, and an allowance made for temperature rise through the fan and ductwork (usually 1 K for low pressure systems), the off-plant enthalpy can be established from a psychrometric chart or table.
- 4.53 The cooling loads for all plant on the chilled water system should be calculated at each of the individual peak times in order to accurately establish the required (diversified) capacity of the chiller.

**Note:** Note that as with heating, the introduction of the requirement to fit energy recovery set out in EU 1253 means that the cooling-coil size will be reduced. If the energy-recovery value is ignored, the cooling coil and its control valve will be oversized and the system when put to use will be unstable and liable to hunt.

#### Annual energy consumption

- 4.54 The annual energy consumption of simple heating-only ventilation systems is simple to calculate, based on supply to external air temperature rise, and frequency of occurrence of external temperature data (see CIBSE Guide A).
- 4.55 Minimum air volumes are usually fixed by the room loads or fresh air requirements; however, the designer may increase airflow to some rooms or zones in order to balance loads, as detailed in paragraphs 4.63–4.68
- 4.56 The method of zoning and control can significantly influence energy consumption.
- 4.57 The nature of air-conditioning operation, that is, cooling and reheating for humidity or zonal temperature control, makes prediction of energy consumption very complex. It is imperative that these calculations are performed to ensure optimum energy efficiency.
- 4.58 The concept of load and plant operation charts is outlined in the CIBSE Guide TM52. The method requires the designer to establish the minimum and maximum loads on

all zones across the range of external temperatures between winter and summer design conditions. The total coil loads can be calculated taking account of the external air temperature and humidity plus the supply air conditions.

- 4.59 When all temperatures/enthalpies for all zones are plotted on the plant operation chart, set points and resetting schedules can be established. From this information, the outputs of individual heaters, coolers and humidifiers can be established at any given external condition. When those loads are computed against annual frequency of occurrence of external conditions as given in CIBSE Guide TM52, the annual energy consumption of individual elements, and thus the air-conditioning system, can be established.
- 4.60 In order to prevent surface condensation occurring, it is necessary to provide enough ventilation to maintain the maximum and ambient dew-point temperature below the lowest surface temperature, the coldest usually being the glazing.
- 4.61 Where this would require excessive ventilation levels, the designer should consider removal of the moisture at the source of the evaporation via an exhaust hood or similar device.
- 4.62 In intermittently heated buildings, it is necessary to consider the condensation risk at night set-back conditions as well as during normal operation. Calculation methods for this assessment are given in CIBSE Guide A.

### Calculation of plant requirements

#### Air supply volumes

- 4.63 The minimum air supply volume for a room is determined by the greatest of:
- the minimum fresh air requirement;
  - the air required to achieve the room differential pressure and provide open door protection at the key door;
  - the minimum supply volume for the room load as determined by the maximum heating or cooling supply temperature differential;
  - the desired air-change rate;
  - the make-up air for a local extract (for example, cooker hood or LEV system).

#### Plant sizing

- 4.64 Once the design airflow has been established, the cross-sectional area of the air-handling unit can be calculated based on values given in Commission Regulation EU 1253/2014.
- 4.65 The fan duty should be calculated by adding the resistances of all elements that contribute to the pressure drop of the index circuit.
- 4.66 In order to establish the length of the AHU, it will be necessary to refer to manufacturers' literature, ensuring all necessary access panels and components are included as detailed in Chapter 9.



- 4.67 The designer should ensure that an allowance has been made for "dirty filter" conditions and confirm whether the fan pressure quoted is the total or static pressure.
- 4.68 Upon completion of the resistance calculation exercise, the designer should make allowances for calculation and construction tolerances as indicated below:

Total pressure loss margin:

- for leakage and balancing requirement = +5%
- for uncertainties in calculation = +5%

Combined total pressure loss margin = +10%.

**Note:** All installed ductwork whether new or reused should be subject to a leakage test on site prior to the application of any insulation. The leakage test should be to BESA DW144 but with a permissible leakage rate of not greater than 3%.

### Refurbishment of existing facilities and fitting out shell schemes

- 4.69 When refurbishing existing facilities or fitting out "shell" schemes, every effort should be made to achieve full compliance with this SHTM and current Scottish Health Planning Notes (SHPNs). It is important that use of the space is revisited at this stage. Patient cohort, forms of treatment and all other stakeholder requirements must be compared to the capabilities of any existing system/plant and adjustments made to suit.
- 4.70 The physical constraints of the building may mean that some derogation in terms of layout and room dimensions are unavoidable, but it is vital that the infection control aspects, clean airflow paths, cascade of air from clean to less clean areas and fire and smoke requirements are not compromised and that the complete facility will be fit for purpose. The VSG should be consulted and agree in writing to any derogations.
- 4.71 A new AHU fully compliant with current standards will normally be required. The existing AHU should only be retained if it is not more than 10 years old and is (or can be made) fully compliant with current standards.

**Note:** The application of the ErP regulations may mean that new plant could be physically larger than that previously installed. If the replacement plant cannot be accommodated in the existing plant space, the plantroom may need to be expanded or a new plant space created. It may be that reconsidering how the ventilation load is determined, whether it can be shared, which type of AHU configuration will fulfill the design need, etc., will provide a satisfactory solution rather than just specifying like-for-like replacement plant.

- 4.72 The most commonly used original standard operating theatre design solutions from previous versions of this HTM have been revised and updated (see Appendix 7). They have been retained in this guidance as they will remain applicable to older theatre suites that are being refurbished within their original footprint. They may also be applicable where a pre-built "shell" is being fitted out.



### **Change of use of existing facilities**

- 4.73 When a change of use of existing facilities is contemplated, the ventilation requirement should be completely revised to suit the new use (see paragraphs 4.63 and 4.69). All requirements must be agreed with the Ventilation Safety Group.
- 4.74 A new AHU fully compliant with current standards will normally be required. The existing AHU should only be retained if it is not more than 10 years old and is (or can be made) fully compliant with current standards.
- 4.75 If the ventilation load is to be increased or reduced and the existing system is retained, its output should be adjusted to suit. This will necessitate a recalculation of the heater and cooler loads and resizing of the control valves to match the new loads. It may also necessitate a change in fan size. Failure to carry out this exercise will carry an energy penalty and loss of control function.
- 4.76 The area/zone fire strategy should be reassessed to suit the new layout and purpose.

### **Computer-aided design (CAD) and building information modelling (BIM)**

- 4.77 The design of new ventilation systems should be created using a CAD package, and the information generated should be incorporated into the BIM for the project. The client should have access to the BIM model as the project progresses; it will be transferred over to the client on completion (see paragraph 13.28 onwards)

## 5. Ventilation Strategies

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5.1 In order to reduce energy costs and provide a more sustainable healthcare estate and support the declared zero- carbon target, ventilation selection should be as follows:

- first choice – natural ventilation;
- second choice – mixed mode ventilation;
- final option – mechanical ventilation.

### Natural ventilation

5.2 Natural ventilation is usually created by the effects of wind pressure. It will also occur if there is a temperature difference between the inside and the outside of a building. The “thermo-convective” effect frequently predominates when the wind speed is low, and will be enhanced if there is a difference in height between inlet and outlet openings.

5.3 Ventilation induced by wind pressures can induce high air-change rates through a building, provided air is allowed to move freely within the space from the windward to the leeward side. However, in most healthcare applications, internal subdivisions will restrict or prevent this effect.

5.4 Current guidance restricts the opening of windows for safety reasons; also, as many designs are top-hung, their ability to permit natural ventilation is limited. Some types of window (for example, vertical sliding) can enhance single-sided air change by temperature difference, and these will improve the overall rate of natural ventilation in protected or sheltered areas where the effect of wind pressure is likely to be minimal.

5.5 Current healthcare building design philosophy suggests that windows are provided to allow light into and a view out of a healthcare building. Ventilation should be provided by purpose-made openings with appropriate consideration for thermal comfort and air quality. The airflow may need to be controlled by motorised dampers linked to temperature and/or occupancy sensors in the ventilated space.

**Note:** Natural cross-flow ventilation can provide reasonable air distribution for a distance of up to 6 m inwards from the external facade, provided that reasonably clear air paths are maintained. Beyond this distance – in areas where clear air paths cannot be maintained and in areas where high minimum air-change rates are specified – mechanical ventilation should be provided.

If natural ventilation is single-sided, it will usually only be effective for a 3 m depth within the space. Beyond that it should be supplemented by mixed- mode or mechanical ventilation.

5.6 With natural ventilation, it is almost impossible to maintain consistent flow rates and ensure that minimum ventilation rates will be achieved at all times. However, this variability is normally acceptable in non-clinical spaces such as office accommodation, staff areas, library/seminar rooms and dining rooms, and some



clinical areas such as level 0 and 1 care spaces and waiting and consulting rooms where risk of airborne infections is likely to be low. The design must still aim to achieve agreed limits for room temperatures and, for clinical areas, achieve the desired room air change rate with "thermo-convective" effect (at peak room temperature coincident with summer external design temperature). Where it is essential to achieve a minimum ventilation rate at all times, mixed mode or mechanical methods will be needed.

- 5.7 Constraints caused by a building's shape and/or the functional relationships of specific areas will inevitably result in some measure of deep planning, thus reducing the opportunity for natural ventilation.
- 5.8 In all cases, for natural ventilation to be effective it will be necessary to take steps to reduce any solar gain to a minimum. Outdoor air-quality, excessive heat gain, indoor air-quality requirements or external noise are all factors that may limit or preclude the use of natural ventilation.
- 5.9 Further information can be found in Health Building Note 00-10 Part D – 'Windows', BS 5925 and CIBSE's Applications Manual AM10 – 'Natural ventilation in non-domestic buildings'.

### Mixed mode ventilation

- 5.10 Mixed mode ventilation is an assisted form of natural ventilation. Fans are fitted in purpose-made damper-controlled ventilation openings. Alternatively, a separate draw- or blow-through ventilation unit may be installed. In both cases the dampers and fans are controlled by temperature and occupancy sensors to ensure a minimum airflow rate while taking advantage of natural ventilation effects when present.
- 5.11 Where natural or mixed mode ventilation is adopted with complex air paths, the designer should produce an airflow diagram in order to ensure correct provision of air-transfer devices. CIBSE's Applications Manual AM13 – 'Mixed mode ventilation' gives guidance. Modelling of the airflows under a range of conditions should be undertaken to establish the airflow paths.

### Mechanical ventilation

#### Central versus local plant

- 5.12 Mechanical ventilation is expensive so it should only be provided when the space being served requires close control of its environmental conditions.
- 5.13 If the ventilation loads throughout a department or building are in phase, or are not significant, a central plant with single zone control may be adopted. However, this is rarely the case, so the condition or quantity of supply air to different areas or zones of the building will be varied accordingly. This may be achieved by either providing individual plant to each zone or providing separate controls for each zone such as provided by a variable air volume (VAV) system. Where there is a high density of rooms with similar ventilation requirements in an area of a building or department, it is usually economical to combine them into a central system; however, the operational resilience should be considered.



- 5.14 In large buildings, a choice between a small number of large ventilation systems located in centralised plant areas, or a larger number of smaller locally distributed systems, may arise
- 5.15 Large distribution systems and their plant can have the advantage of lower capital costs, but because they operate to a fixed supply condition, reheating or cooling may be locally required which will reduce energy efficiency. The distribution system will require more space for vertical shafts. In general, very long runs of ducting should be avoided to prevent undue heat losses or gains, excessive leakage and difficulties in balancing during commissioning. As the pressure losses in the long runs will be greater and a higher initial static pressure will be required, this may lead to a more expensive class of ductwork.
- 5.16 Decentralised AHUs feeding multiple smaller distribution systems may be more expensive in capital costs but as they avoid long runs, large ducts and vertical shafts, this may reduce overall costs. They can provide a more robust service, as the failure of an individual system does not prevent the use of the rest of the building. Future refurbishment or replacement of AHUs is also simpler. See also Chapters 4 and 9.

#### Horizontal and vertical AHUs

- 5.17 AHUs may be configured as horizontal or linear units that are single or double-stacked in the case of combined supply and extract units. They may also be configured more compactly as vertical or cabinet-style units. Selection will be dependent on the plant space available and where the unit is to be located. Whichever style is selected, good access for service and maintenance is essential. See legal requirements in paragraphs 3.6 and 3.10.

#### Chilled beams

- 5.18 Active chilled beams can provide an energy-efficient means of controlling environmental conditions. They are, however, subject to increased maintenance requirements due to the need for regular cleaning if they are to remain working efficiently. Access for this will not pose problems in non-clinical and office areas, but in clinical areas and patient bedrooms, routine access will be a major problem in an operational hospital.
- 5.19 Chilled beams should not be installed in clinical areas without the agreement in writing of the VSG.

**Note:** Patient bedrooms are classed as clinical areas as treatment is often delivered at the bedside rather than in a designated treatment room.

- 5.20 Where chilled beams are installed in non-clinical areas, they should be positioned to ensure that cold draughts are avoided.
- 5.21 In order to avoid condensation on the beam coils and the potential for mould growth, the temperature of the secondary chilled water circuit needs to be kept above dew-point (usually 15°C). With active beams the supply air may, under some outside air conditions, need to be dehumidified. Manufacturers of these devices can provide specific advice on the design limits and siting of their equipment.



- 5.22 Where chilled beams are installed in rooms with opening windows, the window should be fitted with a switch to automatically turn off the beam when the window is open. To avoid condensation, chilled beams should not be installed in entry lobbies that directly connect to the outdoors.
- 5.23 Active and passive chilled beams require regular cleaning if they are to remain efficient. They should be of a design that allows full access to the beam coils for cleaning and be positioned where they will be accessible for maintenance and not installed above fixed items of equipment.
- 5.24 There is no benefit in installing chilled beams if the resources to keep them in efficient working order over their entire life cycle will not be available. The maintenance aspects of using chilled beams should be discussed and the decision to use them agreed in writing with the client.

**Note:** Maintenance access to chilled beams will require the use of pulpit steps or wheel-around access equipment. The use of such equipment in a working hospital is very restricted.

#### Stand-alone air-conditioners

- 5.25 Stand-alone air conditioners include fan coil units, split-comfort air-conditioners, room conditioners and cassette units. All of these devices recirculate air which affects indoor air quality and may increase the risk of healthcare-associated infections (HAIs). Therefore, they should not be installed in clinical areas.

**Note:** Patient bedrooms are classed as clinical areas as treatment is often delivered at the bedside rather than in a designated treatment room.

- 5.26 Stand-alone air conditioners may be installed in suitable non-clinical areas, but they should be positioned to ensure that cold draughts are avoided. The control settings should ensure that the external elements of the units are always above dew-point. Manufacturers of these devices can provide specific advice on the siting and design limits of their equipment.
- 5.27 Stand-alone air-conditioners recirculate air, therefore, a primary fresh air supply of at least 20% of the room air-change rate, or that required by the Building Regulations, or 10 L/s/person – whichever is the greatest – should be provided.
- 5.28 Whether single or multiple systems are used, it is essential that the designer give due consideration to the source of electrical supply, location of the heat rejection unit, environmental effects and flammability of the refrigerant used, and drainage provision for the cooling-coil condensate.
- 5.29 Stand-alone air conditioners require regular cleaning if they are to remain efficient and not become a source of airborne bio-hazards. If they incorporate an open water drainage system, they must be risk assessed under L8/HSG274 as part of the Legionella assessment (see the Health & Safety Executive's (HSE) Approved Code of Practice and guidance document HSG274 'Legionnaires' disease: the control of Legionella bacteria in water systems'). They should be easily accessible for maintenance and should not be installed above fixed items of equipment which would make access difficult.



**Notes:** Maintenance access to stand-alone air-conditioners will require the use of pulpit steps or wheel-around access equipment. The use of such equipment in a working hospital is very restricted.

Traditional refrigerants are being phased down because of their effects on the environment and are becoming ever more expensive. Their replacements at the time of writing have a degree of flammability. Both these factors pose serious consideration as to whether stand-alone air-conditioners are suitable devices to choose. In scanning and control equipment rooms, the use of chilled racks, shelves and embedded panels supplied with water above dew-point would be a more suitable option.

Where the refrigerant pipework is located must be checked against the need to restrict risk. This may necessitate the need for refrigerant gas monitoring. The requirement must be checked during the design (refer to BS EN 378, using the relevant current edition for the application).

### System selection

- 5.30 Natural ventilation is always the preferred solution for a space, provided that the quantity and quality of air required, and consistency of control to suit the requirements of the space, are achievable. This should also take account of the guidance from the WHO (Natural Ventilation for Infection Control in Health-Care Settings). If this is not the case, mixed mode or a mechanical ventilation system will be required.
- 5.31 Ventilation costs can be minimised by ensuring that, where practicable, core areas are reserved for those rooms that need to have mechanical ventilation. Examples are:
- sanitary facilities, dirty utilities and those rooms where clinical or
  - functional requirements have specific environmental needs; and
  - those rooms where – for reasons of privacy, absence of solar gain, etc. – windowless accommodation is acceptable.
  - Other spaces appropriate to core areas are those which have only transient occupation and therefore require little or no mechanical ventilation (for example, circulation and storage areas).

### Zoning of the building

- 5.32 The efficiency and effectiveness of any ventilation or air-conditioning installation depends largely on the zoning and control of the installation. The factors to consider when determining the zoning of a ventilation system for a building or department are:
- periods of occupancy;
  - the service delivery resilience;
  - fresh-air/ventilation requirements;
  - the fire and smoke control strategy for the area.



- 5.33 Where the ventilation system is not merely tempering the air, but also providing the heating and/or cooling requirements (air-conditioning) the following additional factors should be considered:
- internal or peripheral location;
  - orientation of windows;
  - variation of internal loads;
  - level of control required.
- 5.34 For single-zone plant in staff areas, local control (with a run-on-timer if required) is recommended, as the system can be turned off when the space is not in use, thus saving both thermal and electrical energy. Most clinical-zone supply and extract systems, conversely, are required to operate continuously while the department is occupied; thus some form of time or use control is necessary.
- 5.35 The control of individual plant items is covered in Chapter 9, with examples of typical control strategies in Chapters 6 and 7. For control parameters of particular critical ventilation and air-conditioning systems, see Chapter 8.
- 5.36 On rare occasions a duplicate standby air-handling plant may be justified. If installed, it should be provided with a gas-tight damper (see BS EN 1751) at its junction with the supply distribution duct so that no back-flow can occur. Standby plant can become sources of contamination if warm, moist air is allowed to dwell within them. Their design and control system should ensure that this cannot happen.

**Note:** The presence of duplicate plant should be reflected in the fire strategy.

### Fire and smoke control

- 5.37 Within a designated departmental fire zone, the total mechanical supply and extract ventilation volumes should be approximately equal so that in the event of a fire, smoke is neither drawn into nor blown out of the zone. Note that individual sub-zones within the departmental zone may be positively or negatively pressured to suit the clinical need (for example, isolation rooms, operating theatres).

**Note:** In atria, stairwells and designated escape routes, dedicated smoke clearance fans may be installed to keep evacuation routes clear in the event of a fire. These together with their associated smoke dampers do not form part of the building's general ventilation system and their operation will be automatically initiated by the building's fire detection system and/or manually controlled by fire service personnel (see Health Technical Memorandum 05 Firecode).

### Air-conditioning

- 5.38 Air-conditioning is the facility to filter, heat, cool, dehumidify and if required humidify the supply air to maintain an internal condition regardless of changes in the external conditions or internal load. It is expensive in plant and energy.
- 5.39 Due to capital and running costs, air-conditioning should only be used in essential areas. These include operating departments, critical care areas, manufacturing pharmacies and areas with particularly sensitive equipment. Information on system performance requirements for individual departments is given in Chapter 8.



### Local exhaust ventilation

- 5.40 There is a statutory requirement under the COSHH regulations to prevent or control the escape of chemicals, toxic fumes, biological materials or quantities of dust into the general environment. For airborne hazards to people, control may be by the provision of an LEV system designed to the standard set out in HSG 258.

### Ventilation for general areas

- 5.41 Chapter 8 and Appendix 2 provide recommended air-change rates, temperatures and pressures for general areas requiring mechanical ventilation in healthcare buildings.

### Mechanical extract ventilation

- 5.42 General extract systems can vary in complexity from a single wall-mounted fan to a central ducted air system with dual extract fans.
- 5.43 Replacement air is provided by either a central supply system or enters the building through gaps in the structure or purpose-made openings. The design should ensure that the latter does not result in an unacceptable level of draughts occurring in winter.
- 5.44 If individual systems are used, the ventilation can be operated intermittently, provided it continues to run for at least 15 minutes after the room is vacated (as with light-switch-operated fans in individual toilets).
- 5.45 If general exhaust systems are used, filtered and tempered replacement air should be provided to adjoining lobbies or corridors, to prevent the risk of discomfort caused by the ingress of cold air. Fire compartmentation requirements should be maintained.
- 5.46 Information on specialised extract systems is given in Chapters 8 and 9.

### Mechanical tempered-air-supply systems

- 5.47 Where mechanical supply systems are required, the fresh air should be tempered and filtered before being delivered to the space in order to avoid discomfort.
- 5.48 The majority of space air temperature heating load will be provided by the energy-recovery device with the balance from a constant or variable temperature battery. In most instances, the low pressure hot water (LPHW) heating system should offset any fabric loss so that set-back room temperatures can be maintained during unoccupied periods without the need for the ventilation system to operate.

### Balanced ventilation

- 5.49 A balanced ventilation system is a combination of both a supply and an extract system of equal volume; either a single space or a whole building may be considered to be balanced.
- 5.50 A balanced system is necessary in instances where it is essential to maintain consistent air movement within an area (for example, recovery rooms).

### Cascade ventilation

- 5.51 In operating departments, it is normal practice to supply air to the operating theatre and allow it to flow through less clean areas – corridors, utility rooms, etc (from where



it is eventually extracted). Pharmacy aseptic preparation facilities, maternity delivery rooms and treatment rooms are similar.

- 5.52 In negative pressure facilities it will be necessary to provide make-up air in order to promote the correct pressure cascade from the clean to the less clean (for example, supply in an outer area – to lobby to patient's room – to toilet extract). Infectious diseases units and bronchoscopy rooms are similar.

### Recirculation systems

- 5.53 Air recirculation systems are normally used in HEPA-filtered cleanrooms where the return air is significantly cleaner than the outside supply and where odour levels are not significant.
- 5.54 Recirculation is also routinely used in the canopy section of ultra-clean operating theatre ventilation systems (UCV). The recirculated air is EPA filtered to ensure that biological contaminants released by the surgical team are not discharged back into the clean zone.
- 5.55 Recirculation may also be used for swimming and hydrotherapy pool ventilation.
- 5.56 Where the designer is considering the installation of an air recirculation system, due account should be taken of:
- a 20% minimum fresh air supply volume or that required by the Building Regulations or 10 L/s/person, whichever is the greatest;
  - prevention of supply air contamination from vitiated return air;
  - prevention of stratification occurring within plenum chambers and mixing boxes, which may result in freezing of downstream coils;
  - ensuring sufficient velocities through automatic control dampers (ideally 5–6 m/s) where fitted, to provide suitable authority and good shut-off;
  - modulating control of mixing to provide optimum on-plant conditions;
  - the use of "free cooling" by cycling the dampers to minimum fresh air when the enthalpy of the outside air is greater than that of the extract air under conditions when cooling is required.

**Note:** Recirculating air can create particular problems when its ductwork breaches fire compartmentation. Designers should ensure that the system complies with the fire strategy in all modes of operation.

### Dilution ventilation and clean airflow paths

- 5.57 In the past dilution ventilation has been used as the sole means of controlling levels of airborne hazardous substances in a space. This approach in itself is no longer considered acceptable. COSHH requires that airborne hazardous substances should be controlled at source by using a closed system (such as an anaesthetic gas scavenging unit) or a protective enclosure (such as a fume cupboard). A good level of background ventilation will assist in diluting any casual release of the substance.
- 5.58 In anaesthetic rooms, the casual exposure of staff to leakage or spillage when administering anaesthetic agents should be dealt with by establishing a clean airflow



path. Air should be supplied at high level above or behind the area where the staff will typically stand and extracted at low level directly behind the anaesthetic equipment position (see Figure A25 and photographs in Appendix 9).

- 5.59 The philosophy of establishing a clean airflow path – from the air-supply point, past the breathing zone of the staff, on to the patient or other source of airborne hazard, and out via a low-level extract – would also apply in recovery rooms, birthing rooms, bronchoscopy rooms, laboratories and post-mortem rooms. A suitable air-change rate (see Chapter 8) will provide background dilution ventilation as an additional safeguard. This approach ensures that regarding the ventilation aspects, “all reasonable steps are taken to prevent or control exposure (of staff) to the hazardous substance” as required by COSHH.

**Note:** In these areas the supply air should be 100% fresh and not recirculated.

- 5.60 In operating theatres, patients will be on a closed breathing circuit in a room with a high air-change rate. Under these circumstances, the dilution effect would be considered sufficient to control any casual exposure of staff to anaesthetic gases.

#### Displacement ventilation

- 5.61 Displacement ventilation introduces air at low level and removes it at high level. It uses the natural thermal buoyancy resulting from heat gain to achieve air movement throughout a space with minimal or no energy input. Displacement ventilation can be natural, mixed mode or mechanical with the supply untreated, tempered or fully conditioned depending on the application.
- 5.62 Displacement ventilation can be very energy-efficient and works well in applications that have significant casual heat gains from solar effects, people or equipment. Typical applications in a healthcare setting would be the ventilation of atria, central dining rooms, main kitchens, hydrotherapy pools, computer server rooms, lecture theatres and open-plan waiting or office areas. It is also applicable to non-interventional imaging and scanning suites where there are significant equipment-generated casual gains but no aerobiological infection risks.
- 5.63 Supply terminals will be located at low level, usually in the form of large perforated plate style diffusers mounted vertically. The supply air terminal face velocity is low so that it does not create draughts. It is essential that they are located in several positions so that they can ventilate the entire space. Care should be taken to ensure that fixed or movable equipment and devices cannot obstruct them. Extract will be at high level through vents or by a ducted extract system. The ventilation rate may be controlled by temperature or CO<sub>2</sub> sensor-initiated motorised dampers with or without fan assistance at the extract points. The supply air volume is then slaved to match.



## 6. Energy Control Strategies

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- 6.1 The operation of ventilation systems should be monitored through a building management system (BMS). The basic objective should be to provide the necessary service utilising the minimum energy. To this end, switching a system "Off" when not required is the most energy-efficient policy.
- 6.2 If the system is needed to maintain a minimum background condition, reducing its output by "Setting back", to the minimum necessary to achieve and maintain the desired condition, is the next best option.

### **Note** on "Set back":

In previous times when fan motors only had two speeds, turning the system

to "Set back" meant switching to the lower fan speed. With modern fans the speed is widely variable so "Set back" is not a fixed fan speed but rather a

control strategy that reduces the system output in order to maintain a desired minimum condition. This may be related to the air velocity at a fixed point,

air-change rate, pressure differential, temperature, humidity or a combination of these parameters. Providing a dew-point sensor in an internal space that brings the system on to "Set back" is a simple way of maintaining a minimum condition.

- 6.3 The system should only run at full output when needed to achieve and maintain the defined "in-use" operating condition
- 6.4 Care should be taken when specifying plant to discover the true "in-use operating condition". Overstating the condition will lead to oversized plant, unstable control and excessive energy consumption.
- 6.5 The design and selection of set points for an AHU and associated extract system will have a significant impact on the overall energy consumption and efficiency of the system as a whole (see Chapter 9 for detailed information).

### **Timed control**

- 6.6 Switch the AHU "On" and "Off" at fixed times using a time clock or BMS programme. The AHU needs to come on early enough in the morning to bring the space up to temperature by the normal start time.
- 6.7 As above but with an "Optimum start" control that uses the outside temperature to determine the start time. In the winter, the lower the outside temperature, the earlier the AHU starts. In summer, the higher the outside temperature above that desired, the earlier the AHU starts.
- 6.8 As above but link the AHU to a temperature sensor in the space. If out of hours the temperature inside drops to the dew-point, typically 16°C in winter, or rises above 25°C in summer, the AHU will start and run at "Set back" (see definition in the Note after paragraph 6.2).



- 6.9 Any combination of the above or any other appropriate and applicable method that uses the least energy to maintain the specified condition is valid. Various options for the control of single- and multi-zone air-conditioning systems are given in CIBSE Guides F and H.

### Occupancy control – user triggered

- 6.10 The ventilation system output should be linked to occupancy detectors. These may take the form of movement, CO<sub>2</sub>, passive infrared (PIR) or other sensing technologies that can detect that the area served is in use and switch the system “On” or “Off” and/or adjust the ventilation output to suit the actual load.
- 6.11 In intermittently used spaces such as operating suites, movement sensors (for example, PIR or similar) should be installed in the space with a “double knock” program so that if movement is detected twice within 10 minutes the AHU will switch “On” to full speed. If no movement is detected for 30 minutes, the AHU switches “Off”. Double-knock detection prevents the system from switching on in situations where a person has briefly entered a space when it is not in use.
- 6.12 The above may be combined so that if there is no movement for 15 minutes, the AHU switches to “Set back” (see definition in the Note after paragraph 6.2) during the working day and “Off” outside of normal hours.

**Note:** In Ultra Clean Ventilated (UCV) operating theatres the UCV terminal should be linked to the AHU control so that when the AHU goes to “Set back” the UCV also goes to “Set back”, and if the AHU goes “Off”, the UCV terminal fans also switch “Off”. There is no aerobiological benefit in keeping the UCV terminal fans running when the theatre is not in use, it results in wasted energy.

- 6.13 An alternative strategy in operating suites is to link the AHU control to the lighting. If the theatre general lights are switched “On” the AHU switches “On” in “Set back” mode. If the main operating lamp is then switched “On” the AHU goes to “Full speed”. If all the lights are out the AHU goes “Off”.

**Note:** There are occasions when this approach may need to be used with caution; for example, if a type of surgical procedure requires the operating or general lights to be “Off” during a part of the operation, an override timer or plant extension switch will be needed. The operating department manager and VSG should be consulted for approval before adopting this strategy.

### User control

- 6.14 Some applications require intermittent mechanical ventilation, frequently at a high air-change rate (for example, in certain types of treatment room for odour control). Local controls to facilitate this mode of operation if required should be placed in a prominent position to encourage economical use. Specifying timers that shut the system down after a suitable operating period and need to be reset manually will reduce energy waste.
- 6.15 Local controls that enable the user to select more than one mode of operation should be clearly labelled to identify the particular mode selected.



- 6.16 Where the system allows different room pressures to be selected, a direct-reading pressure gauge should be fitted within the eye line of the users, 1.5 m above floor level, adjacent to the selector control unit to provide an independent confirmation of the resultant mode of operation. A permanent notice giving a clear description of the selectable modes of operation should be mounted adjacent to the control unit.

Interim

## 7. Environmental Control

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- 7.1 The primary objective of a ventilation control system is to keep the space served within the required environmental control limits, at the appropriate times – regardless of external conditions or internal loads – and with the minimum energy consumption.
- 7.2 The building heating load will normally be met by a wet heating system with ventilation provided to suit the activities within it. The control of the heating system will normally be compensated to the outside air temperature. Control of the ventilation will usually be via a building management system (BMS) with “outstations” in individual plantrooms and/ or for individual AHUs.
- 7.3 A BMS incorporating self-adaptive control algorithms that automatically adjust the set-point to suit the usage and load is preferred. This will enable the operating conditions and control tolerances to be set and monitored. It is often not possible to accurately predict building load variation at the design stage. Information provided by monitoring the operation of the plant via a BMS will enable optimum set-points to be established and energy consumption reduced.
- 7.4 The BMS may also be set to log the actual energy consumed by the system together with that recovered by the energy- recovery device. This will provide a useful check on overall operating efficiency and provide evidence that energy targets are being achieved. The provision of movement sensors within the controlled space in order to determine the actual occupancy will facilitate this process.
- 7.5 The failure of ventilation systems serving critical areas can have grave consequences for the delivery of healthcare. Control systems should therefore be simple, robust and reliable.
- 7.6 Computer-software-driven control systems are now the norm in building services. However, healthcare ventilation systems need to be available for operation outside of normal working periods when software support is not available. Should the software fail, it will be left to site staff, who may have little knowledge of the control algorithms, to restart the ventilation system. It is therefore essential to ensure that a simple means of restarting critical systems in the event of a software failure is provided (see also Chapter 9).
- 7.7 Where BMS use “outstations” to control plant, the “outstation” should be independently able to control the plant if the BMS link is lost.

### Location of controls

- 7.8 Whether within the plant, duct or room, sensors should be located to provide accurate measurement of the condition of the air being monitored.
- 7.9 Sensors and control items such as control valves should be located close to the element being sensed or plant item being controlled in order to minimise time lags within the system. These may create over- shoot of conditions beyond the design envelope and result in additional energy consumption.
- 7.10 Where there is a requirement for close control of air-conditioning parameters in a number of zones (for example, an operating department), separate plant should be



provided for each zone in order to avoid the need for expensive over-cooling and reheating of individual zones. The control of most multi-zone systems within healthcare premises is based on off-coil control within the central plant, with trimmer heater-batteries on individual zones.

**Note:** In modern buildings the cooling load is often significantly greater than the heating load and may exist all year round. Whenever possible, the design should take advantage of free cooling when available.

- 7.11 Facilities to start, set back and stop the plant should be provided in the plantroom. Remote start and set-back control and indication, if required, should be provided at a manned staff location (for example at the reception or staff base).
- 7.12 Many ventilation systems may be completely shut down when the area served is not in active use (for example, operating suites). Alternatively, where there is a need to maintain a background condition, the ventilation output may be reduced by "setting back" the system (see paragraph 6.2 and associated Note). This will significantly reduce energy consumption and extend the life of filters and other system components

#### Multi-zone control methods and application

- 7.13 Close control of all air-conditioning parameters may be difficult to achieve with multi-zone systems, since each zone will in theory require a reheater and humidifier to give total control of humidity, if that is what is required. In reality, such close control is rarely required. It is therefore usual with multi-zone systems to provide control of zonal temperature only, with humidity control, where fitted, being based on average conditions within all zones, or a minimum condition within one zone.
- 7.14 Designers should consider whether it is necessary for the supply and extract fans to be interlocked – either so that the supply fan will not operate unless airflow is established within the extract system, or vice-versa depending on the required pressures within the rooms being served (see also Chapter 8).
- 7.15 The sequence switching of units in order to prevent transient reverse airflows will be particularly important in laboratories and pharmacies that contain fume cupboards, safety cabinets and other LEV systems.

#### Fire aspects

- 7.16 The control strategy for ventilation systems in the event of a fire should be set out in an agreed fire and smoke control strategy for the site (see Chapter 1).
- 7.17 All supply AHUs should have a smoke sensor linked to the fire control panel and mounted in the main supply duct immediately downstream of the AHU. In the event of a fire in the AHU or smoke being drawn into the system from an outside source, it should cause the AHU to shut down and the main supply-air damper and system fire damper(s) to close.
- 7.18 In critical areas a ventilation control panel should be mounted at the main entrance of the area that the ventilation serves (see Health Technical Memorandum 05-02 for more detailed guidance). Access to the panel should be restricted to the fire officer and appointed site AP(V). It should include independent on/off controls and an



indication of the status of the supply and extract systems. A notice should be affixed to the control panel stressing the need to liaise with departmental staff before switching off fan units

**Note:** In certain critical care areas, it is preferable to maintain the supply ventilation in case of a fire within the area. For example, in an operating department, while undergoing surgery, the patient cannot always be easily moved without significant risk. In the event of a fire in a staff or support area of the department, or adjoining zone, the continued supply of air to a theatre will maintain it at a positive pressure and protect the patient and staff from the effects of smoke. This will allow time for the patient to be stabilised so that they can be safely evacuated if necessary.

## User requirements

### Room temperature control

- 7.19 The limits for room temperature set- point are generally between 18°C and 22°C depending on the particular application. In some specialised applications (for example, operating departments), the user may require a wider range of adjustment (see Chapter 8).
- 7.20 The selection of temperature set-point for each room or zone may be by a control facility in the room/zone or be carried out remotely at the control panel or BMS. Where the control device is mounted within the room/zone and is adjustable by the user, it should be marked either "raise" and "lower" or "+" and "-". It should control within a specified temperature range to suit the user requirement with a control tolerance of  $\pm 1$  K. All other control set- points should be selectable either on the control panel or at the BMS interface.
- 7.21 Where local control is provided, an indication of temperature will be required locally or at a staff base (if appropriate) using an analogue or digital indicator. The indicator should be large enough to be read from the normal working position (for example at the operating table in a theatre). This may be mounted in a supervisory control panel, with the signal repeated on the main system control panel or BMS. It is important that this indicator displays the actual measured temperature and not the selected temperature.

### Alarms and indication

- 7.22 Supply and extract systems should include indicator lamps on the control panels to confirm the operational status of each system. Where the usage is on a regular daily pattern, time control with a user-operated, timed manual override should be provided.
- 7.23 Where a system is provided for a particular space, the indicator should be in, or immediately adjacent to, that space, and local controls should be provided with permanent labels clearly defining their function (for example isolation suites).
- 7.24 If room differential pressure gauges are required, they should be mounted directly adjacent to the entry door of the room to which they apply at a height of 1.5 m above floor level so that they are in the eye line of staff entering the room. If a mechanical gauge is fitted, it should have a green sector to indicate the acceptable normal



pressure range. If electronic, it should have a permanent label affixed underneath it giving the normal acceptable pressure range.

**Note:** For specific departmental control parameters, see Chapter 8. For plant controls see Chapter 9.

### Maintaining balanced air flow rates

Consideration must be given to the method of maintaining the correct proportional balance throughout a system when in use. This becomes particularly important where duct or terminal mounted filters are to be used. As the filters soil, the pressure and flow balance of the system would change unless control measures are included to enable automatic compensation/adjustment (e.g. constant volume boxes, variable speed drives).

## 8. Specific Healthcare Department Requirements

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### General considerations

8.1 The foregoing chapters of this document contain general information on healthcare aspects of ventilation system design and specification. This chapter gives information relating to the specific design requirements for a range of healthcare applications.

8.2 The following departments will require a degree of ventilation appropriate to their function.

- the operating department;
- treatment rooms, endoscopy and minimally invasive suites;
- critical care area – levels 2 and 3;
- diagnostic and interventional imaging and cardiology suites;
- obstetrics/maternity;
- infectious diseases unit and isolation facilities;
- bone marrow and other transplant units;
- chemotherapy and oncology units;
- the pharmacy department;
- the pathology department, mortuary and post-mortem suite;
- central decontamination units;
- burns unit;
- cystic fibrosis unit;
- tissue bank, gene therapy and emerging treatment specialties;
- physiotherapy and hydrotherapy;
- estates infrastructure.

Design information for many of these applications is given below, in Appendix 2 or the relevant SHPN/HBN.

8.3 It is not possible to give definitive guidance for every healthcare ventilation application; however, the section on operating theatres contains much information that is common to other applications. Where no specific guidance is given, the principles set out below should be followed:

- the CIBSE guides and technical manuals contain basic information on ventilation design that can be applied to most applications;
- where a British or European standard exists that is specific to the application (for example, a cleanroom), it should be used as the basis of the design requirement;



- air should always move from clean to less clean areas. A hierarchy of room cleanliness is given in Appendix 3;
- differential pressure will prevent contamination between areas when doors are closed. Information on air leakage through gaps around closed doors and hatches for a range of differential pressures is given in Appendix 4;
- the flow of air will prevent contamination between areas of different cleanliness when doors are open. Information on airflow through open doors and hatches is given in Appendix 5;
- a methodology for calculating a design solution for a non-standard operating suite in terms of its room sizes, layout or number of people present is given in Appendix 8. This may be adapted as necessary to suit other less complex applications where air is required to cascade through rooms from clean to less clean areas.

**Note:** In all cases it is essential that the design solution adopted will ensure adequate scouring of the space being ventilated. The selected airflow rates, relative position of supply terminals, extract terminals, air transfer devices and pressure stabilisers will all have a bearing on the effectiveness of the room ventilation.

8.4 There are four routes by which airborne contaminants may appear in a room:

- shed directly by the room occupants;
- arising as a result of the work activities;
- transferred from adjacent spaces;
- through the supply air.

Particles shed directly by the room occupants can be controlled by:

- restricting access to essential persons only;
- the choice of the occupants' clothing;
- the room air-change rate.

Particles arising as a result of the work activity can be controlled by:

- enclosing, semi-enclosing or otherwise controlling the work-based source;
- the room air-change rate.

The transfer of particles from adjacent spaces can be controlled by:

- a differential pressure between spaces when doors are shut;
- airflow paths flowing from clean to less clean spaces when doors are open.

Particles entering with the supply air can be controlled by the selection of a suitable filter.

When designing ventilation for a healthcare application, the sources of airborne contamination, their degree of hazard to patients and/or staff and the ability of ventilation to control them should be taken into account. For any particular healthcare

application, the ventilation safety group (VSG) should be able to give advice on any specific risks to patients and staff.

8.5 The supply of air to a room has the following main functions:

- to dilute airborne contamination;
- to control air movement within such that the ingress or discharge of airborne contaminants from or to adjacent areas is minimised;
- to control the temperature and, if necessary, the humidity of the space;
- to aid the removal of and dilute fumes, odours and waste gases.

8.6 The supply air volume flow rate for any particular application will be that required to:

- achieve the application's recommended air-change rate;
- provide closed and/or open-door protection;
- achieve comfort or application-specific room conditions;
- replace (make up) that removed by an installed extract system;
- meet the fresh air requirement relating to the number of people anticipated to be present;
- achieve the minimum fresh air requirement if air is recirculated.

Whichever is the greatest amount.

**Note:** Air-change rates are given in Appendix 2. These figures have been found to give enough dilution of airborne contaminants, provided the mixing of room air is reasonably uniform. Closed and open door protection volumes are given in Appendices 4 and 5. Fresh air requirement is at least 10 L/s/person. Minimum fresh air volume if recirculated is 20%, whichever is the greater.

8.7 Natural and/or mixed mode ventilation should be used wherever possible. Where mechanical ventilation is chosen, a downward displacement turbulent air distribution is generally preferred, though displacement ventilation may be used if appropriate.

8.8 The supply and extract terminals should be positioned to ensure that all parts of the room are actively ventilated and that where necessary the staff will be in a clean airflow path. Extract and air-out paths via door gaps, transfer grilles, pressure stabilisers and low-level active extract should be evenly distributed to encourage efficient scouring of the room. (See paragraphs 8.37–8.40 and 9.161–9.172 for additional guidance on location and types of terminal.)

8.9 Horizontal flow room air distribution with or without a coanda effect (see paragraph 9.162) can be a source of draughts and difficult to set up correctly. Its use should be confined to non-critical areas or situations where ceiling-mounted diffusers could be obstructed by movable equipment support tracks (for example, in imaging rooms). Alternatively, a displacement ventilation scheme may be considered.



### Temperature and humidity control

- 8.10 Supply flow rates to achieve the required room conditions are calculated conventionally, taking account of all heat and moisture gains and losses, and of maximum permissible temperature differences between the room and supply air. In most applications the base heating load will be provided by a heating system. In critical systems the room or suite being considered will be within the heated building envelope so the ventilation will be sized to suit the casual gains or losses.
- 8.11 Temperature differences between supply and room air of up to 10 K for winter heating and 7 K for summer cooling should not be exceeded.
- 8.12 Room air humidity should be kept below 70% in order to minimise risks associated with condensation and mould growth. There is generally no lower limit in unoccupied spaces; however, see application-specific guidance.

### Ventilation where anaesthetic agents are present

- 8.13 During treatment, anaesthetic gas or anaesthetic agents may be delivered to the respiratory tract of a patient either directly or using a carrier gas. Anaesthetic gases and agents are subject to workplace exposure limits and while beneficial to the patient are harmful to staff. Waste anaesthetic gas should be contained and removed by a suitable anaesthetic gas scavenging system (AGSS). Some leakage from the anaesthetic equipment and the patient's breathing circuit will occur with all systems, particularly during connection and disconnection and from the interface with the patient. In recovery areas the patient will exhale the anaesthetic agent directly into the room air. The room ventilation scheme should ensure that any leakage or exhaled anaesthetic agents are diluted and removed.

**Note:** Staff tend to be standing and patients lying down when anaesthetic agents are delivered; also anaesthetic agents are slightly heavier than air, so locating the supply terminal at high level behind where staff normally stand, with an extract at low level adjacent to the source (for example, the anaesthetic gas terminal units), will ensure that staff are in a clean airflow path.

- 8.14 The design primary air supply to an operating suite anaesthetic room that is equipped with a N<sub>2</sub>O terminal or in which an anaesthetic agent is delivered to the respiratory tract of a patient using a carrier gas, or an operating department recovery room, should be 15 ac/h.
- 8.15 In delivery rooms the intake of anaesthetic gas is controlled on demand by the patient, who will then exhale directly into the room air. Locating the supply air at high level at the foot end of the bed with extract at low level at the head end will establish a clean airflow path and reduce the casual exposure of staff to the waste gas.
- 8.16 The primary air supply to any other room that is equipped with a N<sub>2</sub>O or N<sub>2</sub>O/O<sub>2</sub> (Entonox) terminal or in which an anaesthetic agent is delivered to the respiratory tract of a patient using a carrier gas or in which the patient is subsequently recovered, where the anaesthetic is employed for the purpose of pain relief or sedation but not full anaesthesia, should be 15 ac/h. However, subject to risk assessment, consideration may be given to reducing this to no less than 10 ac/h, only where use of the anaesthetic gas release into the space will be both very infrequent and in very small quantities.



**Note:** Staff employed in operating suite anaesthetic rooms and an operating department recovery room will potentially be exposed to anaesthetic agents for the duration of their working day. In other areas (for example, maternity, imaging, treatment rooms), anaesthetic agents are only used for pain control and/or sedation. The strength, quantity and frequency of use may be significantly less, hence the the option to carry out a risk assessment.

### Door protection

- 8.17 Air should flow from the cleaner to the less clean areas as shown in Appendix 3 and Figure A23 in Appendix 8. There are several factors that affect the likelihood of a reverse airflow through doorways:
- when a person passes through a doorway, both the passage of the person and the movement of the door flap cause a transfer of air between the areas separated by the door;
  - when a door is left open, there is a transfer of air between the two areas separated by the doorway. This is caused by air turbulence, but is greatly increased by any temperature differential between the areas (a 1.4 m wide doorway may allow the transfer of 0.19 m<sup>3</sup>/s of air in each direction when there is no temperature difference, but when the temperature differential increases to say 2 K, the volume transferred may increase to 0.24 m<sup>3</sup>/s). This may be a problem if for example the heat gain from a fluid warming cabinet is not allowed for.
- 8.18 In order to reduce the likelihood of contamination of a clean area by a reverse airflow from a less clean area two methods of door protection are used:
- closed door protection – a pressure differential is created across a closed door so that any air leakage is from the clean to the less clean area. Appendix 4 gives details of closed door leakage rates for a range of differential pressures;
  - open door protection – the pressure differential drops when a door is opened (see Appendix 6) and is effectively replaced by a flow of air through the doorway from the clean to the less clean area. The flow of air needs to be sufficiently large to ensure that significant reverse airflow cannot occur and will be related to the relative cleanliness of the areas being considered. Appendix 5 gives airflow rates for open-door protection related to door/opening size and the classification of the adjoining area.
- 8.19 Pressure stabilisers enable the room differential pressure to be set when the doors are shut, thus providing closed-door protection. When a door is opened, the stabilisers will close, forcing air to be directed through the doorway, thus providing open-door protection. Provided that the dilution criteria in Appendix 3 are met, the occasional small back-flows created (when two doors are opened simultaneously; or when there is a high temperature difference across an open door) will have little effect on the overall air cleanliness of the affected room.
- 8.20 In applications where it is critical to maintain a specific airflow and/or pressure regime, for example isolation rooms, all windows in the zone should be locked shut or sealed. Trickle vents, if fitted, should also be sealed.
- 8.21 The design of the ventilation system for an area depends on the overall configuration of the department. Where the department is served by more than one AHU the



control of the units may need to be interlocked so that reverse airflow patterns do not occur.

- 8.22 Extract grilles should be sited and balanced to promote air movement in the desired direction.
- 8.23 Transfer grilles enable air to pass in either direction between rooms of equal class and pressure. Pressure stabilisers operate in one direction only; they allow excess air to be directed to the area desired and assist in maintaining room pressure differentials.
- 8.24 The relative locations of supply and extract terminals and their design air volume rates will determine the basic airflow between adjacent spaces. Transfer grilles and pressure stabilisers will permit and control the flow of air between spaces, ensuring a flow from the clean to less clean areas of the suite. Failure to provide such devices will lead to uncontrolled airflows when personnel move between rooms and doors being held partially open by air pressure.

#### Air handling unit

- 8.25 AHUs should be to the standard set out in Chapter 9. The extent of the system served by an individual AHU should reflect the operational need and required resilience of the application.

#### Fire aspects

- 8.26 When considering the overall airflow movement, careful thought needs to be given to the operation of the ventilation system to limit smoke spread in the event of a fire.

### Operating department

#### General

- 8.27 An operating department will consist of one or more operating suites, a recovery area, sterile pack and equipment stores, entry/exit/service corridors, office, staff changing and support facilities. Each operating suite will typically comprise a preparation room, operating theatre, anaesthetic room, scrub area and a utility room. In order to ensure satisfactory conditions and the correct movement of air, the entire department will usually be mechanically ventilated.
- 8.28 The information given in this section relates to conventional operating suites used for general surgery. It will be applicable to other types of operating suite such as maternity whose layout and dimensions conform to the principles of Health Building Note 26 (see Note below). Additional information for UCV theatres is given in paragraphs 8.75 onwards.

**Note:** Health Building Note 26 – 'Facilities for surgical procedures' (2004) and Health Building Note 10-02 – 'Facilities for day surgery units' (2007) are under revision and will be replaced by a single document: Health Building Note 10-01. It will provide guidance on the planning and design of infrastructure for in-patient and day-patient surgical services in the UK.



- 8.29 For other types of operating suite, the standard values may need to be adjusted to reflect non-standard room sizes, pressure regimes and air-change rates. A method of obtaining a design solution for non-standard theatres from first principles is given in Appendix 8 (see also paragraph 8.3 and accompanying Note).

#### **Standard air movement control schemes**

- 8.30 In all previous versions of this guidance, standard air-movement control schemes were given that provided a range of design solutions for typical operating-suite layouts. Improvements in the technology of ventilation control systems coupled with the ability to accurately sense and control real-time fan output has enabled operating-suite ventilation parameters to be tightened. These now more accurately meet the airborne-infection-control requirement (see the Lidwell Report). The previous standard design solutions have therefore been fully revised to take advantage of the technological advances and benefit from the reduced energy consumption and plant size they allow.
- 8.31 A new set of standard operating suite design solutions extensively amended to conform to the guidance contained in this edition of Scottish Health Technical Memorandum 03-01 are given in Appendix 7. They contain diagrams that show the relationship of rooms and the various doors and transfer devices between them but should not be regarded as architectural layouts. The schemes have been developed using the methodology described in Appendix 8.

These design solutions should be used for new projects and when refurbishing or upgrading existing operating suites.

- 8.32 Any other scheme may be used, and the standard solutions applied, if the following conditions are met:
- room relationships in air network terms are as shown in the plans;
  - room sizes and shapes approximate to those given in Health Building Note 26 (under revision at the time of writing and to become Health Building Note 10-01);
  - door gaps approximate to those given in the designer's notes in Appendix 4;
  - casual heat gains are accounted for;
  - a trimmer battery is installed in the air supply to the anaesthetic room and lay-up prep room;
  - leakage through the structure is kept to a minimum. Note that theatre suites will be subject to an air permeability test at first-fix and final validation (see Chapters 10 and 12).

It is recommended that every effort should be made to adopt one of the schemes described above.

#### **Ventilation design requirement**

- 8.33 The need for ventilation of the individual rooms and areas within the operating department will be as follows:
- Preparation room – to protect sterile packs and instruments from pre-contamination;



- operating theatre – to control the airborne infection risk, remove airborne contaminants and prevent the ingress of airborne contaminants from adjacent areas;
- anaesthetic room – to protect staff from casual exposure to anaesthetic agents and maintain a suitable environment for patients;
- scrub – to remove aerosolised microbiological contamination and moisture released when staff scrub- up;
- utility (also known as sluice or disposal) – to contain any airborne hazards arising from the initial processing of biological material, contaminated instruments and general waste and prevent it entering the operating theatre or adjacent spaces;
- entry/exit/service corridors – to remove vitiated air cascading from the operating suite(s);
- sterile pack/ Layup Prep and equipment stores – to prevent airborne contamination of the packs and equipment;
- staff changing, shower and toilet facilities – odour control and moisture removal;
- staff rest room – moisture and odour control;
- office and general areas – comfort conditions;
- recovery – to protect staff from casual exposure to exhaled anaesthetic agents and maintain a suitable environment for patients.

The ventilation requirement for each space will be met by the desired air-change rate, room pressure differential, relative position of the room supply and extract, comfort requirement or a combination of all elements.

8.34 **Preparation room – sterile pack store (SPS)** - The preparation room is used simply as a store; sterile packs are set out on trolleys but not opened. They are then transferred to the operating theatre and opened as required. The nominal room pressure can therefore be the same as that of the operating theatre and the air allowed flow between the rooms in either direction. Air supplied to the preparation room should be directed into the operating theatre either through a door-mounted transfer grille or if no door is fitted, through the opening. It should not flow via a pressure stabiliser or transfer grille into the corridor.

8.35 **Preparation room “lay up”** – When the preparation room is used as an instrument “lay up” room (that is, sterile packs are opened and their contents exposed ready for transfer to the operating theatre), it should be regarded as being of greater cleanliness than the operating theatre. The preparation room should be at 10 Pa above the operating theatre to minimise the transfer of air and prevent pre-contamination of the instruments. The design air supply volume should relate to the door protection factors (for example, open door to theatre and closed door or hatch to corridor, where provided) and result in not less than 22 ac/h. Air should discharge into the operating theatre through a pressure stabiliser fitted with a stand-off baffle plate on the theatre side (see photograph). It should not flow via a pressure stabiliser or transfer grille into the corridor. The volume of supply air being discharged through the pressure stabiliser may be used to offset the volume of supply air to the operating theatre.



Where the unpacking of the instruments involves not only the removal of the protective packing but also the opening of the sterile barrier, the supply air to the room must be delivered via a terminal HEPA filter (H12 grade). The system must include constant volume and variable speed controls to ensure that the air flow rates remain constant as the HEPA filter soils. In this case it is also necessary to design a specific air flow regime to enhance the cleanliness of the environment. The supply air must be delivered from the ceiling in a manner which directs that air down into the zone where the sterile barriers are to be removed. Air will then be relieved from the room at low level with an air pressure stabiliser into the theatre.

8.36 **Operating theatre** – The supply of air to an operating theatre has four main functions:

- to dilute airborne microbial contamination – this will arise from the surgical activity and microbiological material shed by staff;
- to aid the removal of and dilute fumes, odours and waste anaesthetic agents;
- to control air movement so that the airborne contaminants from other less clean areas do not enter;
- to control the temperature and if necessary, the humidity of the room.

#### Design notes

- an air-change rate of 22 ac/h will control (a) and (b) above. When calculating the air volume required to achieve the air-change rate, the physical volume of the operating theatre will be based on whether the scrub does or does not form part of it. See Note to paragraph 8.46 for further information;
- the room to corridor differential pressure and amount of air required to give door protection will control (c). Door protection is calculated on the basis that during use, only one door or a single leaf of a double door will be open transiently, and all the rest will be closed. The designated "open" door will be the worst case (for example, typically that between the operating theatre and utility). The volume of supply air can be calculated from the flow rates for open and closed door protection given in Appendices 4 and 5. The smaller the number of rooms (and therefore doorways) leading from the operating theatre the better, as traffic is reduced, and a less complicated air movement control scheme is required;
- the supply air volume to control (d) temperature and humidity conditions can be calculated conventionally, taking account of all heat and moisture gains and losses resulting from equipment, lighting and number of occupants. Supply to room air temperature differences of up to 10 K for winter heating and 7 K for summer cooling should not be exceeded. Room humidity should not exceed 70% saturation.

The design supply air volume for an operating theatre will be whichever of the above calculations yields the greater figure.

In the case of an operating suite with a "lay up" preparation room, the actual air volume supplied by the operating theatre terminals will be the design air volume determined above minus that entering via the preparation room pressure stabiliser.



**Note:** In the majority of operating theatres the air-change rate will be the dominant factor; however, for small operating theatres the door protection factor may dominate.

- 8.37 The supply and extract terminals should be positioned to ensure that all parts of the operating theatre are actively ventilated. The ceiling should be divided into four quadrants and a supply terminal positioned at the centre of each quadrant and along the lines that join them as necessary to ensure that all parts of the room are equally supplied. In a large theatre, additional terminals around the centre point may be necessary to promote efficient scouring and achieve satisfactory air movement at the operating table level. This will help create in ventilation terms a well-mixed space and ensure good dilution of any airborne contaminants. Extract and air-out paths via door gaps, transfer grilles, pressure stabilisers and low-level active extract should be evenly distributed to encourage efficient scouring of the room. A minimum of three and preferably four air-out paths, approximately equally spaced, should be provided.

**Note:** In order to ensure correct air distribution, it is essential that the supply terminal locations are not displaced by light fittings or ceiling-mounted pendants and articulated booms. Ideally the supply terminals should alternate with light fittings along the quadrant lines described above.

- 8.38 Supply terminals should be ceiling-mounted circular "air master" style, square "four-way blow" or perforated plate style that produce a downward displacement, turbulent airflow (see paragraph 9.170 onwards). Multi-section plenum-style perforated-flow diffusers with a footprint that encompasses the operating site are acceptable but may be prone to buoyancy effects as a result of temperature difference. Manufacturers' type test data should be consulted to ensure that the terminal will achieve the required performance envelope. Note that these are not true laminar flow systems in the strict sense of the word but produce a downward displacement parallel flow style of air distribution.

**Note:** Where an operating theatre requires a higher than normal air-change rate (for example, cranial surgery, which may specify 35 ac/h), the volume of supply air means that four-way blow diffusers would be noisy and probably cause unacceptable draughts. A UCV terminal would deliver too much air, which could result in exposed tissue drying out during the procedure. A multi-section, plenum-style perforated flow diffuser with a footprint that encompasses the operating site would be the most suitable option.

- 8.39 The diffuser equipment chosen should not cause "dumping" and provide an air velocity 1 m above floor level at the operating position of between 0.2 m/s and 0.3 m/s.
- 8.40 Horizontal flow distribution should not be used in new installations; however, space constraints may force its retention when refurbishing existing installations. Where fitted, the supply grilles will require a means of directional adjustment that is lockable in position to prevent casual alteration in future when being cleaned.
- 8.41 Anaesthetic room – Anaesthetic gas or anaesthetic agents will be delivered to the respiratory tract of a patient either directly or using a carrier gas. Anaesthetic gases and agents are subject to workplace exposure limits and while beneficial to the patient are harmful to staff. Some leakage from the anaesthetic equipment and the



patient's breathing circuit will occur with all systems, particularly during connection and disconnection, and from the interface with the patient. The room ventilation scheme should ensure that any leakage is diluted and removed, and that staff are in a clean airflow path. Locating the supply terminal on the ceiling in a position behind where the anaesthetist will normally stand, and the extract terminal at low level adjacent to the medical gas pipeline terminals, will encourage a clean airflow path past the breathing zone of the anaesthetist, thus reducing their casual exposure to airborne anaesthetic agents (see information in Appendix 9).

- 8.42 An operating theatre suite anaesthetic room that is equipped with a N2O terminal or in which an anaesthetic agent is delivered to the respiratory tract of a patient using a carrier gas should have a design primary supply and extract flow rate to achieve 15 ac/h.
- 8.43 In order to maintain the core temperature of patients being anaesthetised, a trimmer heater-battery should be provided in the anaesthetic room supply. It is also important that the location of pressure stabilisers and transfer grilles does not cause draughts across the patient.
- 8.44 The anaesthetic room will be at an intermediate pressure between the operating theatre and corridor.
- 8.45 **Scrub** – This may be a separate room or a bay within the operating theatre. If the scrub is a separate room, a door between the scrub and operating theatre is an inconvenience to scrubbed staff and may be replaced by an opening that is larger than a normal single doorway. If a door is fitted between the scrub and operating theatre it should have a transfer grille in its lower half. In either case there should be an active extract at low level under the end of the scrub trough most remote from the operating theatre, or a low-level pressure stabiliser that discharges onto a corridor at the end of the scrub room most remote from the operating theatre (see figure 1). If the scrub has an outside wall and/or is particularly large, additional extract terminals may be required to ensure air movement throughout the entire space and prevent surface condensation and mould growth.

Figure 1 Scrub room with extract under trough



- 8.46 Where the scrub is a trough on the wall or in an open bay within the operating theatre, it should have low-level extract under it.



**Note:** If the Scrub is in effect a separate room that is open (no door) to the operating theatre and it has a low-level pressure stabiliser discharging onto a corridor or an active low-level extract at its far end, so that air has to travel through the scrub to leave the operating theatre, the volume of the scrub will not be counted as being a part of the operating theatre room volume.

If the scrub is a trough on the wall or in an open bay within the operating theatre, the volume of space it occupies will be considered part of the operating theatre room volume for the purpose of calculating the operating theatre air supply.

- 8.47 **Utility (sluice or disposal)** – The room is kept at negative pressure with respect to the operating theatre so that contaminants contained in the surgical waste do not re-enter the operating theatre. A utility opening onto a clean corridor is considered to pose a greater risk than one opening onto a service corridor and so has a greater differential pressure. A utility may be shared between two operating theatres or be centralised to serve a group of operating suites.
- 8.48 **Entry/exit corridor** – Air cascading from the operating suite should be removed in the adjacent corridors. Note that though design flows may be calculated, the actual extract airflows may need to be adjusted at commissioning in order to achieve the design room differential pressures.
- 8.49 **Service corridor** – If materials to be disposed of are placed in impervious material for transportation, it is not necessary to have a separate corridor for this purpose. However, a service corridor has many operational advantages in terms of the flow of materials through the operating suite. It provides a heated envelope around the operating suite, thus obviating the need to run the theatre ventilation out of hours to maintain its temperature above dew-point, so significantly reducing energy consumption. Lastly it permits access for routine service and maintenance, and the eventual refurbishment of an operating suite without compromising the use of adjacent suites.
- 8.50 **Sterile pack store** – The central operating department sterile pack and prosthesis store should be supplied with 6 ac/h and be at a positive pressure to their corridor. It is important to coordinate the position of the supply air terminals with any racking so that the terminals are accessible for annual airflow measurement with a balometer.
- 8.51 **Equipment store(s)** – Supply air ventilation only to keep them at positive pressure to the corridor.
- 8.52 **Staff changing, shower and toilet facilities** – ventilation as per building regulations and for moisture control.
- 8.53 **Staff rest room** – Ventilation for kitchen area and general comfort.
- 8.54 **Office and general areas** – Ventilation as per building regulations and comfort.
- 8.55 **Recovery room** – Anaesthetic agents will be exhaled by patients while recovering; they are subject to workplace exposure limits and are harmful to staff. Anaesthetic gas scavenging systems (AGSS) will be provided but the room ventilation scheme should ensure that any leakage is diluted and removed.



- 8.56 The supply air terminals should be ceiling-mounted above the foot end of the recovery bed positions. Extract should be at low (bed height or below) level behind the bedhead positions or in the corners of the bed bay. This will establish a clean airflow path so that staff do not inhale anaesthetic agents exhaled by recovering patients (see the COSHH Regulations).
- 8.57 In an operating department recovery room, the design primary air supply will be 15 ac/h with a balanced airflow.

#### General notes

- 8.58 Supply flow rates for the main rooms of the operating suite are given in Appendix 7. For the other areas where room sizes and activities vary from site to site, air-change rates are given in Appendix 2 and Tables 2–7 in this chapter. These figures have been found to give enough dilution of airborne microbial contaminants, provided the mixing of room air is reasonably uniform.
- 8.59 For conventionally ventilated operating theatres, the primary air supply would be filtered in the AHU. Terminal filters, EPA or HEPA, are not required.
- 8.60 Air extracted from operating suites should not be recirculated as it may contain malodorous contaminants.

**Note:** Where thermal wheels are used for energy recovery, the small leakage across them from extract to supply should not cause odour problems and is not considered aerobiologically significant. In any event, all the air supplied will pass through the final filter.

#### Operating suite pressure regime

- 8.61 When designing the ventilation scheme the room pressure differentials given in Appendix 7 should be used. However, when the suite is balanced and commissioned these values are not to be taken as immutable but rather as desired orders of magnitude. What is important is the direction of airflow between rooms when doors are closed. Specifying doors of a laboratory standard that close and sit against a seal or have drop seals on their bottom edge is not necessary and will be counterproductive of the aim to allow air to flow from clean to less clean areas.

**Note:** Fire officers often require that doors are fitted with cold smoke seals as standard. These will significantly reduce the door-leakage rate and increase the differential pressure when new and undamaged. It is therefore recommended that provision for the design door leakage be factored into the sizing of the appropriate transfer grille or pressure stabiliser.

#### Temperature and humidity control and indication

- 8.62 In an operating theatre the temperature should be adjustable within the range 18°C to 25°C by the staff at the theatre control panel. The ventilation system should be capable of maintaining an internal temperature of 20°C at summer outside design and 22°C at winter outside design in all but the most extreme outside conditions. There may be instances where these temperatures may not be appropriate (for example, children and patients with a low body mass). The internal design temperatures should then be discussed with the VSG and agreed in writing.



- 8.63 Theatre temperature and humidity control sensors should be actively ventilated. They would typically be located in a sampling extract duct mounted in or adjacent to the theatre control panel, positioned at normal working height (1.5 m above finished floor level). Alternatively, they may be mounted in one of the operating theatre's low-level extract ducts. Whichever location is chosen they should be accessible for cleaning, and removable for periodic calibration and replacement.
- 8.64 Passive wall-mounted temperature and humidity sensors are not recommended.
- 8.65 Controls should be provided to enable operating department ventilation plant to be closed down when the operating suites are unoccupied (see also Chapter 9).
- 8.66 When in the "off" mode, to provide dewpoint protection the control system should switch the ventilation "on" to "Set back" if the space temperature falls below 16°C.
- 8.67 All operating theatres and rooms where surgical interventions are carried out should have a control panel mounted on a wall with its screen centre at 1.5 m high and in the direct line of sight of staff standing at the normal operating position. The theatre control panel should include plant status indication, clearly readable temperature and humidity indicating gauges, and a means of adjusting the set point for temperature. Theatre ventilation plant status indication should also be located at the operating department staff control base (see the Specialised Ventilation for Healthcare Society's (2017) SVHSoc.01 – 'Operating theatres: energy control strategies and the surgeon's panel' for further details).
- 8.68 The following indicators should be incorporated in the theatre control panel and their functions clearly labelled.
- a readout sufficiently large (25 mm) to be clearly visible from the operating table that shows the temperature of the air in the theatre;
  - a readout sufficiently large (25 mm) to be clearly visible from the operating table that shows the relative humidity of the air in the theatre;
  - a red indicator light that will illuminate when either the supply AHU fails or is switched off or is in "Set back" (legend: "Theatre not to be used in this condition");
  - a green indicator light that will illuminate when the supply AHU is operating at full speed (legend: "Conventional theatre mode").

**Note:** In touch-screen panels, the red indicator should be a band across the screen with the statement "Theatre ventilation not operational. Do not use". The green indicator may be moving arrows representing airflow with the legend "Ventilation operational".

- 8.69 The humidity within the operating department when in use should fall within the range 35% to 60%. Where it is considered necessary to fit a humidifier, it should be selected to humidify to 40% saturation at 22°C during the design winter outside conditions. The cooling coil should be able to remove sufficient moisture so that 60% saturation at 20°C is not exceeded during the design summer outside conditions.

**Note:** When not in use the humidity may be allowed to fall below 35% but should not be allowed to rise above 70%.



- 8.70 The automatic control of ventilation in operating suites needs to be simple and robust. Over-reliance on complex room pressure and flow relationships linked to automatic fan speed control are unnecessary and in the long term have been shown to be unreliable. Complex software algorithms that can only be accessed and interpreted by off-site specialists should not be used. Whichever control strategy is chosen, it is important that on-site staff have the facility to override the control system and keep the ventilation operating at least until the surgical procedure is complete (see also Chapter 9).

#### Operating suite air handling unit

- 8.71 Each conventional operating theatre suite should have its own dedicated AHU to the standard set out in Chapter 9. To ensure operational flexibility and permit routine maintenance, an air handling unit should not be shared between suites.
- 8.72 In retrofit installations, site conditions may preclude individual AHUs for each suite. In these circumstances, subject to VSG approval, an AHU may be shared between not more than two operating suites providing each suite has its own control of temperature. An accessible airflow measurement test point should be provided in the supply branch duct to each theatre suite so that the primary air volume to each can be determined. In addition, the branch supply and extract should be capable of being physically isolated and the main airflow rate reduced so that either suite can be taken out of use without detriment to operating conditions in the other.

**Note:** An AHU provided under paragraph 8.72 may be shared between two conventional operating suites, but not between a conventional and a UCV suite

- 8.73 The AHU supply and extract fans should be interlocked so that the supply starts up first and shuts down last, thus preventing reverse airflows. If the extract plant fails when the theatre is in use, it may continue to be used but a warning should show on the BMS and theatre control panel. If the supply fails when the theatre is in use the extract should shut down to prevent reverse airflows and an alarm should sound and show on the theatre control panel.

#### Fire aspects

- 8.74 When considering the overall airflow movement, careful thought needs to be given to the operation of the ventilation system to limit smoke spread in the event of a fire. However, this is a highly staffed department with a low fire risk/load status and these factors need to be recognised when developing the fire strategy. Operating departments typically comprise a series of linked rooms with multiple exits. Over-compartmentation can lead to difficulties in establishing clean airflow paths and room air dilution rates. This will lead to an increased risk of healthcare-acquired infections. Staff areas within the department should be treated as a subcompartment.

### Ultra-clean ventilation system

#### General requirements

- 8.75 The design philosophy of a conventionally ventilated operating suite is based on the need to dilute contaminants and control both the condition and movement of air in an operating suite. Ultra-clean ventilation (UCV) is a means of significantly increasing



the dilution effect by providing a large volume of clean filtered air to the zone in which an operation is performed, and sterile items are exposed. Air is discharged above the operating zone and while not truly laminar, its downward displacement purges the clean zone of contaminants and particles generated by the activities within it. The airflow in and around the clean zone also serves to prevent particles originating outside the zone from entering it. The resulting reduction in contaminants has been shown to significantly reduce post-operative sepsis following certain orthopaedic procedures.

**Note:** The number of microorganisms that are present in the air at the wound site and exposed surgical items is dependent on the operating team, their procedural discipline, choice of clothing and the type of UCV system. Ultra-clean air is defined as that containing not more than 10 colony forming units per cubic metre of air (10 cfu/m<sup>3</sup>) present at the wound site during a surgical procedure. In practice levels of only 1 cfu/m<sup>3</sup> are often attained.

- 8.76 UCV systems are very successful in reducing contaminants at the wound site so it is often considered that there is no need for complex air movement control schemes in the rest of the suite. However, when designing the ventilation scheme, it should be noted that the users may switch the UCV terminal to "low speed" when non-orthopaedic surgery is taking place. This is because the high airflow rates can cause increased moisture evaporation of exposed tissue which may be detrimental to the surgical outcome. In recognition of this, the ventilation scheme should be capable of providing operating conditions to at least a "conventional" theatre standard throughout the suite with the UCV in "low speed" mode. It should also be remembered that suitable levels of ventilation will always be required in the peripheral rooms.
- 8.77 UCV systems can be designed and built from first principles or a range of bespoke modular units of varying shapes and sizes are available, with each manufacturer having a slightly different approach to UCV design. Notwithstanding any variation in their design philosophy, all UCV systems will be required to completely achieve the performance standard set out in Chapter 12.
- 8.78 As with conventional theatres, each UCV operating suite should have its own dedicated AHU to the standard set out in Chapter 9. To ensure operational flexibility and permit routine maintenance, an AHU should not be shared between suites.
- 8.79 In retrofit installations, site conditions may preclude individual AHUs for each suite. In these circumstances, subject to VSG approval, an AHU may be shared between not more than two UCV operating suites providing each suite has its own control of temperature. An accessible airflow measurement test point should be provided in the supply branch duct to each theatre so that the primary air volume to each UCV canopy can be determined. In addition, the branch supply and extract should be capable of being physically isolated and the main airflow rate reduced so that either suite can be taken out of use without detriment to operating conditions in the other.

**Note:** An AHU provided under paragraph 8.79 may be shared between two UCV operating suites, but not between a conventional and a UCV suite.



- 8.80 An inherent feature of a UCV system is its large airflow so it is essential to recirculate the air supplied to the operating theatre and/or to recover its energy in order to optimise operating costs.
- 8.81 The primary fresh air volume supplied to a UCV operating suite will be the same as for a conventional suite and it should be dispersed to the rooms in the suite in the same manner. The UCV canopy will typically incorporate recirculation fans. In order to prevent these fans "robbing" the air supply to the rooms, the primary air supply to the UCV theatre suite should be split into two ducts each with a volume control damper, one duct to feed the UCV canopy and the other for the anaesthetic and preparation rooms (which will be subdivided to accommodate heater batteries before they serve their respective room).
- 8.82 "Laying up" instruments in the clean zone is preferable microbiologically and considered best practice by the Royal College of Orthopaedic Surgeons, so an SPS preparation room should be provided. A transfer grille will be needed in the door between the theatre and preparation room.
- 8.83 If the client requires a "lay up" preparation room, a pressure stabiliser will be required between the preparation room and theatre. It should be fitted with a baffle on the theatre side to prevent air transfer interfering with the airflow distribution under the UCV canopy (see figure 2). Where space planning permits, consideration may be given to a location of the lay up preparation room in which the air pressure stabiliser discharges from it into the theatre at a point beyond the end of the canopy.

Figure 2 Pressure stabiliser fitted in preparation "lay up" room with stand-off baffle in theatre



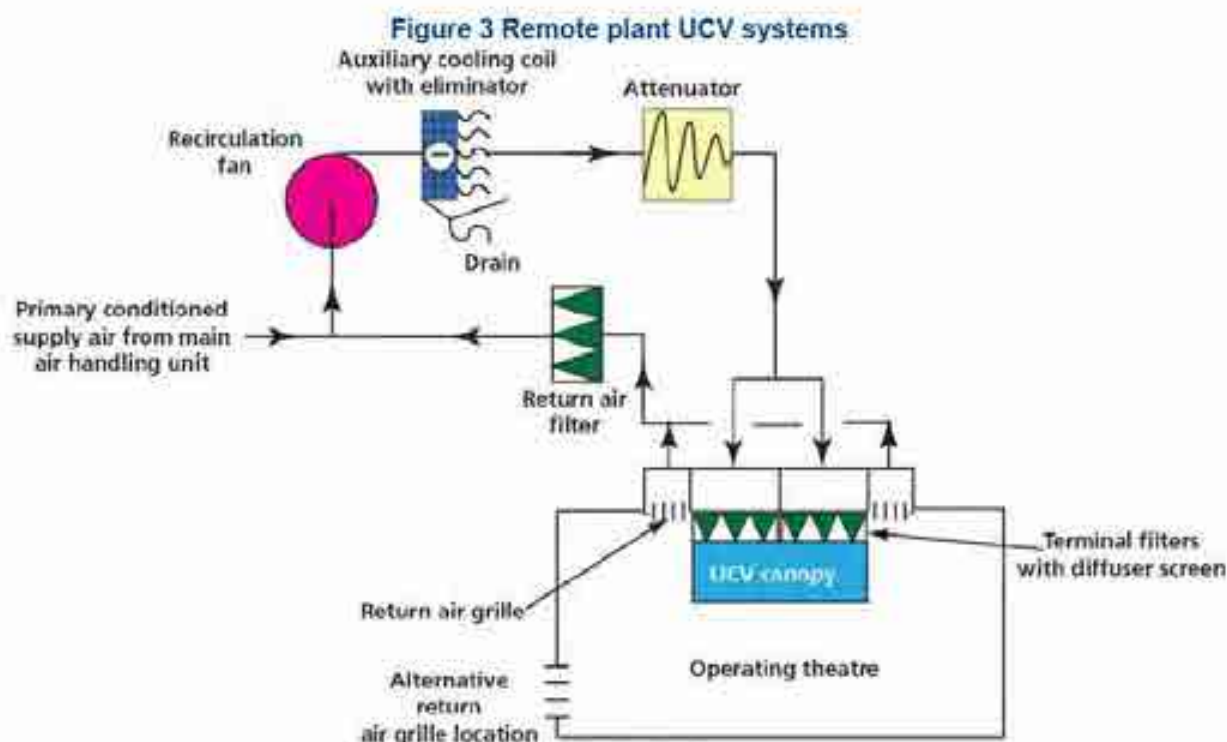
- 8.84 Separate scrub-up or disposal facilities are not necessary for air cleanliness, although operational policy may prefer such a provision. A separate anaesthetic room should however be provided.

### Types of UCV system

#### Remote plant systems

- 8.85 In a remote plant system, all the air- conditioning equipment is located outside of the operating theatre, except for the unidirectional airflow terminal, terminal filter, air diffuser and the return air grilles (see Figure 3).
- 8.86 This arrangement has the following advantages:
- the recirculation fans are out of the theatre, thus reducing noise. Multiple recirculation fans may be replaced by a single fan unit.
  - casual heat gains from recirculation fan(s), canopy lights, equipment and people within the theatre can be removed by a cooling coil in the return air stream. This will prevent heat build-up in the theatre.

- the return air filters can be changed without needing access to the theatre, making routine maintenance more feasible.
- the opportunity exists to locate the EPA filter in the primary supply duct rather than the theatre terminal. This will reduce the number of filters required and allow them to be changed without entering the theatre.



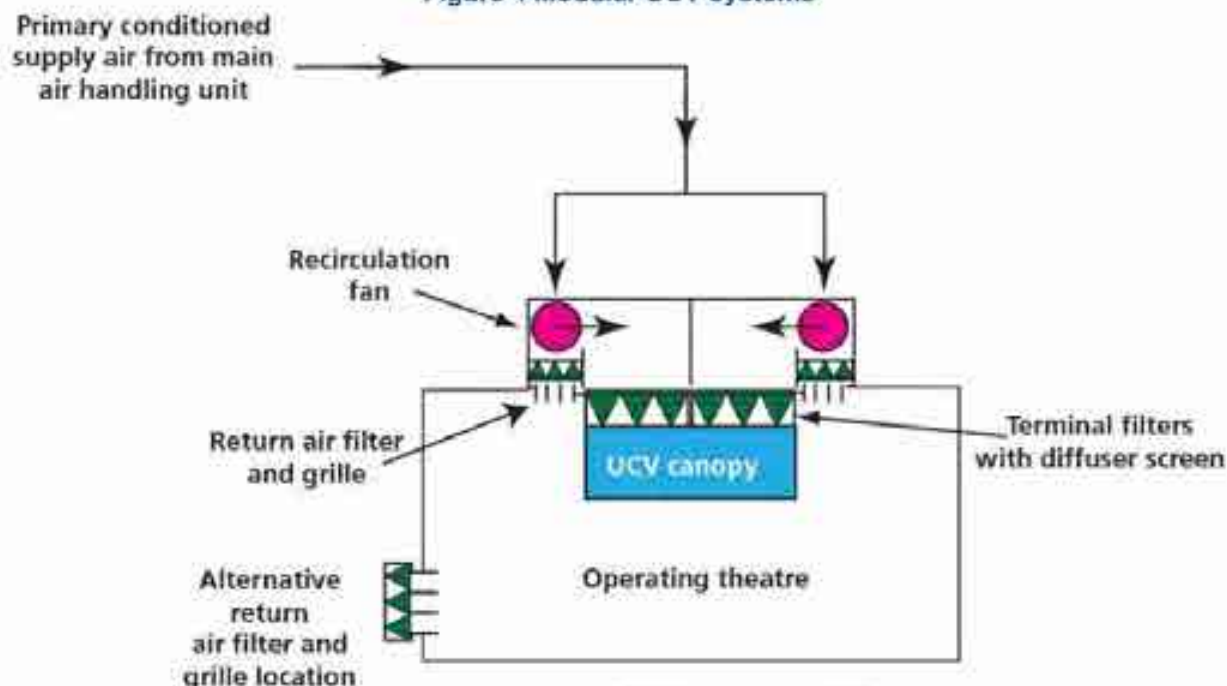
### Modular systems

- 8.87 Vertical-flow modular units comprise a ceiling-mounted canopy containing return air filters, final filter and air diffuser. Primary air is supplied by a remote air-conditioning unit at the volume and to the standard required for a conventional operating suite. The UCV-canopy return-air fans may be within the unit or mounted independently of it in the ceiling void or wall space (see Figure 4).
- 8.88 Modular units have the following advantages:
- as they are produced in a modular form, installation is generally more straightforward;
  - they can be used to upgrade an existing conventional operating suite to a UCV suite without the need to change the AHU;
  - all the UCV elements are in one place, making maintenance simpler.
- 8.89 UCV systems can be designed and built from first principles, or a range of bespoke modular units of varying shapes and sizes are available, with each manufacturer having a slightly different approach to UCV design. Whichever system is used, in order for the UCV terminal to produce the desired airflow within its footprint without entraining non-filtered air, the physical outside edge of the UCV canopy unit should not be less than 1 m from the operating theatre wall.



Notwithstanding any variation in their design philosophy, all UCV systems will be required to completely achieve the performance standard set out in Chapter 12.

Figure 4 Modular UCV systems



### Vertical flow UCV systems

- 8.90 Vertical flow systems are effective at reducing infection risks (Lidwell et al., 1982). Some systems have no walls and use auxiliary fans to create an air curtain around the clean zone. Partial wall systems have side screens that terminate 2 m above floor level and full wall UCV have side screens that terminate 1 m above floor level.
- 8.91 Full wall systems provide a physical barrier between the operating team and other theatre occupants and guide the air down to the operating table level. They can therefore work at a lower air velocity.
- 8.92 Siting the return air grilles around the periphery of the theatre at low level will help control short-circuiting and give an improved airflow path. In any event there should be an "air out" path on each face or in each corner of the theatre. These may be provided by combination of pressure stabilisers and passive or active low-level extract grilles. Failure to provide "air out" paths on all faces of the theatre may result in the surplus air causing entrainment into the clean zone.
- 8.93 Vertical systems should have a clean zone large enough to encompass the operating site and all instrument trays likely to be needed for the procedures to be undertaken. Where the surgical site is small, a 1.4 m circular or rectangular terminal may be provided. For major orthopaedic procedures, a minimum size of 2.8 m × 2.8 m will be required. This is the area projected on the floor under the supply air terminal within the full walls, partial walls or air curtain. Any air outside this zone cannot be guaranteed to be ultra-clean although given the dilution factor, the level of microbiological contamination will be much lower than the general level in a conventional operating theatre. Having a contrasting coloured area on the floor delineating the extent of the "clean zone" will assist staff and is therefore essential.



**Note:** The entire “clean zone” footprint of the UCV canopy will be designated by a contrasting coloured inlay in the floor covering. A line marked on, or cut into, the floor covering is not sufficient and will not be accepted at validation.

- 8.94 When upgrading an existing conventional theatre to an ultra-clean standard the only solution may be the installation of a modular system. In these units, the heat gains from the return air fans may warrant the inclusion of supplementary cooling within the module. However, issues of cooling-coil drainage, condensate removal and maintenance access within the space constraints of the module may make this option impracticable. The additional cooling load should then be catered for by conditioning the primary air to compensate.
- 8.95 If an existing AHU is to be retained, it may require modification to ensure that it achieves the standards set out in Chapter 9 of this document (see also paragraph 4.73). The fan may need re-rating to accommodate the change in system resistance. The cooling coil may also need to be upgraded to cater for the increased load resulting from the return air fans and terminal lights. Failure to make adequate provision for this may make the theatre unusable during prolonged warm spells.
- 8.96 A factor affecting the airflow pattern is the supply/room air temperature difference. When the supply air temperature is significantly above room temperature, buoyancy effects will reduce the volume of air reaching the operating zone. This can occur at start-up in a large theatre where the temperature when not in use has dropped below 18°C. If it is anticipated at design stage that this will be a regular occurrence, a system incorporating full walls should be used. Demountable extensions that convert a partial wall to a full wall unit are available.
- 8.97 Convection up-currents from the surgical team and operating lamp tend to counter the movement of clean air towards the operating site, hence the air velocity reaching the operating level is critical. The minimum velocity given below has been selected to take account of these factors and is greater than the theoretical minimum value. For all vertical UCV systems the design discharge velocities will be as follows:
- air velocity 2 m above floor level:
    - no side wall system = 0.38 m/s average;
    - partial wall system = 0.38 m/s average;
    - full wall system = 0.30 m/s average.
  - air velocity 1 m above floor level:
    - all systems = 0.2 m/s minimum within the inner operating zone.

Chapter 12 gives details of the method of measurement.

- 8.98 Variable speed recirculation fans with differential pressure control may be the most suitable solution for maintaining consistent performance and energy saving. The recirculation fans should be accessible for replacement without the need to disturb the fabric of the operating suite.



### UCV filters

- 8.99 The AHU primary and secondary filters should be to the standards and in the location set out in Chapter 9.
- 8.100 Terminal filters should be provided within the UCV canopy or in the air supply to it. Efficiency particulate air (EPA) filters grade E10 as specified in BS EN 1822 will be required as a minimum. There is no aerobiological benefit in fitting filters of a higher grade than this.
- 8.101 In some modular UCV units their manufacturers state that the terminal filter is used as a pressure equaliser to balance airflow so a grade higher than E10 is fitted. The increased resistance may affect the velocity of air reaching the operating level and there will be penalties in terms of installed fan power, energy consumption and higher noise levels.
- 8.102 The final filters should be installed in a leak-proof housing in a manner which allows the terminal unit, filters and their seals to be validated. The UCV canopy and its terminal filters will be scanned with a light scattering airborne particle counter (LSAPC) during validation to prove the effectiveness of the complete installation.
- 8.103 Where UCV units are constructed in sections, a means of measuring the pressure drop across the terminal filters in each section should be provided. The pressure test points should be located outside of the partial wall, capped to prevent air leakage and accessible within the theatre without the need to open the unit inspection panels. Alternatively, direct-reading non-electronic pressure gauges (of the minihelic type) may be fitted.
- 8.104 The UCV system will require a return air filter to capture the relatively coarse particles which would otherwise significantly reduce the life of the final filter. This should be at least an ISO 16890 Coarse 60%. In remote recirculation systems there may be advantages in fitting a higher-grade return air filter as it will reduce the load on the terminal EPA filters and extend their life.

### Noise level

- 8.105 If sound-attenuating material is used to line any portion of the inside of the UCV unit it should be non-particle shedding and non-combustible.
- 8.106 The maximum noise level in an operating theatre fitted with a UCV terminal of any type should not exceed 53 dB(A). Chapter 12 gives details of the method of measurement.

### Lighting and operating lights

- 8.107 The position of the UCV light fittings and style of partial walls, where fitted, should neither adversely disturb the airflow nor result in significant spatial variations in illuminance levels.
- 8.108 In vertical units, specialised task lighting should be provided by toroidal, cruciform or small multiple dome-shaped luminaires as they have good aerodynamic properties. The ideal luminaire will have a minimal effect on the airflow regardless of where it is positioned. Large diameter saucer-shaped luminaires should not be used in vertical



flow systems as they will occlude the airflow in the critical central zone. It is important to consider the suitability of existing luminaires when retrofitting UCV systems.

- 8.109 In vertical UCV installations the distance between the UCV canopy diffuser screen and the floor should be between 2.75 m and 3 m. This will allow space for the operating lamps and their articulation arms, and ensure that air at the correct velocity arrives at the operating level. When parked the lowest point of the central light stem, luminaire, monitor, camera, their associated articulation arms and any other ceiling-hung equipment should never be less than 2 m above floor level.

**Note:** The traditional means of light support is a central column that passes through the UCV canopy and is rigidly fixed to the building structure. The position of the support therefore prevents air being supplied at the centre of the canopy. Separate supports displaced from the centre of the clean zone would lead to improved airflow. This approach was advocated in the 1994 version of this guidance but at the time of writing no UK manufacturer has chosen to adopt this solution. Alternatively, equipping the operating team with battery-powered headset lamps may remove the need for traditional operating lamps and their supports.

#### Controls and Instrumentation

- 8.110 The functions of the supply AHU and extract ventilation should be continuously monitored by a BMS control unit and interlocked with the UCV terminal control and monitoring functions. The room temperature sensor should be located in the re-circulated air return path. The controls and instrumentation for the main plant are set out in Chapter 9.
- 8.111 UCV systems will additionally require a low speed facility that can reduce the air supplied through the UCV canopy to a volume that equates to not less than 22 ac/h of the operating theatre gross volume or that required for door protection, whichever is greater, whilst still leaving the supply AHU operating at full speed. In this operational mode the theatre may be used as a conventional operating suite. A means of switching between conventional and UCV mode will be provided on the theatre control panel and its function clearly labelled (see the Specialised Ventilation for Healthcare Society's (2017) SVHSoc.01 – 'Operating theatres: energy control strategies and the surgeon's panel' for further details).

**Note:** UCV theatre ventilation may be completely switched off when the theatre is not in use, but the room temperature should not be allowed to drop below 18°C (see paragraph 8.96). The AHU and UCV control should be interlocked so that when the AHU goes to "Set back" the UCV also goes to "Set back", and if the AHU goes "Off", the UCV terminal fans also switch "Off".

There is no aerobiological benefit in keeping the UCV terminal fans running when the theatre is not in use, it results in wasted energy.

- 8.112 The following indicators should be incorporated in the theatre control panel and their functions clearly labelled. In retrofit installations, an auxiliary panel for the UCV may be the most practical option. If fitted it should be mounted adjacent to the theatre panel and their control functions interlocked.



- A readout sufficiently large (25 mm) to be clearly visible from the operating table that shows the temperature of the air at the UCV canopy.
- A readout sufficiently large (25 mm) to be clearly visible from the operating table that shows the relative humidity of the air at the UCV canopy.
- A red indicator light that will illuminate when either the supply AHU or the UCV canopy fails, or either or both are switched off or the AHU is in "Set back" (legend: "Theatre not to be used in this condition").
- An amber indicator light that will illuminate when the UCV canopy is at low speed and the supply AHU is running at full speed (legend: "Conventional theatre mode").
- A green indicator light that will illuminate when both the supply AHU and UCV canopy are operating at full speed (legend: "UCV theatre mode").
- A blue indicator light that will illuminate when the UCV canopy airflow, as detected by a differential pressure sensor, falls below 80% of the design flow rate (legend: "UCV requires service").

**Note:** In touch screen panels the red indicator should be a band across the screen with the statement "Theatre ventilation not operational. Do not use" The amber indicator may be moving arrows representing airflow with the legend "Conventional Theatre mode". The green indicator may be moving arrows representing airflow with the legend "UCV Theatre mode". The blue indicator may be a band across the UCV terminal mimic stating "UCV requires servicing".

- 8.113 When a system is designed to have partial walls with full wall extensions, a volume control facility may be incorporated to allow the system to be run with reduced velocity when the demountable full walls are in place. It would be the responsibility of the user to ensure correct operation of the system. To assist the user, an explanatory notice should be included on the theatre control panel.
- 8.114 The UCV unit manufacturer's control box should be located in an accessible position preferably in the operating department adjacent to the operating theatre that it serves. A service corridor, if provided, is an ideal location. The control box should be clearly labelled with the identity of the operating theatre that it serves.

### Barn and semi-barn theatres

- 8.115 There is no aerobiological reason why two or more UCV systems should not be installed in a common area if adequate spacing is provided. These are known as barn theatres and require special design considerations and operational discipline. The relative positions of the UCV units, temperature control range and location of doors and openings to other areas will all significantly affect the airflow at the operating positions.
- 8.116 A barn theatre has two or more operating positions each ventilated by a UCV canopy all in one open operating theatre. There may be a common scrub trough, SPS preparation room and shared utility, all of which reduce the facility's footprint. For reasons of privacy and dignity, there is usually a separate anaesthetic room for each operating position. The operating positions may be separated by glass screens to



prevent bone fragments being propelled from one position to another when high-pressure air-driven surgical tools are being used.

- 8.117 A semi-barn theatre is very similar but would have a full-height dividing wall between the operating positions. The wall will not extend across the full width of the room, only its middle section. This creates a degree of physical separation between the operating positions but allows staff to walk from one to another around the ends of the dividing wall.
- 8.118 It is important that the physical layout and ventilation strategy of the barn or semi-barn are in harmony if the installation is to work successfully. The following points should be resolved with the architect and VSG when considering the design:
- in order to reduce the risk of pre- contamination, surgical instruments should not have to pass one operating position in order to get to the one that they are destined for;
  - staff having scrubbed should not have to pass one operating position in order to get to the one that they are destined for;
  - waste material being cleared from an operating position should not pass another when being removed from the operating theatre;
  - the operating positions and their UCV canopies should be placed in line and not staggered or offset, otherwise their airflow patterns will interfere with each other;
  - while barns and semi-barns have, from the staffing and space utilisation point of view, many advantages, they can create problems with temperature control and energy efficiency. It is not advisable to shut their ventilation off at night or weekends as if the operating theatre temperature drops it can take a considerable time for the ventilation to achieve the required air velocity at the operating position (paragraph 8.96). Because the barn is a large open space, when it becomes cold the warm air supplied by the UCV canopies tends to rise and stratification occurs. As a result, although from the user's point of view the ventilation appears to be running, the air being delivered does not actually have enough velocity to reach the operating table;
  - access for service, maintenance and future upgrades or refurbishment will be restricted as this can only be carried out when none of the operating positions is in use.
- 8.119 Ventilation of each UCV canopy and associated anaesthetic room will be by a dedicated AHU; ventilation of the shared spaces and perhaps recovery area would either be shared between the operating position AHUs or provided by a separate AHU.

### Hybrid theatres

- 8.120 A designation given to operating theatres that contain scanning equipment on a robotic arm. Major surgical procedures are carried out and the patient is scanned as necessary during the procedure. The scanning equipment may be floor-mounted or ceiling-hung and there will be one or more large monitors, a variety of screens and the medical gas terminal units all ceiling-hung on articulated pendants. The number of pendants and their supporting steelwork can reduce the space available to install



ventilation ductwork and compromise the location of the supply air terminals. Liaison with the architects at an early stage in the project design is essential to ensure a satisfactory ventilation solution.

- 8.121 Hybrid theatres tend to be significantly larger than conventional theatres and may have a radiation protected control room and an equipment room to house the servers for the scanning equipment and its robotic arm in addition to the standard operating suite of rooms. The ventilation load will therefore be larger and standard solutions should be adapted to suit or the designer will need to return to first principles (see Appendix 8).
- 8.122 Because of the increased airflow requirement, the AHU will be larger than for a standard conventional operating suite.
- 8.123 In all other respects the ventilation design and theatre control panel will be as for a conventional operating suite as above.

### Neutral pressure theatres for infectious patients

- 8.124 The client may have a requirement for an operating suite for surgery on infectious patients. This may be a dedicated neutral-pressure operating suite or a standard operating suite that is designed to be easily convertible to a neutral-pressure suite. If airborne microorganisms liberated from a patient during a surgical procedure are allowed to cascade out into the adjacent corridors, they could infect other patients or the staff in the operating department.
- 8.125 The room provision and layout will be as for a conventional operating suite with the following variation to the ventilation scheme:
- the operating theatre will have a balanced supply and extract so that it is at the same pressure as the corridor;
  - air should not cascade from the theatre to the surrounding rooms, so pressure stabilisers and/or transfer grilles should not be fitted. In the case of a convertible operating suite, permanently fitted hinge-down blanking plates with clamps should;
  - be provided to close the pressure stabiliser/transfer grille openings when required;
  - the preparation room may be dispensed with to avoid having stock that could become pre-contaminated. Sterile packs, instruments and consumables would be delivered to the theatre on a case by case basis. If a preparation room is required, it should be maintained at 10 Pa to both the theatre and corridor;
  - the anaesthetic room should have a supply in excess of extract so that is maintained at 10 Pa above both the corridor and the theatre. There should be a pressure stabiliser between the anaesthetic room and the corridor but no transfer device between the anaesthetic room and the theatre;
  - the scrub should have an active extract as for a conventional operating suite but no pressure stabiliser between it and the corridor;
  - the utility should be at negative pressure of not less than  $-5$  Pa to the theatre and its corridor;

- the corridor extract will be sized to cater for the air leakage from the preparation and anaesthetic rooms.

Overall, the ventilation scheme should ensure that all air supplied to the operating theatre is removed in the theatre. The theatre should be neutral (at the same pressure) to the corridor so that when the theatre exit door is open there is effectively no interchange of air between them. When the preparation or anaesthetic doors are opened, air flows from them into the theatre and not the other way.

- 8.126 The theatre control panel, automatic control strategy and air handling unit will be as for a conventional operating suite.

### Interventional imaging suites

- 8.127 Interventional imaging refers to rooms in which surgical interventions are carried out guided by imaging equipment. The risk of infection by the airborne route is low as the surgical site is small, and sterile instruments tend to be unwrapped immediately before use. Anaesthetic gas or agents are used for pain relief or sedation. Patients requiring full anaesthesia will normally be treated in a hybrid or conventional operating suite. The VSG should advise on the likely scope of use.
- 8.128 An interventional image suite may simply be a room containing the imaging equipment, an adjoining radiation protected control room or bay for staff and an equipment room for the imaging server. Support rooms for patient changing, sit recovery, toilets and a utility may also be needed.
- 8.129 Ventilation of the imaging room would be 10 ac/h with the room at a positive pressure to the corridor. Ceiling-mounted steelwork to support the imaging equipment may reduce the space available to install ventilation ductwork and compromise the supply terminal locations. This may mean that sidewall linear terminals are the only viable option. If fitted, their discharge velocity should not cause draughts and the direction vanes should be fixed or capable of being locked to prevent alteration during routine cleaning. Alternatively, a displacement ventilation scheme may be considered.
- 8.130 A full "theatre style" control panel is not required, but a green light to show the ventilation is operational and a red one to show it is not should be provided.
- 8.131 Radiation shielding and warning notices may be required to ductwork where it penetrates ceilings, walls or floors to plantrooms or adjacent spaces to which staff may need access.



## Other application-specific design guidance

### Application: Bronchoscopy, Endoscopy, Dental and General treatment facilities

Table 2: Treatment and procedure facilities

Area/zone	Reason for ventilation	Typical design factors
Bronchoscopy procedure room	Control of exposure of staff to airborne pathogenic material discharged by the patient e.g. multi-drug-resistant tuberculosis (MDR-TB) during the procedure being undertaken. (COSHH Regs) Control of exposure of staff to waste anaesthetic agents when used. (COSHH Regs)	Establish a clean airflow path – Supply terminal at high level at foot end of patient's chair/couch and extract terminal at patient's head level behind the chair/couch. Design parameters Air change: 15 per hour Pressure regime: Where patient membranes are breached and the procedure would present an infection risk to the patient, the pressure should be +10 Pa to the corridor. In Bronchoscopy and all other Endoscopy procedure rooms –5 Pa to corridor shall be established. (NOTE The decision as to the preferred pressure regime for each room must be made at design stage. They must not be designed and set up as switchable pressure rooms) Noise level: 40 d(B)A Temp range: 20 to 25°C must maintain any selected set point in the range via BMS Humidity: Floating; max 70%RH Air quality: BS EN 16798 - SUP2 Extract discharge – Discharge in safe position away from people or open windows. If no suitable position available treat the discharge in the same way as a LEV with a discharge stack at a minimum of 3 m above the roof line.
Endoscopic procedure room	As above and odour control	
Dental treatment room	Control of exposure of staff to airborne pathogenic material discharged by the patient during the procedure being undertaken. (COSHH Regs) Control of exposure of staff to waste anaesthetic agents when used. (COSHH Regs)	Establish a clean airflow path – Supply terminal at high level and extract terminal at low level near patient's chair/couch. Design parameters Air change: 10 per hour Pressure regime: Neutral to corridor Noise level: 40 d(B)A Temp range: 20 to 25°C must maintain any selected set point in the range via BMS
Emergency department resuscitation room	As above	Humidity: Floating; max 70%RH Air quality: BS EN 16798 - SUP2
General treatment room	Comfort conditions only	

All of the above rooms are suitable for aerosol-generating procedures (AGPs)



### Applications: Level 2 and 3 critical care areas, bone marrow transplant (BMT), oncology, organ and tissue transplant units

Table 3: Airborne protective facilities

Area/zone	Reason for ventilation	Typical design factors
Note: Level 2 & 3 Critical care areas should be treated identically in terms of service provision as their only difference is the staff- to-patient ratio.		
Level 2 or 3 critical care individual room	Protection of patients from airborne organisms and fungal spores	Supply only in patient's room and cascade air out via door undercut, transfer grille or pressure stabiliser through rooms of a lower classification. Design parameters Air change: $\geq 10$ per hour Pressure regime: +10 Pa to general area Noise level: 35 d(B)A Temp range: 20 to 25°C must maintain any selected set point in the range via BMS Humidity: Floating; max 60%RH Final filter: BS EN 1822 – EPA10
Level 2 or 3 critical care open bays	As above	
Bone Marrow Transplant (BMT) unit	Protection of patients from airborne organisms and fungal spores Note: Patient(s) will have a very poor immune system (neutropenia) so will be particularly vulnerable to infection by the airborne route.	Supply only in room and cascade air out via door undercut, transfer grilles or pressure stabilisers through rooms of a lower classification. Design parameters Air change: $\geq 10$ per hour Pressure regime: +15 Pa to corridor Noise level: 35 d(B)A Temp range: 20 to 25°C must maintain any selected set point in the range via BMS Humidity: Floating; max 60%RH Final filter: BS EN 1822 – EPA12
Haematology/Oncology ward	As for BMT	
Organ and Tissue Transplant unit	As for BMT	

### Applications: Isolation rooms category 2 & 3, Infectious disease units, Containment level 3 rooms

Table 4: Airborne isolation facilities

Area/zone	Reason for ventilation	Typical design factors
Category 2 isolation room	Protection of staff and all other building occupants from airborne organisms dispersed by a patient with an infectious disease. See Scottish Health Planning Note 4 Supplement 1	Extract only in patient's room and ensuite. Supply air from corridor passing into room via door undercut, transfer grille or pressure stabiliser. Alternatively the patient's room may have a supply and extract provided they are interlocked to ensure that the room is always at -ve pressure with regard to the corridor. Design parameters: Air change: $\geq 10$ per hour Pressure regime: -5 Pa to general area Noise level: 35 d(B)A Temp range: 20 to 25°C must maintain any selected set point in the range via BMS Humidity: Floating; max 60%RH Air quality: BS EN 16798 – SUP2
Category 3 isolation room		

Area/zone	Reason for ventilation	Typical design factors
Positive pressure ventilated lobby (PPVL) isolation room Universal isolation facility	Protection of building occupants from patients who may be infected and protection of patients who may be immunocompromised and protection for patients with both conditions. See Scottish Health Planning Note 4 Supplement 1	Supply in lobby flowing through a pressure stabiliser to patient's room and on via a door undercut or transfer grille to an extract in the en-suite. Design parameters: Bedroom air change: $\geq 10$ per hour Lobby pressure: +10 Pa to corridor Bedroom pressure: Neutral En-suite pressure: -ve Comfort parameters as above Air quality: BS EN 16798 – SUP2 With facility to fit BS EN 1822 – EPA12
Containment level 3 laboratory	Protection of occupants in adjoining spaces from airborne bio-hazards	For design details see the Medical Research Council's "Standards for containment level 3 facilities"
Category 4 facility	Design advice will be provided by the client	

**Application: Obstetrics theatre, delivery rooms, nursery, neonatal intensive care and special care baby units**

Table 5: Maternity facilities

Area/zone	Reason for ventilation	Typical design factors
Obstetrics theatre	Protection of patients from airborne organisms and fungal spores. Control of exposure of staff to waste anaesthetic agents (COSHH Regs)	Ventilation design parameters as for a conventional operating suite. System should normally be at "set back" with a minimum temperature of 18°C and be able to attain full operating conditions within 5 minutes of triggering the system
Delivery room	Control of exposure of staff to waste anaesthetic agents. (COSHH Regs)	Establish a clean airflow path – Supply terminal at high level at foot end of bed and extract terminal at low level at head end of bed. Design parameters: Air change: 15 per hour Pressure regime: Neutral to corridor Noise level: 35 d(B)A Temp range: 20 to 25°C must maintain any selected set point in the range via local control Humidity: Floating – max 70%RH Air quality: BS EN 16798 – SUP2
Delivery room with birthing pool	As for standard delivery room above	
Specials delivery room	As for standard delivery room above	
Nursery	Comfort conditions only	
Neonatal intensive care unit or special baby care unit (SCBU)	Protection of neonates from airborne organisms and fungal spores. Neonates are kept in incubators but may be removed for feeding, changing etc. so local temperature control and ensuring a draught-free environment is essential.	Standard supply and extract Design parameters: Air change: 10 per hour Pressure regime: +5 Pa to corridor Noise level: 45 d(B)A Temp range: 20 to 28°C must maintain any selected set point in the range via local control Humidity: Floating – max 70%RH Air quality: BS EN 16798 – SUP1 (Filter grade depends on ODA category – see the Specialised Ventilation for Healthcare Society's (2018) SVHSoc.02)
N.B. This is a critical healthcare facility and consideration should be given to system resilience and/or how suitable alternative accommodation may be provided in the event of a ventilation system failure.		



### Applications: pharmacy aseptic suite, gene therapy, radiopharmacy, support rooms

Table 6: Pharmacy facilities

Area/zone	Reason for ventilation	Typical design factors
Aseptic suite Cleanroom	<p>Protection of product during and after processing.</p> <p>Protection of the wider environment from cytotoxic agents and antibiotics.</p> <p>EUGGMP standards (European Commission, 2011) apply and the Medicine Act if the facility is licensed.</p> <p>Control of exposure by the airborne route to staff of substances during and after processing products. (COSHH Regs).</p> <p>Note: While this application is a critical facility, it is usual to have a plan in place to decant to another site in the event of a ventilation system failure</p>	<p>Supply only in cleanroom and cascade air out via pressure stabilisers through rooms of a lower classification or where there are multiple cleanrooms, a balanced supply and stable cascade out. Thimble extract may be provided for class 3 safety cabinets depending on the location of room within the building.</p> <p>Note: Advice from the client's lead pharmacist should be sought prior to engaging in detailed design.</p> <p>Design parameters:</p> <p>Air change: <math>\geq 20</math> per hour</p> <p>Pressure regime: +15 Pa between unclassified rooms and +10 Pa between classified rooms</p> <p>Noise level: 45 d(B)A</p> <p>Temp range: 20–24°C must maintain any selected set point in the range via BMS</p> <p>Humidity: Floating – max 60%RH</p> <p>Final filter: BS EN 1822 – HEPA14</p>
Gene therapy cleanroom	As above, plus protection of the wider environment from product	As per cleanroom above plus negative-pressure access lobby and controlled exhaust
Radiopharmacy cleanroom	As for standard cleanroom with additional requirements of the Ionising Radiation (Medical Exposure) Regulations	As per cleanroom above
Non-sterile stores and support rooms	Comfort conditions only	

### Application: decontamination facilities

Table 7: Decontamination unit

Facility	Applicable Standards
Central Decontamination Unit	<p>These are highly regulated production facilities dictated by:-</p> <p>Planning note - Scottish Health Planning Note 13 Part 1: 2010</p> <p>Decontamination Facilities: Central Decontamination Unit. HFS, 2011</p> <p>Mandated by compliance document - Requirements for Compliant Central Decontamination Units Version 2 – GUID 5014, HFS 2019</p> <p>Equipment manufacturer's design and installation instructions</p>
Local Decontamination Unit	<p>These are highly regulated production facilities dictated by:-</p> <p>Planning note - Scottish Health Planning Note 13 Part 2</p> <p>Decontamination Facilities:</p> <p>Local Decontamination Units, HFS 2008</p> <p>Mandated by two compliance documents - Compliant Dental Local Decontamination Units in Scotland Version 2 – GUID 5005, HFS 2019</p> <p>and Provision of Compliant Podiatry Instruments – GUID 5007 Version 3.0, HFS 2020.</p> <p>Equipment manufacturer's design and installation instructions</p>

Facility	Applicable Standards
Endoscope Decontamination Unit	<p>These are highly regulated production facilities dictated by:-</p> <p>Planning note - Scottish Health Planning Note 13. Part 3 – Decontamination Facilities: Endoscope Decontamination Units, HFS 2010</p> <p>Mandated by compliance document - Requirements for Compliant Endoscope Decontamination Units, v2 – GUID 5013 HFS 2014</p> <p>Equipment manufacturer's design and installation instructions</p>

### Hydrotherapy: general requirements

- 8.132 In a hydrotherapy suite, heat recovery should be via a heat pump.
- 8.133 In general, the quantity of supply air should be calculated as 25 L/s/m<sup>2</sup> wetted surface, with the wetted surface taken as 110% of the pool water surface area. (See the Swimming Pool and Allied Trades Association (SPATA) for detailed guidance.)
- 8.134 A recirculation plant is recommended, with fresh air make-up to the standard required by the Building Regulations Part F – Non-domestic Buildings. In practice this may need to be increased to control condensation.
- 8.135 As far as practicable, recirculated pool air should be provided to the ancillary changing and recovery accommodation, with the only extract from the toilets, laundry/utility room and pool hall.
- 8.136 Supply air to the pool hall should be introduced at high level and directed towards the perimeter to mitigate condensation, with extract air taken from directly over the pool.
- 8.137 The ceiling void above the pool may need to be ventilated to prevent condensation.

### Control of hydrotherapy pool installations

- 8.138 The supply and extract fans should be interlocked so that the supply fan does not operate until flow is established within the extract system.
- 8.139 Time-clock control should be provided, with a local override switch to extend the normal operating period as required.
- 8.140 Night set-back temperature (in the range of 21–25°C) and high humidity control (in the range of 60–75% sat) should be provided to override the time clock in order to prevent condensation. The exact set points should be ascertained post- installation.
- 8.141 A remote indication panel should be provided in the pool hall, giving a visual display of the pool water and pool air temperature.

### Extract systems

#### LEV systems

- 8.142 Devices that use an inflow of air to control exposure of staff to hazardous substances are classified as local exhaust ventilation (LEV) systems under the COSHH



Regulations. Note that the supply or make-up air to a room containing an LEV system may itself be considered to be a part of the LEV system.

- 8.143 An LEV system may comprise a self-contained unit incorporating its own carbon filter such as a simple bench-top fume cupboard. Alternatively, it may be a complete "ventilation system" comprising a make-up air supply, multiple exhaust protected workstations, branch and central extract ductwork, duplex extract fans and a high-level discharge terminal. It may also incorporate a special filtration system appropriate to the hazardous substance being controlled. Such systems could be required for workshops containing woodworking machinery or large centralised pathology laboratories housing multiple safety cabinets, cut-up benches, fume cupboards and specimen stores.
- 8.144 It is important to recognise at the design stage whether an extract is being provided for comfort, to remove odours or as an LEV system. Typical LEV systems in healthcare include:
- microbiological safety cabinets and containment level 3 rooms;
  - fume cupboards;
  - welding fume extracts;
  - woodworking-machinery duct collectors;
  - lead-acid battery charging-bay extracts;
  - powered plaster and bone saws;
  - pharmaceutical preparation cabinets and tablet machines;
  - dissection benches, cut-up tables and some specimen stores;
  - medium- and high-risk infectious diseases isolation facilities;
  - dental furnaces, grinders and polishers.

**Note:** Post-mortem tables may incorporate downflow peripheral ventilation but unless otherwise specified by the equipment supplier, their ventilation is only provided to control odours.

- 8.145 Information on the design of ductwork, fan and discharge stack arrangements will be applicable to all types of LEV system and is given in Chapter 9.
- 8.146 LEV systems are statutory items that will be subject to an independent examination and test at least every 14 months by a competent person holding an in-date P601 certificate.

**Note:** For AGSS, see Scottish Health Technical Memorandum 02-01.

### Bench extract systems

- 8.147 Bench extract ventilation is required in departments such as pathology and mortuary, where activities involve the release of malodorous or toxic fumes which should not be inhaled. They may also be required in central decontamination units and wash-rooms within endoscope reprocessing units to remove airborne biological material liberated when the used items are given a preliminary clean.



- 8.148 In all cases bench extract systems that create an airflow from the front to the rear are preferred over those that rely on a downflow of air through a perforated surface, as the airflow is easily obstructed when in use.

#### **Typical arrangements**

- 8.149 Each ventilated position will usually be accommodated in a continuous run of benching, which should not be more than 650 mm from front to rear and which should be provided with a continuous upstand at the rear. Each position should have a 1200 mm × 150 mm linear extract grille mounted on a purpose-designed plenum box (incorporating guide vanes as necessary), with its face flush with the upstand. The bottom of the grille should be as close as practicable to the level of the working surface (usually 75 mm above, to allow for cleaning). The minimum velocity across any part of the grille should be 1 m/s. The grille should be readily demountable to allow for cleaning.

#### **Control of bench extract systems**

- 8.150 Provided that it does not interfere with the operation of the department when not in use, the ventilation system for the bench extract and any associated supply may be shut down. However, a run-on timer with a minimum setting of 30 minutes should be provided. To this end, local control should be provided.
- 8.151 Processes that produce hazardous vapours, fumes, dusts or noxious vapours should be enclosed or semi-enclosed in a suitable cabinet or exhaust-protected workstation (LEV).

#### **Microbiological safety cabinets and fume cupboards**

- 8.152 Safety cabinets and fume cupboards are devices that have an inflow of air to control exposure of staff to hazardous substances. The units and their exhaust systems, filters, fans and discharge terminals are all classified as LEV systems under the COSHH Regulations. The make-up air system to a room that contains an LEV system may also be considered as an essential part of the system and be included in the LEV classification.

#### **Special requirements**

- 8.153 The supply air system should not distort the unidirectional and stable air pattern required for fume cupboards and microbiological safety cabinets. In general, supply air ceiling diffusers should not discharge directly towards fume cupboards or safety cabinets, unless the terminal velocity is such that the airflow pattern at the front of the cabinet is unaffected. The design should ensure that high air-change rates, and/or the opening and closing of doors, do not have any adverse effect on the performance of safety cabinets or fume cupboards. A damped door closure mechanism may help.

#### **Arrangements for safety cabinet installations**

- 8.154 The manufacture and installation of microbiological safety cabinets will be in accordance with the relevant national standards and guidance issued by the Advisory Committee on Dangerous Pathogens (ACDP).
- 8.155 A Class 1 microbiological safety cabinet will be specified for routine work involving Group 3 pathogens. It should be housed in a containment level 3 room. Specific



design information on containment rooms is issued by ACDP in conjunction with the Health and Safety Commission.

8.156 Siting and installation of microbiological safety cabinets are of particular importance because:

- the protection afforded to the operator by the cabinet depends on a specific and stable unidirectional airflow through the open front;
- the protection to the environment by the cabinet depends on the high-efficiency particulate air (HEPA) filters. The exhaust air should never be considered as totally free from microbiological hazard.

8.157 Microbiological safety cabinet extract is HEPA filtered prior to being discharged to outside. Current standards permit the installation of microbiological safety cabinets with integral fans, provided that the extract ductwork can be kept short (that is, less than 2 m); such an installation, however, is likely to be noisy and is not recommended for use in new buildings.

8.158 Ductwork and discharge arrangements should be as set out in Chapter 9.

8.159 Discharge should be to outside but where this is impracticable, discharge into the room via a double HEPA filter will be accepted if approved in writing by the VSG.

#### **Arrangements for fume cupboard installations**

8.160 The manufacture and installation of fume cupboards will be in accordance with the relevant national standards and associated guidance.

8.161 The primary factors which contribute to the effective performance of fume cupboards include:

- an adequate volume of supply air and its means of introduction;
- an effective exhaust system to promote the safe dispersal of waste products to atmosphere.

8.162 The air velocities through sash openings should be enough to prevent hazardous materials from entering the laboratory while avoiding excess flow rates that interfere with the investigation process. Average face velocities should be between 0.5 and 1 m/s, with a minimum at any point within 20% of the average, the upper end of the range being applicable to the containment of materials of high toxicity. The design velocity should be maintained irrespective of whether the sash opening is varied, or whether doors or windows are open or closed (see BS EN 14175).

8.163 The possibility of a fire or explosion which may not be contained by a fume cupboard should always be considered. A fume cupboard should not, therefore, be sited in a position where exit to an escape route will necessitate passing directly in front of it.

#### **Control of extract systems**

8.164 It is desirable to provide local control of safety cabinets in order to maximise the life of the HEPA filter, and to permit the sealing of the cabinet and room for fumigation if spillage occurs.



- 8.165 To cope with the risk of an accident or spillage outside safety cabinets, a panic button should be provided to switch off the supply to that area and to discharge all extracted air to atmosphere.
- 8.166 In pathology departments, it will always be necessary to have one or more microbiological safety cabinets and one or more fume cupboards available for use, including weekends; therefore, local overriding controls for all these items and any associated ventilation plant will be necessary.

### **Hood extract systems**

#### **Special requirements**

- 8.167 Extract canopies will be required over steam-and-heat-emitting appliances, for example sterilisers, catering and washing equipment and for the extraction and removal of unpleasant odours. These installations are for the control of non-hazardous airborne contaminants, they are not LEV systems.
- 8.168 Perimeter drain gulleys and corrosion-proof grease eliminators should be provided on kitchen hoods (see BESA DW 172 – ‘Specification for kitchen ventilation’).

#### **Typical arrangements**

- 8.169 The airflow rate should be enough to ensure an adequate capture velocity in the vicinity of the process. Advice from equipment suppliers should be sought, as excessive velocities will be wasteful of power and generate noise.
- 8.170 The lowest edge of the canopy should be 2 m above finished floor level, with a minimum of 300 mm overhang beyond the edge of the equipment on all sides.
- 8.171 A compact arrangement of equipment (but with access for maintenance) will minimise the canopy area, and hence reduce the air volume necessary to achieve the optimum capture velocity.
- 8.172 Hoods required for the control of heat gain and vapours may be connected to the general extract system when it is convenient to do so, but where non-corrosive ductwork materials are necessary, a separate extract system is preferred.
- 8.173 Lighting and internal divider plates are often required to be built into the perimeter of large canopies; however, built-in shelving systems are not recommended, as they interfere with the airflow, and constitute a maintenance problem.

#### **Control of hood extracts**

- 8.174 Provided that it does not interfere with the operation of the department when not in use, the ventilation system for the hood extract and any associated supply may be shut down. To this end, local control should be provided.

### **Plantroom ventilation**

#### **General requirements**

- 8.175 Plantrooms are required to be ventilated in order to maintain acceptable temperatures for satisfactory operation of the plant and controls, and for maintenance activities. Natural ventilation through louvred openings protected from infestation by a



mesh with openings of no less than 6 mm and no more than 12 mm are required. Powered plantroom ventilation should only be needed if natural ventilation is not adequate.

- 8.176 Ventilation requirements should consider all heat sources within a plantroom, and where there are large glazing areas, solar gains. The ventilation rate should limit the maximum temperature within the plantroom to 32°C.
- 8.177 Air handling equipment cannot be located in a fire compartment that houses combustion equipment.
- 8.178 AHUs and other ventilation equipment that serve occupied areas cannot draw their intake air from a plantroom. Neither should extract ventilation plant or medical vacuum pumps discharge air into a plantroom.
- 8.179 Statutory regulations for plantroom ventilation are contained in the Building Regulations, and further guidance in the CIBSE Guide B2. Note the need to assess the risk of services to AHUs freezing in unheated plantrooms.

## 9. Equipment Selection Factors

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### General requirements

- 9.1 The following gives detailed guidance on the design and selection of ventilation equipment, the distribution system, terminals and control aspects. Designers should take note of the supporting information given in Chapters 10 and 12. Failure at the design stage to make due allowance for the standards to be achieved may mean that the installed ventilation system will not be acceptable to the client's validator at handover.

### Location and access

- 9.2 The plant should be located so that it is remote from possible sources of contamination, heat gains and adverse weather conditions. The design should ensure that wind speed and direction have a minimal effect on plant throughput.
- 9.3 Safe access to and around plant is essential to facilitate inspection, routine maintenance, repair and plant replacement.
- 9.4 Air-handling units (AHUs) should be located in an accessible area secured from unauthorised entry. They may be grouped together in dedicated plantrooms or distributed around the building with AHUs located adjacent to or within the area that they serve. In the healthcare setting, because of the difficulty in gaining access for routine service and maintenance, mounting ventilation units of any type in ceiling voids above clinical spaces is not permitted.

**Note:** If it is proposed to install ventilation units of any type in a ceiling void above a non-clinical area, it should be subject to a formal risk assessment and its use being agreed by the ventilation safety group (VSG) prior to design approval. Their assessment will consider how the unit may be safely accessed and maintained.

- 9.5 AHUs should be located in purpose-built plantrooms or designated service spaces within a building. This will allow for routine service and maintenance (which is a statutory requirement) to be carried out at any time of day and regardless of weather conditions. It will also protect the plant from contamination by bird droppings, so reducing the risk of fungal spore contamination of the air supplied by the AHU. Control of pests and vermin will be simpler and while not in themselves a source of airborne contamination, their corpses can become a reservoir of biological material that may lead to insect infestations within the AHU.

**Note:** In a new building it is not envisaged that there will be any need to locate AHUs outside. The design of the building should incorporate central or distributed plant spaces of sufficient size to accommodate the plant required to service the building.

- 9.6 When refurbishing or changing the use of an existing building, plant space should be created to house the ventilation plant and other services. If located on a roof they should be enclosed in a plantroom with a safe means of access. If located at ground level they should be secured within a plantroom to prevent unauthorised access. Measures should be taken to exclude vehicles from the vicinity to ensure that exhaust fumes will not be drawn into intakes. Intakes for ground level AHUs should



be extended to a height and distance from contamination sources that allows them to draw in unvitiated air.

- 9.7 In the unlikely event that an internal or external plant room cannot be provided, and ventilation units have to be located outside, they should be fully weatherproof to IP65 and secured from unauthorised access. Protection against the elements should also be provided for personnel carrying out routine inspection and maintenance activities. As an example, when two units are outside, and they are installed with their access doors facing each other, if the gap between them is roofed over and the open ends capped, the AHUs themselves create what is in effect a plant room (see photographs).
- 9.8 Water will be used during routine cleaning or spilt when maintenance is being undertaken. The area around plant should be tanked to prevent water penetration to adjacent areas and adequately drained

Figure 5 AHU formed plant room (external)



Figure 6 AHU plant room (internal)



**Note:** Plant rooms should be provided with a sink so that glass drainage traps may be cleaned out and staff can wash their hands after handling contaminated/dirty filters. A source of domestic hot water (DHW) with a valved hose connection point will also be required so that AHUs can be washed out internally as part of their routine maintenance. Plant rooms at roof level should be served by a lift.

- 9.9 Fire precautions should be incorporated in accordance with the Health Technical Memorandum 05 Firecode series. Guidance is available in Chapter 1 of this document.

- 9.10 Combustion equipment cannot be located in a fire compartment that houses air handling equipment

### Standard requirements

#### Identification and labelling

- 9.11 All ventilation systems should be clearly identified with a permanent (traffolyte type preferred) label in accordance with the requirements of Chapter 13. The label should identify both the AHU and the area that it serves. The lettering should be at least 100 mm high and be screwed or riveted onto the AHU in an easily visible place near the fan of the unit, adjacent to the local electrical isolator. Any subsystems and the principal branch ducts should be similarly labelled.

**Note:** The AHU identification code should conform to the plant identification system in use at the premises (see Chapter 13).

- 9.12 The nature of air and direction of flow should be clearly marked on all ducts using the symbols given in BS 1710.
- 9.13 All airflow test-points should be clearly identified with a permanent label and the design information given (for example, TPS 1 – Anaesthetic supply; 400 × 300; Design 185 L/s).

#### Plant minimum standards

- 9.14 Plant should comply with the minimum standards set out in Table 8.
- 9.15 External finish to be corrosion resistant and may be available in a variety of colours at no additional cost. This can aid identification by colour-coding of units in a plantroom (for example, green for general ventilation; blue for theatres; red for laboratories and isolation facilities; grey for extract).
- 9.16 Organic materials or substances that can support the growth of microorganisms cannot be used in the construction of the plant or its distribution system. The water fittings and materials directory list suitable materials for sealants and gaskets (see also BS 6920).
- 9.17 AHU internal wiring should comply with BS 7671 and be installed in a cable containment system providing suitable mechanical protection. The wiring and its containment system should not allow air bypass at the filters. The wiring, its containment system, connection boxes and fixings should permit the effective internal cleaning and inspection of the AHU.
- 9.18 Plastic-bladed dampers and plastic plate heat exchangers should not be fitted. This accords with the national policy to reduce the use of plastics.
- 9.19 Motorised spring-return low-leakage (BS EN 1751 class 3) isolation dampers should be located at the intake, supply, return air and discharge duct connections of an AHU and associated extract unit. They should be of the opposed-blade type and be fitted with end switches. They should close automatically in the event of power failure or plant shutdown to prevent any reversal of the system airflow. They will also function to isolate the plant from the distribution system when undertaking cleaning or maintenance.



**Note:** Internal plant dampers or provision for the fitting of shut-off plates, also known as dagger plates, between elements within an AHU are not required.

- 9.20 Access to elements that require routine service such as filters, fans and all types of heat-transfer device should be via hinged doors. In horizontal units the doors should be wide enough: 500 mm minimum at a unit height >1 m. For smaller units the doors need to be at least 600 mm wide, to allow easy access. Items requiring infrequent access such as attenuators may be via removable panels fitted with lifting handles, or access hatches. All doors and panels should be secured from casual access, close-fitting and without leaks.

**Table 8: Plant minimum standards**

AHU Element	Minimum Standard	Notes
Construction	Double metal or composite skin with sandwiched insulation to "Euroclass A" fire rating Smooth internal surface without channels or ridges No projecting spire or tech screws inside the unit.	Note: Capping projecting spire screws is not acceptable.
Internal surface finish	Non-corrodible, washable and smooth and of a colour that allows accumulations of dirt to be easily seen	Stainless steel or white powder coated mild steel or with an equivalent protective treatment; but NOT surface galvanised
Thermal transmittance	BS EN 1886 Class T2	Manufacturer's declaration
Thermal bridge	BS EN 1886 Class TB2	Manufacturer's declaration
Deflection	BS EN 1886 Class D2	Manufacturer's factory test
Factory airtightness test – pre-delivery	BS EN 1886 Class L2	Test at +700 Pa and –400 Pa
Site airtightness test	BS EN 1886 Class L2	+700/–400 Pa
Filter frame bypass leakage	BS EN 1886 Section 7	
Supply and extract intake and discharge isolation dampers	BS EN 1751 C3 (low loss)	Motorised opening and fitted with an end switch and spring return
Access doors	Secured from casual access. Fan chamber doors to be fitted with a two-stage latch	Key or similar device required to open access doors Door hinges should be adjustable to so that leakage can be eliminated on site
Specific fan power -Internal (SFPint)	Current Eco design requirement for energy-related products (ErP)	EU 1253 – 2014
Specific fan power - System (SFPsyst)	UK Building Regs	Part L2
Energy recovery	Current ErP EU 1253	Run-around coil – 68% Heat pipes – 73% Plate heat exchanger – 73% Thermal wheel – 73% Heat pump – EU 2281/201 Any other device – see standard

- 9.21 All access doors should be fitted with seals and have adjustable hinges so that leakage can be eliminated once the unit is installed on site. Access doors to fan chambers should have a two-stage opening sequence to prevent the door blowing violently open if it is unlatched while there is still residual pressure in the unit.



**Note:** Providing the AHU is located in a plantroom or area secured from unauthorised entry, its access doors can only be opened with a key or similar device, the fan door is fitted with a viewing port and a two-stage opening latch and there is a fan electrical isolation switch adjacent to the fan-chamber access door, there is no requirement to fit an internal fan chamber mesh guard.

- 9.22 In the healthcare setting it can be difficult to turn off AHUs in order to inspect filters and drainage trays. Viewing ports and internal illumination will therefore facilitate routine inspection of such items. Viewing ports should be at a convenient height so that temporary ladders are not required. In double-stacked units the viewing ports in the upper section will be located in the lower portion of their access doors. Internal illumination should be provided by fittings to at least IP55 rating. Light fittings should be positioned inside the unit (not on the access doors) so that they provide illumination for both inspection and task lighting. All lights in a unit should be operated by a single switch and be powered independently of the AHU main switch. LED lights are preferred.
- 9.23 Access to air intakes and discharges, AHUs and items in the distribution system such as filters or auxiliary trimmer batteries located in a plantroom or plant area above 1.5m should be via platforms, fixed ladders, hook ladders, pulpit style movable steps or access platforms. The method of access chosen should reflect the frequency and nature of the maintenance requirement. The installation of distribution ductwork and other electrical or mechanical services should provide sufficient clearance to allow access equipment to be moved into position.

#### **Chiller units: heat rejection devices**

- 9.24 The design conditions given in Chapter 8 make no allowance for the elevated temperatures that can occur on the roof of buildings. Refrigeration condensers and chiller units should, if practicable, be shaded from direct solar radiation, or the design adjusted to take account of the gain. Care should be taken to ensure that there is sufficient clearance around the plant to allow effective air movement. Allowance may also be needed for the effect of walls, obstruction or other equipment in the area and for the prevailing wind direction.
- 9.25 Air-cooled condensers and/or dry coolers will always be the first choice for heat rejection from any refrigeration plant. The use of heat pump systems is also an option. Wet evaporative cooling systems cannot be used in healthcare premises unless limitations of space mean that they are the only way that the cooling load can be met. If they are used, national guidance on preventing and controlling Legionella should be closely followed (see the Health and Safety Executive's (HSE) Approved Code of Practice and guidance document HSG274 'Legionnaires' disease: the control of Legionella bacteria in water systems').
- 9.26 Traditional refrigerants are being phased down and some of their replacements at the time of writing have a degree of flammability. The level of risk this poses should be formally addressed at the design stage and agreed with the client or their fire safety representative. The selection of a refrigerant should be made with reference to the F-Gas Regulations and should take account of the life expectancy of the plant versus the future availability and increasing cost of the refrigerant. Ultimately, choosing refrigerants with the lowest global warming potential is the ideal and will ensure that



greenhouse gas emissions are minimised. Refrigerant gas monitoring must be included where required under BS EN 378.

#### Chiller selection: size and resilience

- 9.27 There is a tendency to meet the calculated maximum chiller load by specifying multiples of a standard size of chiller (for example, the calculated load to be met by three chillers each capable of 33% and an extra chiller of the same size to achieve the N+1 resilience requirement). This approach does not lend itself to efficient operation. It is preferable to split the load with, for example, two chillers capable of 40% each and two capable of 25% each. This will give an overall minimum capacity of 90% resilience at maximum summer design conditions and allow for the actual part load demand to be met in the most energy-efficient way.

### Supply AHUs and associated extract units

#### Typical sequence of components

- 9.28 The AHU should be arranged so that most of the items are under positive pressure. Cooling coils and humidifiers will require a drain and should be on the positive pressure side of the fan. The following arrangement of components is typical, although in many instances not all elements will be required:

- fresh air intake;
- motorised isolation damper;
- fog coil if energy recovery fitted or frost coil if no energy recovery fitted;
- pre-filter;
- energy-recovery device (possible location);
- attenuator1;
- supply fan;
- attenuator1;
- energy-recovery device (possible location);
- cooling coil;
- eliminator (for face velocities above 2 m/s);
- heater-battery;
- humidifier (if required);
- final filter;
- motorised isolation damper.

- 9.29 AHUs may be configured as horizontal, linear single or double-stacked; or as cabinet type units. For double-stacked supply/extract units, the fans should be located on the bottom deck where possible as it will make them simpler and safer to change (see Figures A1–A3 in Appendix 1 for possible arrangement.).

### Intakes and discharges

- 9.30 Air intakes and discharge points should preferably be located at high level, to minimise the risks of noise nuisance to surrounding buildings, contamination and vandalism.
- 9.31 Intakes and discharges should be designed and located so that wind speed and direction have a minimal effect on the plant throughput.
- 9.32 Helicopter landing pads in the vicinity of ventilation intakes and discharges can result in large short-term pressure changes. This can cause pressure surges in supply systems and reverse airflows in extracts. Exhaust fumes from the helicopter may also be drawn into intakes.

**Note:** It is not appropriate to "plan to turn the ventilation off when a helicopter lands" as a means of permitting the location of a helipad adjacent to ventilation intakes and discharges.

- 9.33 Intake points should be situated away from cooling towers, heat sources, boiler flues, vents from oil storage tanks, fume cupboards and other sources of contaminated air, vapours and gases and places where vehicle exhaust gases may be drawn in.

**Note:** Attenuators may be located in the intake and discharge duct if they are of a suitable type and provided with cleaning access both sides (see paragraph 9.116).

**Note:** Steps should be taken to prevent birds landing or roosting in the vicinity by removing ledges or fitting anti-pigeon spikes.

- 9.34 On the rare occasions where intakes have necessarily to be sited at or near ground level, the surrounding area should be paved or concreted to prevent soil or vegetation being drawn in. In addition, intakes should not be situated near established gardens/trees so as to avoid intake of environmental microorganisms. They should be caged or located within a compound to restrict unauthorised access and prevent rubbish being left in the vicinity. The likely proximity of vehicle exhausts should also be taken into account when determining the protected area around the intake and additional filtration may be required. The VSG should be consulted about the standard of air quality required. There should be a minimum 4 m clear zone around the intake (see paragraph 9.50 and paragraphs 9.63–9.64).
- 9.35 The discharge from an extract system will be located so that vitiated air cannot be drawn back into the supply air intake or any other fresh air inlet. Ideally, the extract discharge will be located on a different face of the building from the supply intake(s). At all times, there has to be a minimum separation of 4 m between them, with the discharge mounted at a higher level than the intake.

**Note:** Ventilation intakes and discharges cannot face each other across a passageway or courtyard even if they are 4 m or more apart.

- 9.36 Each intake and discharge point should be fitted with a corrosion-resistant weatherproof (BS EN 13030 class B) louvre or cowl to protect the system from



driving rain. Louvres should be sized based on a maximum face velocity of 1.5 m/s in order to prevent excessive noise generation and pressure loss.

**Note:** If there is a bend in the ductwork directly behind a louvre, it will affect the air velocity through the louvre. This may result in moisture carry-over or increased noise.

- 9.37 The inside of the louvres should be fitted with a mesh of not less than 6 mm and not more than 12 mm to prevent infestation by vermin.
- 9.38 The duct behind a louvre should be self-draining. If this is not practicable, it should be tanked and provided with a drainage system.
- 9.39 Cleaning access should be provided either from the outside via hinged louvres or by access doors in the plenum behind the louvre. Where a floor-level common plenum is provided, cleaning access should be via a walk-in door. High-level plenums should be able to be safely accessed by temporary or permanent means

**Note:** Builders' work plenums or intake ducts will need to have a smooth finish and be surface-sealed to prevent dust shedding (see paragraph 10.5).

### Fans

- 9.40 Direct-drive electronically commutated (EC) fans are the preferred choice for ventilation systems. If necessary, resilience and an increased capacity can be achieved by installing two or more EC fans with gravity or motorised dampers to prevent backflow.

**Note:** At the time of writing the concept of a "fan wall" made up of multiple small variable speed fans all controlled as a single unit was under development. This concept has several advantages as the failure of one fan can be accommodated by speeding up the rest. Because the fans cover the full area of the duct, it will result in a more uniform air velocity downstream at the battery face. This will increase the heat transfer efficiency and may allow a reduction in battery size. Nothing in this document will preclude the use of such innovation that improves resilience and reduces energy usage.

- 9.41 For an application outside of the capacity range of EC fans, direct-drive plug fans controlled by an inverter mounted externally to the air stream may be selected.
- 9.42 In either case, the fan motor will be protected with a high-temperature safety cut-out.
- 9.43 Whichever type of fan is selected, if it serves a critical area it will be fitted in a way that allows it to be changed within 20 minutes. Mounting the fan unit on slide rails with plug and socket connections for power and control cables will facilitate this. Whenever possible, both supply and extract fans should be located on the bottom deck of a double-stacked AHU.
- 9.44 Selecting fans from a preferred size range will reduce the number of spares held.
- 9.45 Belt- and pulley-driven fans should not be installed in healthcare ventilation systems.
- 9.46 Supply fans should be positioned to blow through the central plant so that the cooling coil and humidifier drains (when fitted) will be under positive pressure. The energy-



recovery device may be either side of the fan and should have a drainage system on the extracted air discharge side.

- 9.47 In extract systems where the air is potentially contaminated, explosive, aggressive or has a high moisture content, the extract fan motor will be located outside the air stream and be capable of being changed without the need to access or change the fan impeller.

#### Control

- 9.48 Where two or more fans are fitted in a fan wall, the preferred normal operation is all fans running in parallel. In case of a single fan failure the remaining fan(s) should provide at least 80% of the design output.
- 9.49 For most healthcare applications, the fan output should be set to give a constant volume of air. This should be controlled by measuring the pressure drop across the fan suction nozzle using a sensing ring and associated volume controller that will automatically integrate the fan K factor to determine and control the preset output air volume. The fan output will then in air volume terms remain constant regardless of changes of system resistance. The actual volume delivered will be related to the air-change rate for the application.

**Note:** Measuring the air pressure in the main supply duct and using that to set the supply fan speed as a percentage of its rated output and using that to set the extract fan speed as a percentage of the supply fan speed is not a satisfactory, accurate or an acceptable way of controlling the desired supply and extract air volumes.

#### Filters

- 9.50 The purpose of filtration is to reduce the level of airborne contamination in an air stream. It is generally carried out in stages
- 9.51 Filters should be securely mounted in well-fitting frames designed so that the airflow pushes the filter into its housing to minimise air bypass. Vertical supports with seals should be provided to master the joints between filters and eliminate bypass. Mounting frames that withdraw so that the filter can be changed without having to reach into the unit are preferred.
- 9.52 Filters need to be readily accessible, so a hinged access door should be provided. The upstream side of the filter should be visible for inspection through a viewing port with internal illumination.
- 9.53 For AHUs, provided that each filter's pressure drop is monitored by a sensor linked to the BMS, direct reading gauges or manometers will not be required. Capped pressure tappings should be provided so that a portable manometer can be connected for diagnostic purposes when necessary.
- 9.54 General air filters (see Table 9) are divided into four categories, related to the size of particle (in microns ( $\mu\text{m}$ )) that they can remove as a percentage of the load.
- coarse filters – remove less than 50% of 10  $\mu\text{m}$  particles;
  - PM10 medium filters – remove 50 to 95% of 10  $\mu\text{m}$  particles;



**Table 9: General filters: typical healthcare selections**

ISO 16890 Class	Notes and typical healthcare
ISO Coarse 60%	May be used as temporary addition filtration at an air intake when building or demolition works are being undertaken in the vicinity
ISO ePM10 ≥50%	Panel pre-filter or return air filter to protect the energy-recovery device
ISO ePM2.5 ≥50%	Supply air filter for areas with temporary occupancy
ISO ePM1 ≥50%	Supply air filter for areas with permanent occupancy

- PM2.5 medium filters – remove 50 to 95% of 2.5 µm particles;
- PM1 fine filters – remove 50 to 95% of 1 µm particles.

**Note:** Ventilation filters can only remove particles from the incoming air. Most particles that could cause an infection originate from the occupants and activities within the building. In AHUs the pre-filter and return air filter will keep the energy-recovery device, cooling coil and heater-batteries clean and working efficiently. The secondary filter will keep the distribution ductwork and supply air terminals clean.

**Note:** For additional information on filter selection and indoor air quality, see the Specialised Ventilation for Healthcare Society's (2018) SVHSoc.02 – 'Change in air filter test and classification standards'.

9.55 In areas of high atmospheric pollution, a higher standard of filtration may be required in order to meet the indoor air quality standard (IAQ).

9.56 Compact filters are preferred, because bag filters are often incorrectly oriented and prone to damage when changed.

#### **Efficiency and high efficiency particulate air (EPA and HEPA) filters**

9.57 These filters are designed to provide filtration of particles in the sub-micron size range. EPA and HEPA filters self-select the particle that they are least able to trap and are graded against that "most penetrating particle size" (MPPS) (see Table 10):

- efficiency particulate filters (EPA): three grades E10 to E12;
- high efficiency particulate filters (HEPA): two grades H13 to H14;
- ultra-low particulate air filters (ULPA): three grades U15 to U17.

**Table 10: EPA and HEPA filters: typical healthcare selections**

Typical healthcare application	Minimum filter grade to BS EN 1822 - 2019	% Efficiency @ MPPS
UCV theatre terminal	EPA – E10 – (EU10)	85
No standard healthcare application	EPA – E11 – (EU11)	95
Immunosuppressed and neutropenic patient rooms or wards	EPA – E12 – (EU12)	99.5

Typical healthcare application	Minimum filter grade to BS EN 1822 - 2019	% Efficiency @ MPPS
No standard healthcare application	HEPA – H13 – (EU13)	99.95
Pharmacy aseptic preparation facility supply Containment level 3 room extract	HEPA – H14 – (EU14)	99.995
*Incorporates ISO 29463 tests methods.		

**Note:** ULPA filters are designed to remove particles below a size that is either surgically or aerobiologically significant. There would have to be exceptional circumstances in order to justify their use in a healthcare ventilation system.

9.58 EPA and HEPA filters are expensive, so their use should be kept to a minimum. When used they should be of the replaceable panel type with leakproof seals and installed in a manner that permits the validation of the filter and its housing (see Chapter 12).

9.59 In supply systems an EPA or HEPA filter will have a non-shedding metal case.

#### Return air and extract air filters

9.60 Return air filtration will always be required where heat recovery devices are installed. Return air filters are also used to reduce the load on EPA filters in recirculating applications such as ultra clean operating suite ventilation canopies and pharmacy aseptic preparation facilities. They should be the same grade as their AHU pre-filter.

9.61 EPA or HEPA filters are sometimes fitted in extract systems to capture hazardous substances or organisms. Design provision should be made for the subsequent safe handling of contaminated filters by maintenance staff. This may be achieved by:

- sealing the hazardous substance into the filter before it is removed;
- providing a system to fumigate the filter to kill any organisms;
- housing it in a "safe change" unit that permits the filter to be ejected into a bag and sealed without personnel having to come into direct contact with it.

#### Notes:

1 In view of the costs and problems associated with placing EPA or HEPA filters in extracts, it is essential that a full risk assessment be carried out at the design stage. This should include defining the true need for a filtered extract, the validation of its performance at installation, the method of safely changing a contaminated filter, and its subsequent disposal.

2 General extracts from mortuaries and post-mortem rooms may contain odours, but these are not in themselves hazardous to health and do not require filtration prior to discharge. In high-risk post-mortems (for example, known or suspected tuberculosis cases), the infected organs will be removed and then dissected in a class 1 microbiological safety cabinet provided under the COSHH Regulations.



Extracts from infectious disease isolation rooms or wards do not normally require filtration prior to discharge. However, if the discharge cannot be made in a safe location and it is likely that the vitiated air could be drawn back into the building or there are people in its vicinity (for example, a discharge into a courtyard), filtration would be required

- 9.62 Extract EPA or HEPA filters should have a particleboard or plywood case so that they can be incinerated.

#### Activated carbon filters

- 9.63 Activated carbon filters can remove gases and vapours from an air stream and are graded according to the range of substances they can remove. They are not normally fitted in air-conditioning supply systems. They are occasionally fitted retrospectively because an air intake has been poorly sited and is drawing in noxious fumes or the outdoor air quality is exceeding WHO levels for NO<sub>x</sub>/O<sub>3</sub> or SO<sub>x</sub>. Where used they should be protected by or incorporated into a particulate air filter.
- 9.64 Activated carbon filters are more commonly used in specialised fume extraction systems when the location of the discharge means that dilution cannot be relied upon to disperse noxious fumes.

#### Energy-recovery devices

##### General requirements

- 9.65 Energy recovery will be fitted to all supply and extract healthcare ventilation systems. It may be omitted only where permitted by the current ErP Directive EU 1253/2014.
- 9.66 For most systems in healthcare premises, a plate heat exchanger, "run-around coil" system or thermal wheel would be appropriate. Selection should be based on the relative locations of the supply and extract units, ease of maintenance and practicality. Cleaning access will be required to both sides of any energy-recovery device.

**Note:** Plate heat exchangers are the preferred option as they require the least maintenance to retain their energy transfer efficiency. Thermal wheels may be used, as the degree of air transfer from extract to supply is not sufficient to cause aerobiological problems and in any event the air will be filtered before being supplied to the user. Run-around coils are used when the supply and extract units are separate or in case of space problems.

- 9.67 At the time of writing, the following are the minimum energy transfer efficiencies required under EU 1253 for devices handling equal air volumes:
- run-around coil – 68%;
  - plate heat exchanger – 73%;
  - thermal wheel – 73%;
  - heat pipe – 73%;
  - heat pump or any other device – see specific regulations.



**Note:** These efficiencies are regularly reviewed and are likely to be increased periodically.

- 9.68 If a plate heat exchanger is chosen, the plates should be constructed of metal; in coastal areas stainless steel is preferred. Plastic should not be used for the plates, internal bypass dampers or gears. (This is in keeping with the reduction in the use of single use plastics.)
- 9.69 If a thermal wheel is selected, only a sensible heat wheel should be used that incorporates a purge sector. In order to reduce bypass leakage, brush seals should not be used; enhanced airtightness seals should be fitted.
- 9.70 Whichever energy-recovery device is chosen, the extract side should be protected by at least an ISO ePM10  $\geq 50\%$  filter and provided with a drainage system as described in paragraphs 9.105–9.112, to remove condensate. Note that most condensate will occur at intermediate rather than at extreme outside air conditions.
- 9.71 The energy-recovery device should be located downstream of the fog coil and pre-filter, before the cooling coil and main heater-battery. It may be on either side of the supply fan.
- 9.72 It is essential to consider the set points and control of the fog coil, energy-recovery device, cooling coil and heater-battery in order to achieve the most efficient operation for the maximum time. The primary energy provided by the fog coil will directly reduce the heat exchange of the energy-recovery device. To this end, the off-coil setting of the fog coil should be the minimum possible to keep the pre-filter dry (2 to 3 K above intake air temperature) (see paragraph 9.75 onwards for further guidance).
- 9.73 The energy-recovery device should be controlled in sequence with the main heater-battery and should incorporate a control to prevent the transfer of unwanted heat when the air-on condition rises above the required plant set-point.
- 9.74 In instances where the plant is cooling the air, it may be possible to remove heat from the supply air at high ambient conditions, under the dictates of enthalpy sensors in the intake and extract ducts.

### Heater-batteries

#### General requirements

- 9.75 Fog coils are installed to protect the downstream filters from low temperature, high humidity intake air conditions. They should raise the incoming air temperature by 2 K so that it is above its dew-point when it arrives at the filter. As they handle unfiltered air they should be constructed of plain tubing without fins and be as near to the outside as possible to minimise condensation during cold weather. Access for cleaning should be provided to both sides of the coil. In order to prevent them freezing they should be controlled as constant flow variable temperature devices.
- 9.76 Traditionally frost coils were set to raise the incoming air temperature to between +2°C and +5°C to protect the batteries downstream. All new AHUs should be equipped with an energy-recovery device (see paragraph 9.65); the greater the temperature difference across this device, the more heat will be recovered. Also, the



device will now provide the frost protection. Where an energy-recovery device is fitted, the frost coil will be replaced by a fog coil.

- 9.77 Where steam coils are used for a fog or frost coil, they may be constructed using spiral finned copper tube. As they will be prone to fouling, the tube layout and spacing should permit easy access for regular cleaning.
- 9.78 Main and branch heater-batteries should be constructed of solid drawn copper tube coils with copper fins, generally connected in parallel. In coastal and particularly exposed areas the client may require an anti-corrosion treatment.
- 9.79 Where there is a wet heating system in the areas served, the main heater-battery should be sized, in conjunction with the energy-recovery device, for the ventilation requirements only and not for the building fabric loss. Ventilation should only be used for heating the building fabric if the room specification precludes the use of heat emitters and it is not within the heated volume of the building (for example, a cleanroom or operating theatre with external walls).
- 9.80 Access for cleaning will be provided to both sides of all fog coils and heater-batteries.
- 9.81 Main heater-batteries may be water or steam. Electric heaters are expensive to operate, and their efficiency is particularly dependent on the air velocity through them. Their use should be restricted to branch trimming control.
- 9.82 Where steam supplied heater- batteries are used, their control, venting and trapping systems should be designed so that a vacuum cannot occur within the coil. The condensate drainage arrangements should not allow pressure to build in the condensate main as this will result in a back-up of condensate in the battery.
- 9.83 Where possible, wet trimmer heater- batteries should be located in plant areas.
- 9.84 Where it is necessary to locate heater- batteries in false ceilings etc, consideration should be given to the use of electric heaters (note that additional fire detection may be required). If this is not practicable and a LPHW system is used, a drip-tray should be installed under the control valve assembly to protect the ceiling. A moisture sensor and alarm should be fitted in the tray. In any event, to facilitate maintenance access, they should be located above corridors or other non-clinical areas and never above patient-occupied spaces
- 9.85 Auxiliary fan coil units are not to be installed in the ceiling above a patient- occupied space. They should be accessible for routine maintenance and cleaning without the need to cause significant disruption to the operation of the area that they serve.

#### Cooling coils and drift eliminators

- 9.86 Cooling coils supplied with chilled water are the preferred option. For small loads, or where chilled water cannot be made available, direct expansion (DX) coils may be used.

**Note:** For DX coils, it may be necessary to divide the chiller circuits unevenly in order to achieve efficient operation under part-load conditions. The turn- down ratio should allow stable control down to 10% of the peak load.



- 9.87 Cooling coils should be periodically decontaminated so the fin spacing needs to be  $\geq 2.5$  mm and the fins rigid enough to withstand cleaning (for example,  $\geq 0.25$  mm thick). Hinged access doors with viewing ports and illumination inside the AHU or duct should be provided both sides of the coil.
- 9.88 In an AHU when the cooling-coil face velocity is greater than 2 m/s a drift eliminator will be required downstream of the coil. The eliminator will be an entirely separate device mounted on slide rails so that it can be easily removed without the need for tools. If the size of the AHUs precludes the use of slide rails, and the eliminator is constructed in sections which maintenance personnel will have to enter the unit to remove, each section should have lifting handles. In order to reduce the use of plastics, alternative materials should be considered for the eliminator elements.
- Note:** For small DX coils and in fan coil units, the eliminator may take the form of a joggled extension of the fins.
- 9.89 All cooling coils are to be fitted with their own independent drainage system as specified in paragraph 9.105 onwards. A baffle or similar device should be provided in the drip-tray to prevent air bypassing the coil. The tray should be large enough to capture the moisture from the coil headers and drift eliminator.
- 9.90 Where coils are greater than 1.8 m high and the air velocity is  $> 2$  m/s, either intermediate drip-trays will be required or the fin spacing should be increased to  $\geq 3$  mm.
- 9.91 In order to minimise electrolytic action resulting from condensation on the air side, cooling coils constructed from copper tubes with copper fins and electro-tinned after manufacture are preferred. Aluminium fins should only be used if vinyl-coated.
- 9.92 All parts of the coil and its associated ductwork in contact with moisture will be manufactured from corrosion-resistant materials. Pressed steel coil headers, even if treated, have been shown to be prone to corrosion over time and should not be used. Steel mounting frames and casings present similar problems so stainless steel is preferred.
- 9.93 Where a cooling coil has to be located above a ceiling, a drip-tray should be installed under the battery and control valve assembly to protect the ceiling from leaks and condensation drips. A moisture sensor and alarm should be fitted in the tray. To facilitate maintenance access, they should be located above corridors or other non-clinical areas and never above patient-occupied spaces. The air velocity should be below 2 m/s to avoid the need for a drift eliminator. All drainage piping should be rigid type not flexible hose.
- 9.94 Auxiliary fan coil units should not be installed in the ceiling above an occupied space. They should be accessible for routine maintenance and cleaning without the need to cause significant disruption to the operation of the department that they serve. The drainage of such items is often problematic. If a suitable fall in the drain line cannot be achieved, a pump out system should be provided. Drainage piping should be rigid type (not flexible hose).



## Humidifiers

- 9.95 Humidification was originally required for some healthcare applications in order to control the risk associated with the use of flammable anaesthetic gases. The use of such gases has now ceased. Humidification is therefore no longer required unless there is a very specific application requirement (see Chapter 8 and associated SHPNs/HBNs).

**Note:** In an operating theatre, if high humidity is required to help prevent tissue drying during surgery, it should be provided when required using sterile water in a disposable nebuliser driven by medical air, and not from a humidifier installed in the ventilation system. In that way the quality of the moisture delivered will be assured.

- 9.96 If it is unclear at design stage whether humidification is required, provision for retrofitting in terms of space provision and a capped drainage system may be provided either in the AHU or in a zone branch duct. The need for such provision and the amount of space allowed for it should be agreed in writing with the client.
- 9.97 If a humidifier is required, the manufacturer's instructions regarding selection, capacity, installation and control need to be followed. Incorrectly sized, installed or operated humidifiers can become a source of fungal and microbiological contamination within a ventilation system. This may result in a significant airborne infection risk to patients and staff.
- 9.98 Only steam injection manifold-type humidifiers are considered suitable for use in health building air-conditioning systems. The injected steam will be generated locally either by mains steam or electricity, within or adjacent to the humidifier. Water-curtain, water mist or spray humidifiers of any type cannot be used.

**Note:** Jacketed lance mains steam humidifiers will always be a source of heat within the system during the cooling season unless completely isolated when not required.

- 9.99 All parts of the humidifier and its associated ductwork in contact with moisture should be manufactured from corrosion-resistant materials. Stainless steel is preferred.
- 9.100 For self- and locally-generated steam humidifiers, the cleanliness of the water supply is essential for their safe operation. The water supply should be derived from a wholesome source or demineralised supply. Chemical treatments cannot be added to the water supply to humidifier units. The electrodes of self-generating electrode boiler-type humidifiers should be stainless steel.
- 9.101 If the quality of the water supply to a self-generating humidifier unit cannot be assured, an ultraviolet (UV) system to control microbiological growth may be installed. However, given the limitations of UV systems, this will require high-quality water filtration to ensure the effectiveness of exposure of organisms to the UV irradiation. As with all water treatment systems the unit should be of proven efficacy and incorporate UV monitors so that any loss of transmission can be detected.
- 9.102 Provision should be made for draining down supply pipework and break tanks for periodic disinfection and cleaning during the seasons when they are not required in service. The humidifier branch water supply isolation valve will be located at the junction with the "running" main to prevent the creation of a dead leg. All parts of the system should be capable of being cleaned or disinfected as necessary. Hinged



access doors with viewing ports and internal illumination should be provided. A label warning that the device emits live steam and should be isolated prior to opening should be affixed to the access door.

- 9.103 A zone humidifier, if required, may be installed in a supply branch. The ductwork in which the humidifier is mounted and for at least 1 m downstream should be stainless steel.
- 9.104 All humidifiers wherever installed will be fitted with their own independent drainage systems as detailed in paragraph 9.105 onwards and be completely accessible for cleaning.

### Drainage

- 9.105 All items of plant wherever located that could produce moisture should be provided with a drainage system. The system will comprise a drip-tray, glass trap, air break and associated drainage pipework.
- 9.106 The drip-tray should be constructed of a corrosion-resistant material (stainless steel is preferred) and be so arranged that it will completely drain. To prevent "pooling", it is essential that the drain connection should not have an up-stand; and that a slope of approximately 1 in 20 in all directions should be incorporated into the drain outlet position.
- 9.107 In AHUs that have access doors large enough for a person to enter, the drip-tray should be easily accessible for inspection and cleaning.
- 9.108 In AHUs with access doors too small for a person to enter, the complete drip- tray should be capable of being withdrawn. It should be clamped into the AHU with thumb screws so that it can be removed without the need for tools (see photograph).

Figure 7 Removable AHU drainage tray



- 9.109 Each drip-tray should be provided with its own drain trap. The drain trap should be of the clear (borosilicate) glass type. This permits the colour of the water seal to be observed, thus giving an early indication of corrosion, biological activity or contamination within the duct. The trap should have a means for filling and incorporate couplings to facilitate removal for cleaning. It should be located in an easily visible position where it will not be subject to casual knocks. The pipework connecting the drainage tray to the trap should have a continuous fall of not less than 1 in 20.

- 9.110 Traps fitted to plant located outside or in unheated plant rooms need to be trace heated in winter. The trace heating should not raise the temperature of water in the trap above 5°C.
- 9.111 Water from each trap will discharge directly via a clear air gap of at least 15 mm above the unrestricted spill-over level of either an open tundish connected to a foul drainage stack via a second trap, or a floor gully (or channel). A support should be provided to ensure that the air gap cannot be reduced. More than one drain trap may discharge into the tundish providing each has its own air-break.
- 9.112 Drainage pipework from the tundish may be thermoplastic, copper or stainless steel. Glass should not be used. The pipework should be a minimum diameter of 22 mm and have a fall of at least 1 in 60 in the direction of flow. It should be well-supported and located so as not to inhibit access to the AHU.

**Note:** In the case of fan coil units, the glass trap and air-break may be omitted and a pump out system fitted. The unit drainage should connect to the main drainage system via a waterless trap that does not allow discharged water to return. The drainage tray itself will be easily removable for routine inspection and cleaning.

### Attenuators

- 9.113 Provided care is taken in the design and construction of low pressure systems to avoid significant noise generation in the ductwork, attenuation should only be needed to absorb fan noise
- 9.114 Fans radiate noise through both the inlet and outlet connections, and it may be necessary to provide attenuation to limit the noise from both of these connections. It is always preferable and more economic to control noise and vibration at source, or as close to source as possible. It should be noted that attenuators offer a resistance to airflow and by causing turbulence can be the cause of regenerated noise in a system.
- 9.115 A thorough assessment of the design should be made to assess the potential noise problems. It should consider the following factors:
- fan and plant noise generation;
  - airflow-generated noise in ductwork fittings and dampers;
  - noise generated at grilles, diffusers and other terminals;
  - noise break-in and break-out of ductwork;
  - cross-talk and similar interference;
  - the noise limitations for the building and surrounding areas;
  - external noise generation.

A method of assessment of these factors and the sound attenuation requirements of ductwork systems is given in CIBSE Guide B

**Note:** Attenuators fitted in distribution ducts can themselves become a source of regenerative noise if the air velocity through them exceeds their tested performance value.



- 9.116 Attenuator units with a sound- absorbing in-fill suitable for the quality of air being handled and protected by a perforated sheet metal casing are the preferred option. Absorption of moisture, dirt and corrosive substances into the "in- fill" and the release of fibrous particles into the airstream should be prevented using a membrane with a declared service life of at least 25 years. If these conditions can be met, the attenuator may be located in the supply ductwork downstream of the final filter. Cleaning access should be provided at both ends of the unit.
- 9.117 Sound-absorbing material should not be applied to the inside surface of a duct.
- 9.118 End of line mixing and VAV boxes may be supplied lined internally with sound-absorbing material. The material will be non-particle-shedding, protected from casual damage during maintenance and be fire-resistant.
- 9.119 See paragraph 9.149 onwards for guidance on distribution and point of use noise control.

**Note:** Developments in "dynamic attenuation" may replace the more traditional physical attenuators and overcome noise "break in" and point of use noise regeneration issues.

#### **Recirculation – minimum fresh air requirement**

- 9.120 Where return air is recirculated, fresh air should be introduced equivalent to at least 20% of the supply air volume, or that required by the Building Regulations, or at least 10L/s/person, whichever is greater.

#### **Distribution system**

- 9.121 The CIBSE guide B2 provides the standard design Information for ventilation systems, their ductwork and terminal devices. The guidance in this SHTM highlights the specific factors that are required for or excluded from healthcare ventilation installations.
- 9.122 For normal applications in healthcare buildings, low velocity systems are recommended; velocities below 2 m/s are unlikely to be justified.
- 9.123 The site will often dictate the main routing of ductwork systems, as will the location of the AHU relative to the load. Grouping AHUs in centralised plantrooms results in large vertical service shafts and long main duct runs. Decentralising AHUs into service spaces adjacent to the load results in a more compact duct layout.
- 9.124 Whichever option is chosen, the design should seek to make the layout as symmetrical as possible; that is, the pressure loss in each branch should be as nearly equal as possible. This will aid balancing and may reduce the number and variety of duct fittings that are needed.
- 9.125 Main distribution ductwork should not be routed above sleeping areas. Where there is no alternative route, additional external acoustic insulation may be required.
- 9.126 Where auxiliary air-conditioning units, fans, filters or trimming devices are installed in the distribution system, they will be independently supported and fitted with a suitable drainage system where appropriate. If they are a source of vibration, they should be linked to the distribution ductwork via flexible connections.



**Ductwork materials and construction**

- 9.127 The choice of duct material should take account of the nature of the air or gas being conveyed and the environment in which the duct will be placed.
- 9.128 Galvanised sheet steel is suitable for normal ventilating and air-conditioning applications. Its inherent mechanical strength renders it resistant to casual damage both during the construction phase and throughout its service life when mechanical and electrical services around it are accessed. It may also readily withstand the impacts sustained when rotary equipment is used to clean it internally.
- 9.129 In instances where moisture levels and/or corrosive elements in the air being conveyed are very high, aluminium, stainless steel, PVC or GRP ducts should be used. Stainless or black steel are the only suitable materials for high temperature ductwork.
- 9.130 Where other ductwork materials are considered, care should be taken to ensure that the material is satisfactory for the application having regard to the likely service life, possibility of mechanical damage and performance in the event of a fire. Where used it will be installed strictly in accordance with its manufacturer's instructions.
- 9.131 Rectangular ducting with an aspect ratio of 1:1 is preferred but ratios of up to 3:1 are acceptable where there are space constraints. Circular spiral-wound or flat-oval are also acceptable providing they meet the leakage standard when tested (see Note after paragraph 9.136). Flexible ductwork is not suitable for air distribution in healthcare applications. In situations where solid ductwork cannot be used, flexible ductwork may be used to make the final connection to a terminal providing it does not exceed 0.5 m in length, is extended as far as possible and is never used in lieu of a bend (see paragraph 9.160).
- 9.132 The inside of the ductwork should be free from structural projections and as smooth as possible. Flanged gasketed joints between sections are preferred for rectangular ductwork, blind-riveted mastic-sealed slip-joints for circular and flat-oval.
- 9.133 In inherently wet areas, such as the base of fresh air inlet ducts and some extract systems, the ductwork may require draining to prevent a build-up of standing water. The layout of the drains should be as specified in paragraph 9.105 onwards.
- 9.134 Where builders' work plenum chambers or ducts are employed, all internal surfaces should have a smooth finish and be sealed to prevent dust shedding.
- 9.135 All types of ductwork should be manufactured and installed to the appropriate current BESA specification.
- 9.136 Ductwork should be supported with threaded rod and channel. Note that sheet metal ductwork cannot use bolt-through supports. Gripple wire may only be used for circular galvanised spiral-wound or flat-oval ductwork.

**Note:** All installed ductwork whether new or reused should be subject to a leakage test on site prior to the application of any insulation. The leakage test will be to BESA DW144 but with a permissible leakage rate of not greater than 3%.



### Fire aspects: damper types and locations

- 9.137 It is essential that all relevant fire aspects of ducting systems are agreed with the fire officer before the design is finalised (see paragraph 1.15 onwards).
- 9.138 Ductwork will be fire-stopped where it penetrates fire compartment walls, floors and enclosures, cavity barriers and subcompartment walls or enclosures, and provided with weatherproof collars where roofs or external walls are penetrated.
- 9.139 Fire and smoke dampers should be provided at the locations required by the Health Technical Memorandum 05 series of documents. The damper mounting frame should be securely attached to the building fabric strictly in accordance with the manufacturer's tested details. Where a fire and smoke damper is not mounted directly in a fire compartment wall, it must be correctly supported and the ductwork between it and the fire wall must possess the same fire rating as the fire wall that it penetrates. The fire-rated portion of ductwork must not be penetrated by test holes or inspection hatches (see also BESA DW145).
- 9.140 Any non-standard fire duct or damper arrangement should be agreed in writing by the client's fire advisor and subsequently tested and signed off by the installer.
- 9.141 An access hatch should be provided adjacent to each fire and smoke damper so that its correct operation can be directly observed. The hatch will be as large as necessary to permit inspection, testing and maintenance. The damper test switch should be mounted adjacent to the inspection hatch so that the routine test and visual confirmation of the damper operation can be carried out by a single person. For circular ductwork, rectangular saddle mounted hatches should be fitted (see BESA DW144).
- 9.142 Smoke-diverting dampers will be provided on recirculation air systems to automatically divert any smoke-contaminated return air to the outside of the building in the event of a fire. It should be arranged so that the normally open diverting damper in the return air branch to the input unit closes and all the return air is exhausted to outside (see paragraph 5.53 onwards).

### Duct sections

- 9.143 When sizing ductwork, the designer should consult the CIBSE B2 guide.
- 9.144 All fittings should conform to the current BESA specification. Wherever possible, long radius bends, large radius main branches, not more than 45° angle sub-branches and long taper transformations should be used.
- 9.145 Bad design in relation to airflow can lead to vibration of flat duct surfaces, an increase in duct-generated noise, pressure loss in ductwork, unpredictable behaviour in branch fittings and terminals, and adverse effects on the performance of installed plant items, such as trimmer batteries.

### Thermal insulation

- 9.146 In order to reduce energy consumption, achieve efficient energy recovery and prevent condensation in service voids, all supply and return air ductwork should be thermally insulated. Insulated ductwork runs outdoors should be weatherproofed.



- 9.147 The thermal insulation of intake and discharge ductwork will be dependent on its location in heated or unheated plant spaces and risk of surface condensation.
- 9.148 In normal circumstances, the insulation thickness for heat resistance is sufficient to prevent surface condensation, but in extreme conditions the insulation thickness for vapour resistance may be greater than that for heat resistance. When cold ducts pass through areas of high dew-point, carefully selected vapour barriers should be applied externally to the insulation.

#### **Noise generation within the ductwork**

- 9.149 Noise is generated in ductwork at sharp edges, by tie rods, damper blades, duct obstructions, sharp bends, etc. This airflow-generated noise becomes an important factor if it is about the same or greater level than the upstream noise level. Airflow-generated noise is often referred to as regenerated noise.
- 9.150 The noise level generated by airflow in ductwork is very sensitive to the velocity. The sound power of this noise is approximately proportional to the sixth power of the velocity; that is, a doubling of the duct velocity will increase the sound power by a factor of 64 (or about 18 dB). The duct velocities should therefore be kept as low as possible. In general, duct fittings which have lower pressure loss factors in similar flow conditions will generate less noise.
- 9.151 Ductwork serving quiet areas should not be routed through noisy areas, where noise break-in can occur and increase the noise level in the ductwork.
- 9.152 Grille register and louvre noise should be kept to the minimum by selecting types having low noise-producing characteristics, without high tonal noise; and should be fitted with acoustically treated external inlet and outlet louvres.
- 9.153 Cross-talk attenuators may be necessary where noise intrusion between adjacent spaces can arise and where individual room confidentiality is required. They will normally be of the "through-the-ceiling, up-and-over" type and may include a fire and smoke damper.

#### **Volume control damper locations**

- 9.154 In order to be able to carry out a full proportional balance, manually operated dampers are typically needed:
- in branches of zone ducts;
  - in sub-branch ducts serving four or more terminals;
  - in dedicated sub-branch ducts serving a room;
  - at terminals not covered by any of the above.
- 9.155 Dampers integral with terminals are to be avoided for final trimming of air volumes, as they often create noise and air distribution problems.
- 9.156 Dampers in rectangular ducts should be opposed-blade multi-leaf type. In circular ducts, iris-type dampers are recommended. Dampers should be accessible, incorporate a position indicator and means of locking in the commissioned position. They should be installed with the adjusting handle or knob at the lower vertical edge

so that they are accessible for the commissioning team once the ceilings are in place. Dampers should be located as far away as possible from adjacent branches or plant items.

#### **Duct cleaning and access door locations**

- 9.157 Cleaning and access doors are required to facilitate access to plant items and ductwork components for inspection, maintenance, cleaning and replacement, and should be of sufficient size to permit safe access for the required functions.
- 9.158 Recommended locations for access doors are given in the current BESA TR/19 specification and are generally provided to give access to:
- every regulating damper;
  - every fire-and-smoke, and motorised damper;
  - filters (to facilitate filter withdrawal);
  - both sides of trimmer cooling/heating coils;
  - zone humidifiers;
  - auxiliary fans;
  - ducts, where required for cleaning.
- 9.159 Care should be taken when siting access doors to ensure that no other services to be installed will prevent reasonable access.

#### **Flexible ducting**

- 9.160 Flexible ductwork can only be used to make the final connection between rigid ductwork and a terminal in exceptional circumstances where a solid connection is not possible. Where used it will cause a significant frictional loss and may be difficult to clean, so it should take the most direct route and be as short as possible, never exceeding 0.5 m in length. It can never be used in lieu of a bend and will possess the same fire rating as the ductwork it is connected to.

#### **Terminal fittings selection and sizing**

- 9.161 The effectiveness of all ventilation and air-conditioning systems depends on the methods by which air is introduced to, and vitiated air is removed from, the space. The usual results of poor air-terminal selection and/or positioning are:
- draughts;
  - stagnation;
  - poor air quality;
  - large temperature gradients;
  - excessive noise.
- 9.162 Air can be supplied to a space in a number of ways, although any device can be broadly placed into one of two categories:
- that producing a diffused supply;



- that producing a perpendicular jet.

Diffusers may be radial or linear, and normally utilise the coanda effect (that is, adhesion of the air stream to an adjacent surface) to reduce the risk of excessive room air movement. A perpendicular jet is formed by discharging air through grilles, louvres or nozzles, which are generally adjustable.

- 9.163 Supply air terminals can be incorporated into any room surface, for example, floors, walls (high or low level), desktop.
- 9.164 As they operate on the jet principle, the use of sidewall and linear grilles is restricted to areas where air-change rates are low, that is, less than 10 per hour.
- Perforated rectangular diffusers can provide acceptable conditions within the occupied zone at up to 15 ac/h. In areas where a higher air-change rate is required, square or circular ceiling-mounted diffusers should be used.
- 9.165 The performance of supply air terminal devices is based on three criteria – throw, spread and drop:
- throw is defined as perpendicular or parallel distance from the terminal to the point at which the air velocity is;
  - 0.5 m/s isovel;
  - Spread is defined as the width of the;
  - 0.5 m/s isovel;
  - Drop is defined as the vertical distance from the centre line of the terminal to the bottom edge of the 0.25 m/s isovel.
- 9.166 It is necessary to consider each of these parameters in both summer and winter conditions to ensure satisfactory operation of the air terminal device, as warm jets behave very differently from cold jets.
- 9.167 A warm jet tends to rise until it attaches itself to a horizontal surface, while a cold jet falls. Care should be taken to ensure that this does not lead to unacceptable temperature gradients in winter, or excessive air velocities in the occupied zone in summer.
- 9.168 In order to ensure satisfactory air movement within a space, it is necessary to consider interaction between air movement from adjacent terminals, and ceiling-mounted fixtures (light fittings, etc), as well as interaction between air movement and room surfaces.
- 9.169 If the supply and extract terminals are too close, short-circuiting may occur, while if they are too far apart, stagnant zones may be formed. Where two opposing air streams meet, the individual velocities should not be greater than 0.25 m/s. Further guidance on the selection of grilles and diffusers is given in the CIBSE Guide B
- 9.170 In operating theatres, the supply terminals should be able to produce a movement of air in the operating zone 1 m above floor level of between 0.2 and 0.3m/s:

- ceiling-mounted diffusers with fixed directional vanes that provide a downward turbulent airflow are the preferred option: 600 × 600 four-way blow or circular “air-master” style;
- plenum boxes fitted with perforated screens to produce a laminar downflow are also acceptable;
- linear ceiling-mounted diffusers that provide a downward-flowing air curtain around the operating theatre may also be used (additional supply terminals may be located within the area bounded by the linear diffusers to provide ventilation within the;
- air-curtained zone).

9.171 The following terminal types are not suitable for use in operating theatres because they do not produce an appropriate pattern of air distribution:

- swirl diffusers;
- single- or multi-outlet adjustable directional nozzles or jets of any type;
- sidewall-mounted linear diffusers that utilise the coanda effect to send air across the ceiling and “droop” it into the operating zone.

9.172 Extract terminals should be of an easy-to-clean design and, in order to assist identification when commissioning and subsequently measuring, be of a different design style to the supply terminals. Extract terminals mounted at low level should be of the spring clip retained, pull off face type to enable ease of cleaning. The terminal should be mounted on an angled face to prevent it becoming occluded by movable equipment or stores (see Appendix 9 for examples). Perforated plates are not to be fitted in extract terminals or extract plenums as they quickly become blocked with lint. Extract terminals do not need any directional adjustment so fixed-vane or “egg-crate” styles are preferred.

#### UCV terminal canopy

9.173 UCV canopies should be fitted with one or more non-electronic, mechanical, direct reading pressure gauge(s) to indicate the pressure drop across either a representative terminal EPA filter or the pressure in each zone of the canopy.

9.174 If a UCV canopy incorporates a method of adjusting the air discharge direction so that the canopy can be “tuned” to the room in which it is installed, the directional adjustment device(s) are to be capable of being locked in position once commissioning is complete to prevent future casual alteration.

9.175 Ceiling-mounted canopy diffusion screen(s) can become contaminated with blood spatter when in use. If the UCV canopy is fitted with perforated diffusion screens the blood spatter can penetrate, so the screens should be capable of being hinged down for cleaning between theatre cases. The screen retaining mechanism will have a double action to release the screen. Mono-filament diffusion screens should be retained by clip-in profiles or an alternative system that allows them to be easily removed when necessary.

9.176 For the validation of UCV terminal canopies, see Chapter 12.



**Transfer grille: size and location**

- 9.177 Air transfer grilles in walls, partitions or doors form an integral part of the building's air distribution system. Modern door sets have very low leakage rates so cannot be relied upon to permit even quite small airflows. Failure to make adequate provision for air to move from room to room will result in excessive pressure differentials and "door whistle".
- 9.178 Transfer grilles are required in locations where there is a significant imbalance between the supply and extract rates in a room. They will relieve any pressure differentials which may affect the operation of the spaces and/or the ventilation system and permit airflow in a known direction.
- 9.179 Care needs to be taken to ensure that the positioning of transfer grilles does not interfere with the fire or smoke integrity of the building. In general, the air transfer grilles should not be installed within fire- resisting boundaries, although if this is unavoidable, they should be fitted with fire or smoke dampers.
- 9.180 Where installed, transfer grilles should be of the non-vision type, sized for a maximum face velocity of 1.5 m/s.

**Note:** Cross-talk attenuators may be necessary where noise intrusion between adjacent spaces can arise and where individual room confidentiality is required.

**Pressure stabilisers: size and location**

- 9.181 Pressure stabilisers are required in areas where it is necessary to maintain a pressure differential between adjacent rooms and to prevent reversal of airflows for example, in operating suites, isolation facilities and cleanrooms (see paragraph 8.24).
- 9.182 Fire precautions for pressure stabilisers are the same as for transfer grilles. If the pressure stabiliser is fitted with a fire and smoke damper, the damper test switch should be easily accessible from, in airflow terms, the least clean side of the damper.
- 9.183 Pressure stabilisers should be of the balanced blade type, with the facility to make fine adjustment of the pressure setting. They should be silent in operation and give a seal as tight as practicable when closed. The materials of construction and method of assembly should allow for cleaning and disinfection.
- 9.184 Pressure stabilisers should be wall- mounted in a visible location so that their operation can be readily observed. For sizing criteria, refer to the manufacturer's information. When fitted at low level, they may require a stand-off cage to prevent occlusion (see photograph).

Figure 8 Pressure stabiliser with stand-off cage



- 9.185 Pressure stabilisers may need to be fitted with a stand-off baffle on their discharge side to prevent a sight line in situations where a laser will be used, and may be lead-lined for radiological protection if required (see photograph after paragraph 9.184). Baffles may also be needed to preserve privacy or prevent discharge air causing draughts within an anaesthetic room or bedroom. A stand-off baffle will always be needed on the theatre side of the pressure stabiliser between a "Lay-up" preparation room and a UCV theatre to prevent perturbation of the UCV canopy air pattern

**Note:** Baffles should be easy to clean and where radiological or laser protection is not required can be made of a rigid transparent material so that the action of the pressure stabiliser can be easily observed.

## Distributed air-conditioning elements

### Active and passive chilled beams

- 9.186 See paragraph 5.18 onwards for information on the use of these devices in healthcare premises and CIBSE Guide B for technical guidance.

### Constant volume boxes

- 9.187 These are units fitted in or at the termination of ductwork that contain a mechanism to maintain a constant output air volume regardless of variation in the air pressure to the supply side of the unit. Where fitted they should be accessible for maintenance as the internal mechanism that controls the constant output will need periodic cleaning.

### Variable Air Volume (VAV) boxes

- 9.188 Variable air volume systems are all-air systems which achieve local control by varying (throttling) the amount of air being supplied to each space, room or zone.

Standard type VAV systems deliver air that has been cooled to a set temperature (usually 13°C) and then control the temperature in a space by varying the quantity of air supplied rather than the supply air temperature – which is kept constant.



VAV boxes are used as terminal devices at the supply end of ductwork to modulate the quantity of supply air to the space.

There are variations to standard VAV systems which allow air supply temperatures to modulate upwards with the aim of:

- reducing energy usage by allowing higher air supply temperatures at part-load conditions;
- improving ventilation effectiveness at part-load by having higher airflows
- – VAV can be as low as 10% of peak at low-load conditions depending on the equipment used;
- allowing the system to operate using warm air in winter for pre-heating warm-up in well-insulated buildings where heating is only used in very cold weather and for building pre-heat.

9.189 In most critical areas of a hospital a fixed air-change rate is required when they are in use. VAV is therefore generally limited to non-clinical applications.

#### **Stand-alone air-conditioners**

9.190 See paragraph 5.25 onwards for information on these units. The ceiling void should never be used as a plenum either for the primary air supply or fan coil supply or return air paths. (See CIBSE Guide B for installation notes.)

#### **Powered air terminal filter units**

9.191 This is an air-distribution-supply terminal box fitted with a fan and EPA or HEPA filter. Their use in the healthcare setting would be confined to spaces where a high air quality is required for a single room in an area supplied by a general AHU (for example, a local cleanroom).

9.192 They are not suitable for use in patient bedrooms due to the fan noise and maintenance access issues.

#### **AHUs: automatic control**

9.193 Chapter 6 of this document gives guidance on energy control strategies and Chapter 7 gives guidance on the point of use factors. Chapter 8 contains guidance to specific healthcare departments and their environmental and functional requirements. This section gives guidance on the control of the AHU and its subsystems. When developing a "controls specification", the designer should consider the guidance given in all of these chapters.

9.194 Various options for control of single- and multi-zone air-conditioning systems are given in CIBSE Guide B.

#### **General requirements**

9.195 The basic requirements for an automatic control system are as follows:

- plant start, run, set-back and stop sequence;
- control of the volumetric airflow;

- control of the system or room pressure;
- temperature control and indication;
- humidity control and indication;
- devices to monitor and indicate the plant's operating state;
- alarms to indicate plant failure, low airflow, and filter state;
- the facility to collect data of actual usage and energy consumption.

The control functions actually provided will depend on the purpose of the ventilation system.

- 9.196 The designer should consider whether it is necessary for the supply and extract fans to be interlocked, either so that the supply fan will not operate unless airflow is established within the extract system, or vice-versa depending on the required pressures within the rooms being served.
- 9.197 The sequence switching of units in order to prevent transient reverse airflows will be particularly important in laboratory and pharmacy areas that also contain fume cupboards, safety cabinets and other LEV systems.
- 9.198 There will also be a need to determine the control strategy in the event of a fire either within the zone being served or within an adjoining zone and as detailed in the fire alarm cause and effect statement (see paragraph 7.16 onwards).
- 9.199 All supply AHUs should have a smoke sensor linked to the fire control panel and mounted in the main supply duct immediately downstream of the AHU. In the event of a fire in the AHU or smoke being drawn into the system from an outside source, it should cause the supply air fire damper to close and shut down the AHU.

**Note:** In certain critical departments, it is preferable to maintain the ventilation in the case of a fire within the area. For example, in an operating department while undergoing surgery the patient cannot always be easily moved without significant risk. In the event of a fire in a staff or support area of the department or adjoining zone, the continued supply of air to a theatre will maintain it at a positive pressure and protect the patient and staff from the effects of smoke.

This will allow time for the patient to be stabilised so that they can be safely.

#### Location of controls

- 9.200 Facilities to start, set-back and stop the plant should be provided in the plantroom. Remote start and set-back control and indication, if required, should be provided at a manned staff location, for example, at the reception or staff base.
- 9.201 Many ventilation systems may be completely shut down when the area served is not in active use. Alternatively, where there is a need to maintain a background condition, the ventilation output may be reduced by "setting back" the system. This will significantly reduce energy consumption and extend the life of filters and other system components. Controls to facilitate this should be triggered by the actual occupancy of the area rather than by a fixed time program (see paragraph 6.2 and associated Note).



### Start up and shut down control sequence

- 9.202 The AHU should start and shut down in a pre-determined sequence. It should ensure that the fan does not start until the main dampers are open and the energy-recovery device is operational. On shut down there may be a need for a "run on" time to purge the area served before stopping the fan and closing the main dampers. Whether the supply or extract fan should start first and stop last will be determined by the pressure regime for the area served.

### Set-back control

- 9.203 In previous times when fan motors only had two speeds, turning the system to "Set back" meant switching to the lower fan speed. With modern fans the speed is widely variable so "Set back" is not a fixed fan speed but rather a control strategy that reduces the system output in order to maintain a desired minimum condition. This may be related to the air velocity at a fixed point, air-change rate, pressure differential, temperature, humidity or a combination of these parameters. Providing a dew-point sensor in an internal space that brings the system onto "Set back" is a simple way of maintaining a minimum condition.

### AHU running controls

#### Fog/frost coil control

- 9.204 Fog coils supplied by low pressure hot water (LPHW) should be controlled using the Proportional mode. Their sensor should be located downstream of the coil to give "closed loop" control. The coil should raise the incoming air temperature by 2 K in order to ensure that air entering the pre-filter is above its dew-point, thus keeping it dry. The greater the energy put into the incoming air by the fog coil, the lower will be the efficiency of the energy-recovery device.
- 9.205 If the temperature downstream of the fog coil, as sensed by a serpentine thermostat, falls below the required set point over any part of the coil, the plant should automatically shut down in order to prevent damage to the other batteries. The serpentine thermostat cannot be in direct contact with the coil and should cover the entire coil face.
- 9.206 Steam-supplied fog or frost coils should be operated as an on/off device to ensure that there is no standing condensate at the base of the coil. They should be fitted with a serpentine sensor mounted upstream of the coil but not in contact with it. This will give "open loop" control; a set point of +1°C is recommended.

#### Energy-recovery device

- 9.207 The energy-recovery device is normally controlled by sensors in the air intake downstream of the supply fan, before the cooling coil and the extract duct from the ventilated space.

### Supply & extract fans

- 9.208 The ErP Directive 1253/2014 requires a means of adjusting the fan speed. For plug fans this is provided by a separate inverter unit; for EC fans the control is integral to the fan motor. It should be remembered that most healthcare applications require known amounts of air to be delivered while the system is in use. Constant volume systems that deliver specified air-change rates are therefore the norm. Duct- or room-



pressure-controlled variable-volume systems have a limited application in healthcare. However, fan-speed control is beneficial when “setting back” the system.

- 9.209 Inverters should not be mounted inside the air stream within the AHU. Ideally, they will be mounted on a frame with the control valves. Where inverters are mounted inside a control box with a safety master switch to cut the power supply when the box is opened, the inverter control and indicator pad will be located on the outside of the box. This will allow on-site staff to view the operating parameters and switch the system to manual control if a fault occurs with the automatic control system.
- 9.210 It is necessary to ensure that should the computer control system or its software develop a fault, the fan can be switched to manual operation. This is particularly important for critical systems serving operating suites, high dependency care units of any type, patient isolation facilities, laboratories and pharmaceutical production suites.

**Note:** In the healthcare setting it is important to recognise that “off-site” software support is no substitute for the ability of “on-site” staff to override the automatic control and keep the system operating in an emergency. Under these circumstances actions that may shorten the life of the plant are considered of secondary importance to that of preserving the health and safety of patients and staff.

#### Heater-batteries

- 9.211 The main heater-battery should be controlled in the same manner under the dictates of an off-coil temperature sensor, or a room temperature sensor, or the return air temperature depending on the plant configuration and method of control. Trimmer heater-batteries are generally controlled by a temperature sensor within the room, or by averaging temperature sensors within a zone.
- 9.212 Heater-battery control valves should drive closed on system shutdown or fan failure. The control system should then automatically set to provide frost protection.

#### Cooling coils

- 9.213 There are two basic methods of control for cooling coils:
- off-coil control – used in multi-zone systems or single-zone systems where close humidity control is required, to provide a constant maximum off-plant condition which satisfies the temperature and humidity requirements of the zone with the highest load;
  - sequential control – used in single-zone systems, or multi-zone systems with averaging sensors where close control is not required. A room or duct temperature sensor controls the cooling coil and heater-battery in sequence to maintain constant room conditions.
- 9.214 The advantage of off-coil control is that accurate humidity control can be provided without relying on humidity sensors, which are prone to inaccuracy and drift. Off-coil control is expensive to operate in terms of energy consumption because of the lack of feedback of room loads. As a result, at low loads and in systems where there are large zonal variations, significant over-cooling and reheating will occur.



- 9.215 The control logic should prevent the cooling coil and heat recovery and/or heater-battery being on at the same time.

#### Humidifier control

- 9.216 Accurate humidity control can only be provided on single-zone systems, or multi-zone systems with zonal humidifiers. In the above systems, humidity sensors control the humidifier for low-level humidity control, and override the temperature controls to open the cooling-coil valve for high-level humidity control.
- 9.217 Multi-zone systems are more usually controlled by a minimum humidity sensor located in the supply duct(s) following the last heater-battery.
- 9.218 Overriding controls separate from the normal plant humidistat should be installed. Their purpose is to prevent excessive condensation in the conditioned space when starting up. A time delay should be incorporated into the humidifier control system such that the humidifier does not start until 30 minutes after the ventilation/ plant start-up. In addition, a high limit humidistat should be installed to limit the output of the humidifier so that the saturation in the duct does not exceed 70%. This humidistat is to control the added moisture; it is not necessary to install a dehumidifier to reduce the humidity of the incoming air if it already exceeds 70% (part load control).
- 9.219 The humidifier control valve should close when the ventilation system is in "set back". In addition, on system shutdown, low airflow or fan failure, the humidifier should be isolated.
- 9.220 In a self-generating humidifier, if the humidifier is unused for a period exceeding 48 hours, it should automatically drain its water content, including that contained in the supply pipework, right back to the running main and leave itself empty.
- 9.221 With certain types of steam humidifier, it may be necessary to install a thermostat in the condensate line from the humidifier's steam supply, to ensure that the steam at the control valve is as dry as possible before it is injected into the air supply.
- 9.222 The humidifier control system should ensure that it is switched off with the fan. It is preferable to design the control system so that the humidifier is isolated for an adequate time before the fan is turned off to purge humid air from the system.

#### Control valves: general

- 9.223 The fog/frost battery control valve should fail-safe, that is open in the event of power or airflow failure. All other valves will stop in their current position in the event of power failure and should drive closed in the event of airflow failure.
- 9.224 Control valves should be located in an accessible position. Isolation valves should be provided to enable the control valve to be removed for service or replacement without the need to drain down the system
- 9.225 Care should be taken to ensure that the installation of control valves and their associated pipework do not obstruct access to the AHU inspection doors, removable drainage trays, eliminator units and access hatches.

**Note:** There are practical advantages in locating all control valves for an AHU in a bank (at a convenient height) at one end of the unit. (This should not result in an



additional control lag.) The bank will hold the control valves and actuators, and fan inverters/controllers as necessary, and can be constructed "off site" (see also paragraph 9.209).

### Monitoring and alarms

- 9.226 Monitoring of the plant performance should be via a BMS to the estates and maintenance department.
- 9.227 The "plant failure" and "low airflow" alarm should be initiated by a sensor located in the main air supply duct. This should operate when the air quantity fails to reach or falls to around 80% of the design value and will give indication of fan failure, damper closed, access door left open, or any other eventuality that could cause a reduction of air quantity. Monitoring the current drawn by the fan motor is not a substitute for a sensing device that is directly affected by the airflow. The sensing ring fitted to plug and EC fans will fulfil this function.
- 9.228 The "filter fault alarm" should be initiated by a predetermined increase of pressure differential across the filters, thereby indicating a dirty filter. The filter fault indication and alarm is information for the maintenance department; it should not appear on any point of use indicator or control panel.
- 9.229 Visual indication that the AHU is operating within its prescribed parameters should be provided in critical areas at a manned staff location, for example, the reception or staff base. These need only take the form of a green light to show the system is operational and a red light to show that it is not.

### Room temperature control

- 9.230 The limits for room temperature set point are generally between 18°C and 25°C depending on the particular application, and in some specialised instances (for example, operating departments) are adjustable within a predetermined range by the user.
- 9.231 The selection of temperature set point for each room or zone may be by a control facility in the room/zone, or remotely at the control panel or BMS. Where the control device is mounted within the room/zone and adjustable by the user, it should be marked either "raise" and "lower" or "+" and "-". It should control within a specified temperature range to suit the user requirement with a control tolerance of +1 K. All other control set points should be selectable either on the control panel or at the BMS interface.
- 9.232 Where local control is provided, an indication of temperature will be required locally, or at a staff base (if appropriate), using an analogue or digital indicator. The indicator should be large enough to be read from the normal working position (for example, at the operating table in a theatre). This may be mounted in a supervisory control panel, with the signal repeated on the main system control panel or BMS. It is important that this indicator displays the actual measured temperature and not the selected temperature.



## Local exhaust ventilation (LEV)

- 9.233 Devices that use an inflow of air to control exposure of staff to hazardous substances are classified as LEV systems under the COSHH Regulations.
- 9.234 An LEV system will typically comprise a unit where the airborne hazard is captured, ductwork to convey the extract air to the fan and a discharge stack. The extract air may be filtered or centrifugally separated to remove any particulate material prior to discharge. HSG 258 produced by the Health & Safety Executive gives detailed guidance.
- 9.235 It is important to recognise at the design stage whether an extract is being provided for comfort, to remove odours or to remove hazards, in which case it will be an LEV system. Chapter 8 lists typical devices used in healthcare applications.
- 9.236 The quantity and location of the terminals supplying the make-up air is an important factor in the design of LEV systems.
- 9.237 LEV systems are statutory items that will be subject to an independent examination and test at least every 14 months by a competent person.

### Extract ductwork and fan

- 9.238 Extract ductwork for an LEV system should, where possible, be installed outside of a building. Where it has to be inside, it should take the most direct route through, with as few bends or changes of direction as possible.
- 9.239 All ductwork joints should be sealed and ideally there should be no access hatches. Where access hatches have to be provided, they should be of a type that has a hermetic seal.
- 9.240 Some substances are particularly corrosive, so the choice of material for the ductwork, and type of extract fan fitted, should reflect the nature of the substance being conveyed.
- 9.241 The ductwork should either be fire rated or fitted with intumescent collars where it passes through fire compartments within the building. This will ensure that the extract system is unobstructed and always open to atmosphere up to the discharge point.
- 9.242 Some LEV systems (for example, microbiological safety cabinets) HEPA-filter the extract air within the cabinet unit, but it should not be assumed that the exhaust air will be totally free from microbiological or other hazardous material.
- 9.243 The extract ductwork should as far as practicable be kept under negative pressure while inside the building. The extract fan should be located outside of the building or if this is not practicable, as close as possible to the outside so that any ductwork on the discharge side inside the building is kept to an absolute minimum.
- 9.244 The extract fan drive motor should be out of the airstream and it should be possible to change the motor without disturbing the fan or its casing.
- 9.245 Duplex fans are only required when several LEV systems share a common extract system (for example, multiple fume cupboards in a large pathology department where it can be anticipated that at least one cupboard will always be in use or need to be



available for use). In such a situation each cupboard should be fitted with a non-return damper at the point that it joins the common system and be capable of being isolated from the common extract system. The common extract duct should be large enough to handle the combined extract volume from all the systems that feed into it.

- 9.246 If extract filters are fitted in the ductwork the system design should allow them to be changed safely.
- 9.247 Current standards permit the installation of microbiological safety cabinets with integral fans, provided that the extract ductwork can be kept short (that is, less than 2 m); such an installation, however, is likely to be noisy and is not recommended for use in new buildings.

#### **LEV discharge stack arrangements**

- 9.248 Roof-level discharge, wherever practicable, is preferred since it removes much of the uncertainty over air re- entering the building through ventilation inlets or windows. In such an installation, the extract fan should be situated separate from the LEV captor unit and close to the discharge stack to maintain the duct within the building under negative pressure.
- 9.249 The discharge point on a flat roof should be through a terminal at least 3 m above roof level but as high as necessary to limit re-entry into supply air inlets or other plant openings. This will protect those who may need to access the roof. Terminals at other roof types need to be high enough to prevent the wind blowing across the roof from causing downdrafts.
- 9.250 Where there are adjacent buildings with opening windows, or where downdrafts are likely to occur, it may be necessary to increase the height of the discharge stack in order to achieve adequate dispersal. In complex locations, airflow modelling or wind tunnel tests may be required to determine the optimum height.
- 9.251 The discharge stack should have an open end. It may be fitted with a collar to reduce its area and so increase the air efflux velocity at the point of discharge (known as the venturi effect). To ensure that air leaving the terminal is not deflected down but allowed to disperse freely, the terminal cannot be fitted with any sort of cover or hat. A drain may be required at the base of the discharge stack to remove any rain that enters (see photograph).

**Figure 9 Typical LEV discharge stacks**





**LEV system information and identification**

- 9.252 Once installed, all elements of each LEV system should be uniquely identified with a permanent label as described in Chapter 13. There is a statutory requirement to have information on the design and required operational performance of an LEV system available to those who are responsible for its operation and
- 9.256 maintenance. The designer should ensure that this information is available at handover.

Interim

## 10. Installation Standards

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### General

- 10.1 AHUs, ductwork sections and associated elements of the ventilation system will be delivered to site suitably packaged to protect them from damage and casual contamination. They should remain protected when stored on site awaiting installation.
- 10.2 Ductwork should be installed to the "Advanced Level" as defined in BESA's (2019) 'TR/19: Guide to good practice – internal cleanliness of ventilation systems'. Should any doubt exist as to whether the guidance has been observed, the ducts should be cleaned internally to restore them to this standard and be visibly clean before being taken into use.
- 10.3 When the ventilation elements are installed, all open ends have to be sealed to prevent the ingress of construction dust as installation progresses. The access doors and panels of AHUs should be kept closed. All AHU dampers and fire dampers should be covered to prevent casual contamination during the construction phase. This is particularly important for fire dampers mounted in the plantroom floor. The damper blades should be wiped clean before final connection to the distribution ductwork.
- 10.4 The area around the supply air intake should be kept free of vegetation, waste, rubbish, builders' debris or any other possible source of contamination.
- 10.5 "Builders' work" ducts of brick or concrete should have a smooth internal finish and be surface sealed to prevent the release of dust before being taken into use. They should be fitted with a drainage system if not self-draining.
- 10.6 Every effort should be made to prevent the internal contamination of the ventilation system during the construction phase as once contaminated, it is extremely difficult to completely remove dust and debris. In particular, extract and recirculation fans should not be run up until the area is at least "builders clean" – that is, the floors swept and wet-mopped – otherwise the energy-recovery device in the AHU could become contaminated and its efficiency significantly reduced.

### AHUs

- 10.7 Units should have a working life of up to 20 years; it can be anticipated that over this period there will be a need to access every element within the unit for deep cleaning. It is also quite possible that during the life of the unit, the main fan and all control valves will need replacement. Heater and cooling coils may also need to be repaired or replaced. Suitably positioned service connection joints and adequate spacing should permit these items to be isolated and withdrawn without the need to drain down entire systems or dismantle other installed plant.
- 10.8 Care should be taken during installation to ensure that electrical and mechanical services are not installed in positions that will reduce or impede access. Mounting all control valves and fan controllers on a frame positioned adjacent to the unit is the



preferred option. This approach has the advantage that the frame and its components can be built and tested "off-site".

- 10.9 In order to reduce the effects of galvanic corrosion, black iron fittings should not be used in the pipework installation. Rolled jointed stainless-steel pipework is preferred.
- 10.10 Vibration from a remote plantroom can be transmitted by the structure of the building, and may be regenerated and sometimes magnified many times. Pipe and ductwork should incorporate anti-vibration couplings, pipe hangers and supports, preferably in two planes at right angles, as close to the vibration source as possible.
- 10.11 The service connection points for pipework and electrical conduits will have been made during construction of the unit. The unit will then have been leak-tested in the factory prior to delivery to site. If there is a need to drill through the AHU casing or panels (for example, to mount a sensor), the hole should be as small as practicable and sealed to prevent air leakage.
- 10.12 It is essential that the AHU/ductwork is mounted far enough from the floor to permit the correct installation of drainage systems for cooling coils, humidifiers and heat recovery systems. If the AHU is located on a roof, it will require a clearance of 600 mm to provide access to maintain the building structure below. Sufficient height for the installation of drainage pipework and traps should always be allowed. Easy access for maintenance of drainage systems and their associated pipework should be provided. It should be possible to fully withdraw the drainage tray if it is of the removable type.
- 10.13 AHUs should be positioned so that all parts are easily and safely accessible for routine inspection and service. If a unit is located against a wall or backs onto another unit, access to all parts should be available from the front. Units greater than 1 m wide should preferably have access from both sides or access doors large enough to permit the full and safe entry of maintenance personnel.
- 10.14 Air filters, cooling-coil drainage trays and drift eliminators are all items that should be changed, inspected or withdrawn on a regular basis. The installation of the AHU should permit this without the need for tools or to dismantle other plant or systems.
- 10.15 Access to air intakes and discharges, AHUs and items in the distribution system such as filters or auxiliary trimmer batteries located in a plantroom or plant area should be via fixed ladders, hook ladders, pulpit style steps or other moveable access platforms. The installation of distribution ductwork and other electrical or mechanical services should provide sufficient clearance to allow access equipment to be moved into position.

### Distribution systems

- 10.16 Where ductwork penetrates a roof, it should be protected by an upstand to prevent water penetration. Where it penetrates an outside wall, the method of installation should prevent water tracking along the ductwork into the building or its wall cavity.
- 10.17 The installation of all services in service ducts and above ceilings should be coordinated so that cable trays, medical gas and other pipework do not obstruct or



prevent access to the ductwork cleaning doors, dampers and any auxiliary plant elements. The use of BIM should highlight clashes at the design stage.

- 10.18 Plant elements such as VAV boxes, trimmer heaters or cooling coils, humidifier lances or branch filters that are located outside of plant spaces should be accessible for routine inspection and have a cleaning access door on both sides. They cannot be installed above any of the following areas:
- operating theatres;
  - preparation rooms or sterile pack stores;
  - anaesthetic rooms or recovery areas;
  - rooms containing imaging equipment;
  - pharmacy cleanrooms;
  - containment laboratories;
  - patient bedrooms and isolation rooms.
- 10.19 Rectangular ductwork sections should be joined by bolted or clipped gasketed flanges. Circular and flat-oval slip-joints should be mastic-sealed and held with blind rivets, not screws. The mastic used should not support biological growth. The ductwork installation will be leak-tested prior to acceptance.
- 10.20 Volume control dampers (VCD) should be oriented so that their adjusting handles or knobs are located at the lower vertical edge or bottom of the damper when mounted above ceilings. The means of adjusting the damper will be within sight and reach from a designated ceiling void access hatch once the ceiling is complete. Volume control dampers mounted in any location should have the control adjuster mounted to allow easy access for the commissioning team and for future access when a post-cleaning rebalance is undertaken.
- 10.21 Access to VCDs or local auxiliary fans mounted above ceilings should be via low-leakage access hatches mounted in the ceiling or hatches integral to a light fitting.
- Note:** Obtaining access by removing a light fitting is not acceptable.
- 10.22 Where ducts are drilled to provide test holes or to mount sensors, the swarf should be removed, and the hole deburred before the fan is started.
- Note:** Care should be taken to prevent the inadvertent drilling of attenuators.
- 10.23 Flexible ductwork may only be used if there is no other way of connecting an air terminal to a duct. The flexible duct should be not more than 0.5 m in length, be as fully extended as possible and never used in lieu of a bend. The fire rating of the flexible duct should be no less than that of the fixed duct that it is connected to (see also paragraphs 9.131 and 9.160).
- 10.24 Fire and smoke dampers must be installed strictly in accordance with their manufacturer's instructions. There will be a rectangular access hatch (saddle mounted for circular ducts) and test switch adjacent to the damper so that a single person can trigger the damper and directly observe its operation during the annual



test (see photograph). When pressure stabilisers incorporate a fire damper, the test switch is to be located in an easily accessible position on the less clean side of the pressure stabiliser.

Figure 10 Fire damper with test switch and inspection hatch



### Point of use

- 10.25 Items of equipment that require access for inspection and cleaning should not be accepted if they are installed in locations that prevent easy access.
- 10.26 Items of equipment that require access for inspection and cleaning such as fan coil units will not be accepted if they are installed directly above medical or diagnostic equipment.

**Note:** A common problem occurs because installation layout drawings show fan coil or similar units on the room plan. These are often only "indicative" of the fact that there will be a unit in the room but are taken as the desired position by those carrying out the installation. As an example, the installation drawing for an interventional imaging room shows a fan coil unit in the centre of the ceiling. If it is installed in this position it will be directly above the scanner once that is installed. The fan coil unit will then not be accessible for routine inspection and maintenance, and should it leak water, it will put the scanner out of action.

- 10.27 The installed position of ceiling terminals in storerooms (for example, a theatre's bulk sterile pack store) should coordinate with the siting of the storage racking. The airflow at the terminals should be routinely measured, so the racking and its contents should not obstruct access to the terminal when using a calibrated hood. The same problem can occur in recovery rooms and ward areas where bed curtain rails and bed hoist tracks can prevent the measurement of airflow from ceiling terminals.
- 10.28 Low-level extract grilles should be of the pull off face type for ease of cleaning.
- 10.29 See pictures of low level extract installations in Appendix 9.

### Service penetrations

- 10.30 Where services penetrate the fabric of the building, they should be sealed to prevent any uncontrolled air leakage between rooms and service spaces or voids. Situations where this occurs will be:
- service spaces behind IPS panels at wash basins and scrub troughs;
  - cased in wall-mounted medical gas pipeline units and ceiling-mounted pendants;
  - electrical trunking and bedhead rail systems;
  - boxed-in main and local drainage pipework;
  - ceiling-mounted operating lights, examination lights and other pendant-supported items.
- 10.31 The sealing should be at the point that the service penetrates the wall, ceiling or floor and not at the access panels or covering shrouds as these will need to be removed from time to time. Sealing of the penetrations should be done at first-fix stage as access will become progressively more difficult once final covers and finishes are applied. In certain applications, permeability testing will be carried out at first-fix stage to ensure that this has been done.

**Note:** The "clean zone" is not the same as the overall size of the canopy, and it is vital to consult the UCV canopy supplier in order to get the position and size of the zone correct, as mistakes are expensive to rectify.



# 11. Commissioning Systems

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## General

- 11.1 Commissioning is the process of advancing a system from physical completion to an operating condition. It will normally be carried out by specialist commissioning contractors working in conjunction with equipment installers. Commissioning of the ventilation system will normally be the responsibility of the main or mechanical contractor who should coordinate the process.
- 11.2 Commissioning is often subdivided into sections (for example, air handling unit, automatic controls, air side balance, building fabric and fittings). Each section may be commissioned by its specialist installer, and they are often accepted in isolation.
- 11.3 Commissioning is an essential process for ventilation systems. It is therefore important that adequate provision for the process be made at the design stage of the project. Procedures for commissioning air-handling systems are given in CIBSE Commissioning Codes and BSRIA BG 49 – Commissioning Air Systems.
- 11.4 The duct design process should take into account the requirements of system balancing. The position and number of regulating dampers included in the design should be sufficient for this purpose.

## Location of dampers and test holes

- 11.5 Balancing/commissioning dampers will be required in each branch of the distribution ductwork. In a critical system such as an operating suite, the branch to each room and each location where it is required to carry out a proportional balance should have a balancing damper.
- 11.6 Test holes for the measurement of airflow will be required at carefully selected points in main and all branch ducts. The number and spacing of holes are given in the BSRIA BG 49/2015 Commissioning Air Systems. Their positions should be identified at the design stage.
- 11.7 The test positions need to be accessible for commissioning to take place. They may also be required for subsequent annual verification of the system performance, so they should not be covered by permanent lagging.
- 11.8 The measurement point should be in a straight length of duct as far away as possible from any upstream bends, dampers or other elements that could cause disturbance to the airflow. The actual location should be:
- at least 1.5 duct diameters upstream of sources of turbulence such as dampers and bends;
  - if this is not possible, ten diameters downstream of dampers, bends or tees, and five diameters downstream of eccentric reducers;
  - where there is enough space round the duct to insert the pitot tube and take readings;
  - where the duct has a constant cross-sectional area.

Test holes for measuring total airflow from a fan should be located either four diameters upstream or ten diameters downstream of the fan. Provision should also be made for measuring the fan's speed of rotation.

**Note:** Plug and EC fans are supplied with a measuring ring so their output can be read directly. This needs to be connected to an external pressure tapping or electronic fan control unit.

### Information to be provided

11.9 It is essential that the designer should pass on the system-design intent fully to the commissioning engineer by providing:

- relevant parts of the specification;
- schematic drawings indicating data listed in Table 11;
- equipment schedules;
- controller and regulator schedule;
- fan performance curves;
- wiring diagrams for electrical equipment, including interlock details

**Table 11: Information to be provided on schematic drawings**

Items in system	Information to be provided
Fans	Fan total pressure Volume flow rate at normal and set back speed Maximum motor current
Plant items	Type and identification numbers from equipment schedules Fluid and air volume flow rates Fluid and air side pressure losses Dry bulb temperatures Wet bulb temperatures Humidity
Dampers, including motorised and fire dampers	Identification numbers from equipment schedules Location Identification number Volume flow rate
Main and branch ducts	Dimensions Volume flow rates and velocities Identification numbers from equipment schedules
Test holes and access panels	Location and size of duct Identification number Design airflow rate
Room supply and extract terminals	Location Identification number Grille or diffuser factor Volume flow rate and neck velocity Operating static pressure
Pressure cascade	Room differential pressures Airflow direction between rooms Pressure stabiliser and transfer grille locations
Internal environment conditions	Design room conditions and adjustable range Specific room air velocity if specified Noise level
Controllers	Set points



**Notes:** Fan total pressure is the difference between the total pressure (static pressure + velocity pressure) at the fan outlet and the total pressure at the fan inlet. Where volume flow rates are variable, maximum and minimum values should be provided.

### Commissioning personnel

- 11.10 It is unlikely that all the required commissioning skills will be possessed by one individual; a commissioning team is therefore usually needed. The objective of commissioning is to ensure that the necessary performance and safety requirements are met.
- 11.11 During the commissioning process a great deal of information will be generated which will form an invaluable future source of reference about the plant. It is essential to ensure that it is collected together in the form of a commissioning manual and handed over to the client on completion of the contract together with the "as fitted" drawings.
- 11.12 In order to be successful the commissioning process will need to start before practical completion, as many parts of the system will become progressively less accessible. The correct installation of those parts should be witnessed and leak rate tests carried out as construction proceeds. Failure to establish responsibility for commissioning early enough will delay the completion of the project or lead to unsatisfactory plant performance (see CIBSE Commissioning Code M).

### Commissioning brief

- 11.13 The commissioning team will require a detailed brief from the system designer. This should include:
- a "user" brief comprising a description of the installation and its intended mode of operation;
  - the precise design requirements with regard to the scheme of air movement, room static pressures, supply and extract airflow rates and acceptable tolerances;
  - full details of the design conditions both inside and out, for winter and summer, together with the control strategy;
  - equipment manufacturers' type test data, commissioning, operation and maintenance recommendations;
  - drawings showing the layout of the system, positions of airflow measurement test points, dampers, regulating devices and filters within the duct runs, together with sizes of ducts and terminal fittings. It will save time if these drawings are annotated with the design volumes and static pressures required at each branch and outlet point;
  - wiring diagrams for all electrical equipment associated with the air-handling systems, including motor control circuit details and any interlocking and safety devices.
- 11.14 CIBSE Commissioning Code A – 'Air distribution' or BSRIA BG 49 – 'Commissioning air systems' provide full guidance on the information that will be required by the commissioning team.



- 11.15 Designers should specify the type of measuring instruments and test procedures. They should include in the contract documents instructions on verifying the accuracy of test instruments, which should be supported by reference to relevant calibration certificates.
- 11.16 The system, on completion, should be operated by the contractor as a whole and subject to performance tests in accordance with the contract requirements. These will include independent validation of the system performance on behalf of the client.
- 11.17 The commissioning process should be carried out in the order in which it appears in this guidance document. That is to say, the static checks and visual inspections itemised in paragraphs 11.20–11.26 should be followed by the dynamic tests described in paragraphs 11.27–11.46, the performance tests listed in paragraphs 11.47–11.64 and finally the handover procedures set out in paragraphs 11.63–11.65.
- 11.18 Once the system is shown to meet the design intent, the handover documentation should be completed. In the event of performance not being acceptable, the matter should be dealt with in accordance with the contract arrangements.

### Pre-commissioning checks

- 11.19 The pre-commissioning checks consist of visual inspection, manual operation of equipment, static measurements and functional tests of individual components. They should be carried out prior to setting the system to work and undertaking the dynamic commissioning process set out in paragraph 11.27 onwards.

**Note:** Before commencing commissioning, it is essential that builders' work in the area served by the system is complete. The doors and windows should be fitted, floor finishes applied, walls and ceilings completed and their final finish applied. Fans should not be run until the area is clean (see paragraph 10.6).

### Standard of installation

- 11.20 During the installation of the system the following will be witnessed:
- that the plant and installations have been provided and installed in accordance with the design specification and drawings;
  - that only approved sealants have been used in the installation;
  - that all components function correctly;
  - that the satisfactory sealing of access doors and viewing ports has been carried out;
  - that the AHU airtightness test as per BS EN 1886 has been carried out;
  - that air-pressure tests and air-leakage tests on ventilation ducting have been carried out in accordance with the methods set out in the BESA DW143 – 'Ductwork leakage testing' but the leakage rate to be not greater than 3% (it is usual to carry out these tests a section at a time as the ductwork is installed and before its insulation is applied. The results will be recorded in the commissioning manual);
  - that gaps around doors and hatches are as specified in the design;

- that the permeability tests are carried out as per paragraph 12.17;
- that the correct operation of pressure stabilisers, control dampers, isolating and non-return dampers have been checked;
- that test holes have been provided in their specified locations and are sealed with suitable grommets;
- that control dampers are secured and their quadrants fitted correctly;
- that any interlocks are operative and in accordance with specification;
- that the electric circuits are completed, tested and energised;
- that electric motors have been checked for correct direction of rotation both at full speed and set back;
- that cooling and heating media are available at correct temperatures and pressures and in specified quantities
- that the air-conditioning plant components and controls function correctly;
- that the air-conditioning plant interlocks and safety controls function correctly;
- that the plant is physically complete, insulation is applied and all ducts and pipework are identified as specified;
- that all service penetrations of the fabric of the area are sealed at the point of penetration (see also paragraph 10.30);
- that the building housing the ventilation plant is generally in a fit condition for commissioning and performance tests to commence, that is, windows, doors, partitions, ceilings, etc. are completed, surfaces sealed and their final finish applied;
- that the areas containing the ventilation plant and those being served by it are clean;
- that access to all parts of the system is safe and satisfactory.

#### **Certification of equipment**

11.21 The following test certificates should be assembled by the commissioning team and be available for inspection at any time during the contract period. They will form part of the handover information and should be placed in the commissioning manual:

- type test performance certificates for fans;
- pressure test certificates for:
  - heater-batteries;
  - cooling coils;
  - humidifier (if appropriate);
- type-test certificates for attenuators;
- type-test certificates for primary and secondary filters;
- individual test certificates for EPA or HEPA air filters.



### Equipment tests

- 11.22 Prior to setting the system to work the following will be witnessed and proving tests should be carried out as detailed:

#### Filters

- 11.23 The quality of filter housing and in particular, the seals, is a critical factor in maintaining the efficacy of the filtration system by ensuring that air does not bypass the filter elements. Therefore, the following checks should be made:

- filter seals should be fitted and in good condition;
- filters should be installed correctly with respect to airflow;
- bag filters should be installed so that the bags are vertical and their pockets free;
- all filters should be checked to ensure they are free of visible damage;
- EPA or HEPA filters should be scanned with an LSAPC to prove that they and their housings achieve the specified filter efficiency;
- the differential pressure indicators should be checked for accuracy and that they are marked with the initial and final filter resistance.

#### Drainage arrangements

- 11.24 The drain should conform in all respects to the standard set out in paragraph 9.105 onwards. In addition, the following should be proved:

- that the drain tray is easily removable or completely accessible;
- that the drift eliminator (if fitted) is removable without the use of tools;
- that a borosilicate glass trap is fitted and is easily removable;
- that the trap discharge point to drain has a clear air-gap of at least 15 mm;
- that the pipework is supported so that the air-break cannot be reduced;
- that the drain system from each drain tray is independent up to the air- break.

- 11.25 The operation of the drainage system is then proved by introducing water into the duct at the drain tray and observing that it completely drains out. This check is to be repeated both at normal speed and set back once the fans have been commissioned. At this time the clear trap can be marked to indicate the normal water level with the fan running.

#### Fire dampers

- 11.26 The following will be witnessed and proving tests should be carried out as detailed:

- the operation of all fire and smoke dampers (fire dampers fitted with a thermally actuated "memory metal" mechanism should be proved using a hot air heat source);
- the access provided to enable the dampers to be visually inspected and/ or reset should be sufficient for the purpose;
- indication should be provided of the dampers' position (open/tripped);



- indication of the fire dampers' location should be provided both on the ductwork and at a visible point on the building fabric if the ductwork is concealed.

## Dynamic commissioning

### Air-handling and distribution system

- 11.27 Before commencing the dynamic commissioning all rubbish should have been removed and the floors swept and wet- mopped (see paragraph 10.6). Any IPS panels should be in position, access hatches closed, light fittings in place and ceiling tiles clipped down as necessary.
- 11.28 The fan drive, direction of rotation, speed and current drawn should be set in accordance with their manufacturer's instructions. In the vast majority of healthcare applications, the fan output should be set to give a constant volume of air. This to be controlled by measuring the pressure drop across the fan using a sensing ring and associated volume controller that will automatically integrate the fan 'K' factor to determine and control the pre-set output air volume. The fan output will then in air volume terms remain constant regardless of changes of system resistance. The actual volume delivered will be related to the air-change rate for the application.
- 11.29 After the installation has been checked to ensure that it is in a satisfactory and safe condition for start-up, it should be set to work and regulated to enable the plant to meet its design specification. The proportional balancing method described in the CIBSE Commissioning Code A should be followed. The airflow rates will be set within the tolerances laid down in the design brief. This will normally be the design airflow rate +10%; -0%.

**Note:** Plug fans are fitted with a measuring ring so that the design volume flow can be set when first started. It can then be reset as the airflow balance progresses. This method will result in the correct airflow with the least total system resistance once balancing is completed.

### Air commissioning measuring equipment standards

- 11.30 All test and measuring equipment used will have a certificate to prove that its calibration has been checked within the previous 12 months at a facility using traceable national standards.
- 11.31 System performance should be measured at the main and branch duct supply and extract test points using a pitot and manometer or a thermal anemometer.
- 11.32 Supply and extract air volumes at the room terminals should be measured using a calibrated hood with back pressure compensation. If a hood correction factor is applied, it should be determined by a direct comparison with a duct measurement immediately adjacent to a terminal and not a general comparison between air at the main supply duct and the total as measured at the terminals. For multi-directional terminals a correction cross will be fitted in the measuring hood.

**Note:** Measurements taken with a "home- made" hood or cone will not be accepted.



- 11.33 Measurements at extract grille faces should, where possible, be taken using a calibrated hood. Alternatively, they may be measured with a rotating vane anemometer fitted with a hood, or as a last resort, scanned using a rotating vane anemometer and a free area factor applied. The grille face free area and factor used should be stated in the commissioning report.

#### Order of commissioning

- 11.34 When combined supply and extract systems are to be balanced and the area that they serve is to be at or above atmospheric pressure, the supply should be balanced first with the extract fan switched off, and then the extract balanced with the supply fan(s) on. The supply balance should then be rechecked.
- 11.35 For combined systems where the area that they serve is to be below atmospheric pressure, the extract should be balanced first with the supply fan switched off and then the supply balanced with the extract fan on. The extract should then be rechecked.
- 11.36 On completion of the balance, all volume airflows in supply and extract ducts and from grilles and diffusers will be measured and recorded. The true air- change rate can then be calculated from the data obtained.

**Note:** For accuracy the room dimensions should be actually measured on site rather than deriving them from design drawings.

- 11.37 All supply and extract duct volume control dampers should be locked and their position marked and the fan motor settings noted and recorded.
- 11.38 All grille and diffuser volume control registers should be locked to prevent alteration and their final position marked.

#### Room air distribution

- 11.39 The pressure relief dampers and pressure stabilisers will be set to achieve the specified room differential pressures and locked. The grille direction control vanes and diffuser cones will be set to give the specified air movement pattern. Visualisation techniques may need to be employed to prove the required airflow pattern is being achieved and detect any adverse coanda effects (see paragraph 9.162).

**Note:** When balancing combined supply/ extract cascade ventilation systems (for example, operating suites, cleanroom suites), the airflow through the extract terminals in the adjacent corridors may need to be adjusted outside of their original design values in order to achieve the desired room pressure differentials.

#### Air-conditioning plant

- 11.40 The specified flow rate and/or pressure drops will be set for all heater- batteries, cooling coils and humidifiers. The methods described in the CIBSE Commissioning Codes W and R should be followed. On completion their regulating devices will be locked to prevent alteration.

#### Control system



- 11.41 The control system should not be commissioned until both the air distribution system and air-conditioning equipment have been commissioned.
- 11.42 Because of the specialised nature of control systems and the fact that each manufacturer's system will contain its own algorithms and settings, commissioning should be completed by the supplier, and witnessed and documented by a representative of the client (for example, the healthcare organisation's appointed validator).
- 11.43 In the vast majority of healthcare applications, the fan output should be set to give a constant volume of air. This to be controlled by measuring the pressure drop across the fan using a sensing ring and associated volume controller that will automatically integrate the fan factor to determine and control the pre-set output air volume. The fan output will then in air volume terms remain constant regardless of changes of system resistance. The actual volume delivered will be related to the air-change rate for the application.

**Note:** Measuring the air pressure in the main supply duct and using that to set the supply fan speed as a percentage of its rated output and using that to set the extract fan speed as a percentage of the supply fan speed is not a satisfactory, accurate or acceptable way of controlling the desired supply and extract air volumes.

- 11.44 The location of all control and monitoring sensors should be checked and their accuracy proved.
- 11.45 The control system's ability to carry out its specified functions will need to be proved. The correct operation of any alarm systems should also be proved.
- 11.46 If the plant is provided with a "users" control panel in addition to the one located in the plantroom, the operation of both should be proved. This will typically apply to operating departments and laboratory systems.

### Specific performance standards

- 11.47 The performance of the system should be measured and compared with information provided by the designer.

### Plant capacity and control

- 11.48 When setting to work and proving the design, both the manufacturer of the air handling plant and the control specialist should attend site together and jointly commission the system.
- 11.49 If any doubt exists as to the capacity of the installed system, its ability to achieve the specified inside design conditions with the plant operating at winter and summer outside design conditions should be proved. Artificial loads will be required in order to simulate the internal gains/losses and the outside design conditions.
- 11.50 On completion of the plant performance test, recording thermo- hygrographs should be placed in each room/ area served by the plant and also the supply air duct upstream of the fog coil. The plant should be run for 24 hours with all doors closed.



During this period the inside conditions should stay within the tolerances specified. Alternatively, the BMS may be used to obtain the information required.

### Noise levels (general)

- 11.51 The commissioning noise level is that measured with a sound level meter in the unoccupied room, taking account of the external noise together with the noise generated by the ventilation system. Chapter 8 and Table 1 in Chapter 4 give information for many applications.
- 11.52 The noise levels apply at the maximum velocity for which the system is designed to operate. Acoustic commissioning tests should be carried out with all plant and machinery running normally and achieving the design conditions of airflow, temperature and humidity.
- 11.53 An industrial-grade Type 2 sound level meter will normally be sufficient to check the noise level. Its accuracy should be checked using a calibrated sound source before use.
- 11.54 The noise level readings are to be taken at typical normal listening position 1.5 m above floor level and at least 1 m from any surface and not on any line of symmetry. In critical rooms the noise should be measured at the centre of the room and at the centre of each quarter. The mean of the five readings should then be calculated.
- 11.55 In the event of a contractual deficiency a Type 1 precision-grade sound level meter should be used and the noise level determined by the procedure given in Scottish Health Technical Memorandum 08-01.

### Filter challenge

#### General ventilation filters

- 11.56 In-situ performance tests will not normally be required for primary and secondary filters and their housings. However, the filters should be visually inspected for grade, tears, orientation and fit within their housing. Filters should be clean and a replacement set available. Bag filters should be installed so that their bags are vertical and spaced so that air can move through them freely.
- 11.57 Air leakage around a filter housing significantly reduces the filter efficiency. The as-fitted filter housing and access door arrangement should not permit air to bypass.
- EPA or HEPA filters (for exhaust protective enclosures and laboratories)
- 11.58 Pathogenic material may be discharged through damaged or badly installed EPA or HEPA terminal filters. The complete installation should be tested using the method set out in BS EN ISO 14644 and ISO 17141.

The challenge tests may be carried out using either of the following techniques:

- a light scanning airborne particle counter (LSAPC) and a natural challenge to detect leaks;
- dispersed oil particle (DOP) to provide the challenge and a photometer to detect leaks.



- 11.59 In both cases the upstream challenge should be measured. A measurement of particle penetration through a representative section of the EPA filter media is then taken and used as the reference background level. These two readings enable the range of the detecting instrument to be set.
- 11.60 With an LSAPC the filter face is sampled at several points to establish the smallest non-penetrating particle size. This will directly relate to the grade of filter under test. The filter face, its seal and housing are then scanned, and if a significant number of particles at or above this size are detected, there is deemed to be a leak at or near the test position.
- 11.61 With DOP a challenge aerosol of inert particles of the type produced by a dispersed oil particle generator is introduced into the air, upstream of the EPA or HEPA filter. The downstream face of the filter, its mounting seal and housing are then scanned for leakage using a photometer. A leak should be deemed to have occurred if a steady and repeatable reading on the photometer at any point exceeds 0.01% of the upstream reading.
- 11.62 Should the EPA or HEPA filter fail this test, it will be replaced. Should the filter mounting seal or housing fail this test, it may be repaired and the test repeated.

### **Ventilation system commissioning records**

- 11.63 Following commissioning, the main contractor will collate the individual commissioning reports together with the plant user manuals ready for handover.
- 11.64 The fire dampers will have been tested by a specialist, and a written statement detailing which fire dampers were tested, when and by whom should be provided. If any fire dampers in the system were not tested, they should be listed and appended to the statement.
- 11.65 The airflow balancing report compiled by the commissioning engineers should be available to the validator. The report should include copies of the equipment calibration certificates.

## 12. Acceptance Testing: Validation

- 12.1 All new and refurbished ventilation systems should be independently validated prior to acceptance by the client.
- 12.2 Validation differs from commissioning in that its purpose is to look at the complete installation from air intake to extract discharge and assess its "fitness for purpose as a whole". This involves examining the fabric of the building being served by the system and inspecting the ventilation equipment fitted as well as measuring the actual ventilation performance. Validation is not a snagging exercise; see the Note after paragraph 12.30.
- 12.3 Validation is a process of proving that the system in its entirety is fit for purpose and achieves the operating performance originally specified. It will normally be a condition of contract that *"The system will be acceptable to the client if at the time of validation, it is considered fit for purpose and will only require routine maintenance in order to remain so for its projected life."*

### Appointment of validator

- 12.4 In order to ensure that the complete system operates correctly it will be necessary to validate it as a whole from the air intake through to the extract discharge. It is unlikely that the client's in-house staff will possess the knowledge or equipment necessary to undertake this process. Validation should therefore be carried out by a suitably qualified competent engineer appointed by the client. The validator would be the client's AE(V) (see Chapter 2 in Part B of Scottish Health Technical Memorandum 03-01) or someone of similar standing who is familiar with the ventilation requirements for healthcare facilities. They will be completely independent of the system designers, contractors, suppliers, installers, commissioners and those who will subsequently operate and maintain the system.
- 12.5 To retain independence, the validator should be appointed and paid directly by the client. The validator will act as the client's representative to inspect the system, check its performance and recommend acceptance, or not, to the client.

**Note:** "Client" means the healthcare provider, not a contractor or service provider.

### Design proposal review

- 12.6 It is essential that whoever has been appointed to carry out the final validation acceptance of the system should be involved in the initial client's brief and design specification, preferably prior to the project being put out to tender. They will then be fully aware of the client's requirements and any limiting factors.

**Note:** While it is beneficial to involve the client's validator in the design process, it should be remembered that the appointed designer carries the "design risk" and advice from the validator will not obviate this.

- 12.7 It is important that the validator understands the complete project and not just the obvious ventilation aspects. Decisions about the type of ceilings, doors, access



hatches, fire compartmentation, floor markings, room functions, their adjacency and the proposed workflow patterns all have a direct effect on the likelihood of being able to achieve the desired ventilation performance. It is not sufficient to consider the ventilation in isolation.

- 12.8 During this process any derogations proposed by the contractor/supplier should be clearly defined, agreed and documented with the client (for example, through the VSG). All parties will then be clear as to what will be the acceptable standard of installation and performance when finally validated.
- 12.9 The ventilation designer(s) should provide the validator with system information listed in Table 11. The information should be in the form of an annotated drawing for each ventilation system to be validated. They should also provide any other design or specification information that will assist the validation process.
- 12.10 The contract arrangement should give the validator the right to visit the site as often as they deem necessary during the contract period.

### First fix inspection

- 12.11 The validator should carry out a physical walk-around inspection of the installation at a point in the project when the AHU is "on site" and the main and branch ductwork is for the main part installed, but prior to the ductwork being concealed behind wall panelling or ceilings.
- 12.12 If possible, the following airtightness tests should be witnessed during the inspection:
- AHU installation leakage (BS EN 1886);
  - supply and extract duct leakage (BESA DW/143);
  - initial permeability test (see paragraph 12.17).
- 12.13 The quality of the installation, compliance of the AHU, suitability of the basic installation, location and future accessibility of commissioning dampers, location and compliance for testing of fire dampers, etc., can all be assessed during the visit.
- 12.14 When validating large projects that have many AHUs, it is worthwhile to visit the AHU manufacturer to inspect a specimen unit and agree its compliance before all remaining units are built and transported to site. At that time the leakage and deflection tests can be demonstrated by the AHU supplier in their factory.
- 12.15 Once units are delivered to site, it is useful to get all mechanical and electrical services connected to a specimen AHU. The location of pipework joints, drain points, anti-vibration couplings, isolating and control valves can all be agreed, as can the route of cable ways and control wiring. The object will be to create an agreed "exemplar unit". If all other AHUs are installed in an identical fashion, they will normally be considered compliant at the time of final validation.
- 12.16 On completion of the first fix visit the validator should provide the client with a short report identifying items that are not compliant with the specification.

## Permeability testing

12.17 The following areas will require permeability testing:

- isolation suites of any type;
- operating suites of any type;
- pharmacy aseptic preparation facilities;
- IAP cleanrooms in central decontamination units (containment leak test in accordance with BS EN ISO 14644-3:2019);
- category 3 and 4 containment facilities;
- any other area specified within the contract.

The methodology for permeability testing is set out in BSRIA document BTS 3 – 'Air permeability testing of isolation facilities'.

12.18 An initial permeability test should be witnessed at first-fix stage when the envelope of the suite is physically complete but before wall, ceiling and floor finishes are applied. The objective will be to find and eliminate any construction leaks (for example, between a floor slab and curtain wall) before they become covered up during the fit-out stage (see paragraph 10.30).

12.19 A full permeability test in accordance with the methodology given in BSRIA BTS 3 will be carried out at practical completion to ensure that all service penetrations have been adequately sealed.

**Note:** Any leaks discovered during the test are to be sealed at the point of penetration of the building fabric envelope and NOT at the gaps around IPS panels, ceiling hatches or bedhead trunking covers, etc. (see also paragraph 10.30).

## Follow-on inspections

12.20 Dependent on the size and complexity of the installation, a second and further inspection visits may be required. The validator should attend site as frequently as necessary in order to try to eliminate any installation issues as the project develops and while trades are still in attendance, rather than having to resolve them at the time of final acceptance.

## Final acceptance inspection: validation

12.21 The commissioning of a ventilation system will normally be carried out by the suppliers of the various elements. The final acceptance validation will check that all of the elements work as a whole to achieve the project aim.

12.22 The following regime of inspection and testing should be applied to the validation of all new and refurbished ventilation systems. It may also be applied to systems that have undergone significant changes such as the replacement of a fan or other major component.



### Basic requirements

- 12.23 The area served by the ventilation system to be validated should be physically complete with final finishes applied. The doors should fully close against the design pressure differential with IPS panels fitted and any access hatches closed. All ventilation plant serving it should be operating correctly and have been commissioned in accordance with the project contract.

**Note:** In projects on existing sites, the area of the building being built/refurbished is often sealed off from the "in use" part to prevent dust penetration. At final validation the seals need to be at least temporarily breached in order to be able to determine the ventilation performance in "normal" conditions.

If this is not possible, validation will be conditional on a final "actual" performance check when the seal is removed at the time of handover.

- 12.24 The area served should be free of any rubbish, debris, obvious dust and have been wet-mopped before the validation is undertaken.

**Note:** There is no need to clean the area to the point that the validator needs to gown up in order to enter it. A certain amount of disturbance to hatch seals, ceilings, panels, etc. will be inevitable during

the validation process, so the area will require a final "clinical" clean prior to being taken into use.

- 12.25 The validation process should be a continuation of the earlier site inspections and will in many cases be carried out in parallel with the commissioning process.

- 12.26 Unless stated elsewhere in the design specification, the conditions in the principal space served by the ventilation system being validated should be stable and within the given ranges.

Temperature: 18–22°C dry bulb.

Humidity: 30–70% Relative humidity.

- 12.27 Any test or measuring equipment used should have a certificate to prove that it has been calibrated within the previous 12 months at a facility using traceable national standards.

- 12.28 In the case of a noise meter, its "matched sound source" should have a certificate to prove that it has been calibrated within the previous 12 months at a facility using traceable national standards. The noise meter should be calibrated to the sound source on each occasion that it is used.

- 12.29 The validator has the right to either witness readings taken by the commissioning team or to independently take such readings and measurements as they deem fit in order to satisfy themselves as to the actual performance of the system.

### Validation process

12.30 The validation process should follow the sequence given below. Any failures discovered during the process should be rectified before continuing. The validator should check the following:

- the location of the air intake and discharge and their position relative to each other and other intakes and discharges;
- inspection and cleaning access to the vermin mesh and as necessary throughout the installation;
- the security, suitability of and access to the AHU location;
- sufficient space and access arrangements for service and maintenance;
- that the AHU is uniquely identified (see paragraph 13.17) and complies with the minimum standards set out in Chapter 9;
- that the AHU and distribution system have been leak-tested and comply with the design;
- that the AHU and supply ductwork system are clean and free of visible dust;
- that all fire and smoke dampers have been inspected and tested for correct installation and operation. A certificate to that effect, signed and dated by the inspector and tester, will be available for inspection;
- that the area served by the ventilation system is complete and free from significant defects that could invalidate the validation process;
- that the supply and extract airflow rates are in accordance with the design +10%; -0% and the system terminals are in balance. Note that the total supply and extract air volumes measured at the AHU should equate to those measured at the terminals. A discrepancy in the totals would indicate a leak in the system which should be resolved before proceeding further;
- that the air-change rate calculated from the measured airflow and room dimensions accords with the design specification;
- that the room differential pressure regime is in accordance with the design and that if pressure stabilisers are fitted, they operate correctly and silently;
- the air velocity at a specific location(s) if required in the application specification;
- that the noise level does not exceed the design value;
- that the system indicators correctly and clearly show whether or not the ventilation system is in an operational state;
- that any user controls fitted operate correctly (for examples of "cause and effect testing", see Appendix 10);
- that the temperature and humidity in the space being ventilated are accurately indicated on the user panel and that they can be adjusted within the specified limits, if applicable;
- that the estates control functions operate correctly and the plant condition is clearly shown both on the plant control panel and at the BMS/ BEMS interface;
- that the fire cause and effect strategy has been demonstrated and operates correctly. This may be carried out by others, in which case a statement signed



and dated by the person carrying out the test will form part of the handover information;

- that any additional tests called for in the project specification have been carried out and witnessed by the validator or the client's appointed expert.

**Note:** Validation is not a "snagging" inspection. The main contractor has presented the installation as being complete, fully commissioned, achieving the specified level of performance and ready for handover. The validator's role is to check on behalf of the client that the contractor is correct in that assertion.

If the validator discovers that there are a significant number of snags and non-compliances, the validation should be terminated. It is the contractor's responsibility to snag the project, carry out remedial works and re-present the installation for acceptance. The validator will then need to repeat the validation process. The client is entitled to deduct any resulting additional validation fees incurred from the contractor.

- 12.31 It is vitally important to complete the validation process before the system is accepted by the client. Due to the nature of the ventilation installation and the intensity of use in the healthcare setting, it will not be possible to correct any faults or non-compliances once the system has been accepted and taken into use. There are also medico-legal aspects around taking a non-compliant system into use. Pre-announced handover or occupancy dates are not a reason for the validator or client to accept a non-compliant installation.

#### **Validation report**

- 12.32 Following validation, a full report detailing the findings will be produced and sent to the client's lead project manager. The report should conclude with a clear statement on whether the system achieved or did not achieve the standard set out in the agreed design specification.

- 12.33 The client's lead project manager should lodge a copy of the validation report with:
- head of the user department;
  - infection prevention and control;
  - estates and facilities.

#### **Additional specialist tests**

- 12.34 Certain critical areas will require additional testing and validation in addition to the process given above.

#### **UCV theatres**

- 12.35 The following regime of inspection and testing should be applied to the validation of new installations designed to provide ultra-clean conditions in an operating suite. The test regime has been devised to ensure that the system as installed fully achieves the operational requirement for these systems as set out in Chapter 8.

#### **UCV canopy validation procedure**

- 12.36 The validation procedure set out in paragraph 12.30 onwards should have been satisfactorily completed prior to attempting to validate the UCV canopy. The

operating suite to be validated should be physically complete with final finishes applied. All ventilation systems serving it should be operating correctly and delivering their design airflow rates.

- 12.37 Tests to validate the suitability and performance of a UCV canopy should be undertaken in the order that they appear below. If an item fails to meet the required standard it should be rectified and successfully retested before passing on to the next test.

#### Summary of test regime

- 12.38 Leakage tests should ensure that:

- the UCV canopy is correctly assembled and sealed so that no air will bypass the filters;
- the canopy terminal filters are correctly sealed in their housings;
- the canopy terminal filters are of a uniform quality and undamaged.

- 12.39 Air velocity measurements should ensure that:

- a sufficient quantity of air is being delivered by the canopy;
- the airflow has sufficient velocity to reach the operating site plane.

- 12.40 An entrainment test should ensure that contaminants arising outside of the UCV canopy footprint are not drawn into it.

- 12.41 Visualisation techniques should gain an understanding of the overall system performance.

- 12.42 Noise measurement should ensure that working conditions are satisfactory.

- 12.43 Control system "cause and effect" checks should ensure that the system operates and indicates as specified (for example, see Appendix 10).

- 12.44 The successful completion of the test regime will ensure that the system will be effective if used correctly.

#### Test and measuring background conditions

- 12.45 The entire theatre suite should be clean and free from debris and visible dust. It should be in a condition that if the validation is successful the suite will only require a final clinical clean before being taken into use (see paragraph 12.24).

- 12.46 All doors should remain closed when readings and scans are being taken.

- 12.47 The conditions in the operating theatre should be stable and within the given ranges.

Temperature: 18–22°C dry bulb.

Humidity: 30–70% Relative humidity.



### Test and measuring equipment

- 12.48 Any test or measuring equipment used should have a certificate to prove that it has been calibrated within the previous 12 months at a facility using traceable national standards.
- 12.49 In the case of a noise meter, its “matched sound source” should have a certificate to prove that it has been calibrated within the previous 12 months at a facility using traceable national standards. The noise meter should be calibrated to the sound source on each occasion that it is used.

### Test grid – vertical flow canopies

- 12.50 A test grid should be constructed on the floor within the UCV canopy footprint as projected by the inside dimensions of the side walls or boundary air curtain. A suitably marked test sheet will provide a consistent standard of test grid.

**Note:** The entire clean zone footprint of the UCV canopy will be designated by a contrasting coloured inlay in the floor covering. A line marked on or cut into the floor covering is not sufficient and will not be accepted.

- 12.51 The test grid should comprise test squares of 280 mm × 280 mm dimension.
- 12.52 The test grid should be aligned along the centre lines of the canopy footprint with its centre under the centre point of the canopy.
- 12.53 Any test square with 80% of its area within the UCV footprint should be used as a test position.
- 12.54 An inner zone will be designated that is not less than 36% of the total footprint. It will be made up of a number of test squares distributed symmetrically about the canopy footprint centre line. Regardless of the size or shape of the canopy footprint, the inner zone will comprise a minimum grid of 6 × 6 test squares.
- 12.55 Unless specified otherwise, a test position should be in the geometric centre of a test square.
- 12.56 Test position 1 will be the left-most test square in the row nearest to the operating theatre wall that houses the theatre control panel. (For an example of a grid for a 2.8 m × 2.8 m canopy, see Figure 11.)

### UCV canopy leakage tests

- 12.57 The diffuser screen fitted below the face of the canopy terminal filters should be lowered or removed while the leakage tests are being carried out.
- 12.58 The installed terminal EPA filters are to be checked to ensure that their grade accords with the design specification and that their performance has been certified by their manufacturer.

### Test equipment

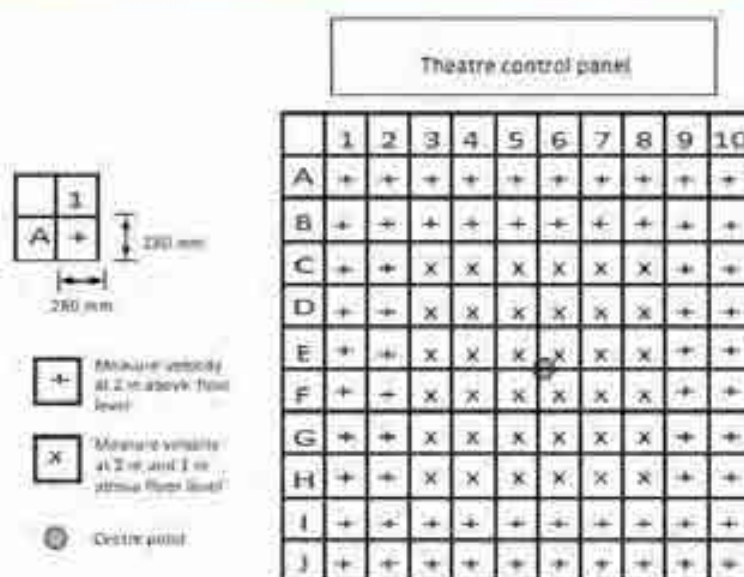
- 12.59 An LSAPC connected to an isokinetic fishtail scanning probe will be used to detect the size and number of particles present.

- 12.60 Spot readings are taken at several filter faces to establish the smallest non-penetrating particle size. If particles at or above this size are detected when subsequent scans are made, there is deemed to be a significant leak at, or near, the test position.

### UCV canopy clean zone leak test

- 12.61 The test will confirm that there is no unfiltered air leakage in the canopy.
- 12.62 The construction joints and service penetration points under the UCV canopy within its side walls or boundary air curtain should be scanned to prove that there are no leaks.

Figure 11: Example of a test grid for a 2.8 m × 2.8 m UCV terminal



**Note:** For larger UCV terminals, add extra (280 mm x 280 mm) test squares symmetrically around the periphery of the grid and increase the inner zone in accordance with the guidance in paragraphs 12.50–12.56 of Scottish Health Technical Memorandum 03-01 Part A.

- 12.63 A leak is defined as a significant and repeatable rise above the background level.

### Terminal EPA filter seal leak test

- 12.64 The test will confirm that there is no unfiltered air bypassing the EPA filter seal.

- 12.65 Each EPA filter seal should be scanned to prove that there are no leaks.

- 12.66 A leak is defined as a significant and repeatable rise above the background level.

### EPA filter media leak test

- 12.67 The test will confirm that the EPA filters have not sustained damage while being installed.

- 12.68 The face of each EPA filter should be scanned to prove that there are no leaks.

- 12.69 A leak is defined as a significant and repeatable rise above the background level.



## Vertical flow UCV canopy air velocity tests

### Test setup

- 12.70 The canopy face diffuser screen should be in place for these tests.
- 12.71 Take spot readings to establish that the room is within the specified temperature and humidity test conditions.
- 12.72 Set out the test grid as described previously.
- 12.73 Swing the operating lamp arms and any other stem arms so that they align to present the least resistance to airflow, are perpendicular to the front edge of the test sheet and face the back edge. Any lamp and equipment heads should as far as practicable be outside of the UCV canopy footprint (see photographs).

### Test instrument

- 12.74 The measuring instrument should be a thermal anemometer with a digital readout. The instrument resolution should be at least 0.01 m/s, have a tolerance of  $\pm 0.015$  m/s or 3% and be calibrated down to 0.15 m/s or lower. An alternative instrument may be used providing it is of no lesser specification.

### Test method

- 12.75 The instrument should be mounted on a test stand and set to take a mean reading over a 10-second sample interval.
- 12.76 The test instrument should record readings automatically for later download or be connected to a printer.
- 12.77 The test stand should be positioned on each test point in turn and the reading taken when the instrument has stabilised.
- 12.78 When taking a reading, the test person should not stand within the same quadrant as the test instrument.
- 12.79 Readings are to be taken at the test positions with the instrument probe facing the wall housing the theatre control panel commencing at the first test position. Readings are taken either working along the rows from left to right or for all test positions in one quadrant at a time.
- 12.80 When all test positions under one half of the canopy have been covered, readings of temperature and humidity are taken at the specified height in the centre of the canopy. The readouts from the theatre control panel should be recorded at this time.
- 12.81 Having completed one half of the test grid, the operating lamp arms and any other stem arms should be swung round through 180° and the test stand reversed so that the wall housing the theatre control panel is behind the test person. Readings are recommenced starting at the right of the test row and working from right to left or a quadrant at a time, as above.

### UCV canopy high level discharge velocity test

- 12.82 Measurements of air velocity are to be taken at every test position 2 m above floor level and the results averaged. The average of the total readings taken is to be not less than:
- 0.38 m/s for a canopy with no side walls or side walls that terminate at 2 m above floor level.
  - 0.30 m/s for a canopy with side walls that terminate 1 m above floor level.
- 12.83 For UCV canopies that are an assembly of two or four units, each fed by a recirculation fan, the average air velocity for each unit should not exceed  $\pm 6\%$  of the measured average velocity for the canopy.

Figure 12: UCV 2m air velocity test set-up



### UCV canopy low level air velocity test

- 12.84 Measurements of air velocity are to be taken at each of the inner zone test positions 1 m above floor level.
- 12.85 The measured velocity at every test position in the inner clean zone should be not less than 0.20 m/s.

Figure 13: UCV 1m air velocity test set-up



### UCV canopy entrainment test

#### Rationale for the entrainment test

- 12.86 The performance of a UCV canopy may be compromised by room air being drawn into the ultra clean airflow, a phenomenon known as entrainment. Significant levels of entrainment could lead to microbial contamination of items left exposed on instrument trolleys laid out beneath the canopy.



- 12.87 UCV canopies having permanently fitted side walls that terminate 1 m above floor level do not need to be tested, as the walls physically prevent entrainment.

#### **Principle of the test**

- 12.88 A source of particles is produced outside of the UCV canopy footprint and is used to challenge the system. A sample probe and detector are placed within the ultra clean airflow and used to determine the percentage penetration of the test particles at predefined locations under the UCV canopy footprint. The source and sample probe are moved in tandem around the UCV canopy and pairs of readings taken at the detector, from which the percentage penetration at specified locations is calculated. The degree of penetration should be below specified maximum limits if entrainment is to be declared not significant.

#### **Test setup**

- 12.89 The challenge will be provided by using non-EPA-filtered air emerging from the preparation room via the pressure stabiliser or transfer grille and ducted to the specified release position.
- 12.90 The canopy face diffuser screen should be in place for these tests.
- 12.91 The test is performed without any theatre equipment in place beneath or closely adjacent to the UCV canopy. All doors in the theatre suite should be closed and remain so for the duration of the test.
- 12.92 The operating lights and support booms should be moved to a central position beneath the canopy and raised to 2 m above floor level, so as not to interfere with the peripheral airflows (see photograph).
- 12.93 Spot readings are taken at the centre of the canopy, 1 m from floor level, to establish that the room is within the specified temperature and humidity limits (see paragraph 12.47).
- 12.94 The test grid is set out as described previously (see paragraph 12.50).

#### **Test equipment**

- 12.95 The source unit will be a fan/blower or other method that ducts non-EPA- filtered air (see paragraph 12.89) and expels it via a delivery head mounted on a test stand or clamped to the UCV canopy sidewall at the specified release position to provide the particle challenge. The challenge air will be delivered vertically downwards from a position 2 m above floor level alongside the outside edge of the side wall or in line with the downward air curtain if the canopy does not have side walls. The challenge airflow velocity should be the same as the measured average velocity at the 2 m level for the canopy under test.

Figure 14 UCV entrainment test setup



12.96 The detector will be an LSAPC capable of sampling a minimum of 28.3 L of air (1 ft<sup>3</sup>) per minute and providing readings for particle sizes from 5  $\mu\text{m}$  to 0.3  $\mu\text{m}$ . Measuring instruments should be compliant with the requirements of BS EN ISO 14644 or ISO 17141 to reflect the type of test. An alternative instrument may be used providing it is of no lesser specification

12.97 The sampling head will be an isokinetic fishtail scanning probe mounted horizontally on a test stand 1 m above floor level and connected to the LSAPC by a hose no longer than 2 m

#### **Test positions and orientation of source and detector sampling probe**

12.98 The test positions will be at the centre of each test square, as defined for the velocity test (see paragraph 12.50).

12.99 For rectangular UCV canopies, measurements of penetration are to be taken at the four corner test squares of the test grid and at intermediate positions along the line of test squares between the corners. The number of intermediate test positions will be



as equally spaced as possible around the periphery, with not fewer than three and not more than five complete test squares between test positions.

- 12.100 A further series of measurements are to be obtained around the periphery of the inner zone (defined in paragraph 12.54). Measurements of penetration are to be taken at the four corner test squares of the inner zone of the test grid and if necessary at intermediate positions along the line of test squares between the corners as equally spaced as possible, with not fewer than three and not more than five complete test squares between test positions.
- 12.101 The centre of the challenge particle source delivery head is aligned with the centre of the designated test square, with its longer edge against the outer edge of the side wall or air curtain and delivering the challenge 2 m above floor level. The air containing challenge particles is directed vertically downward. Where there is physical interference due to obstructions such as gas pendants, the source will be moved to the next available non-obstructed test square location nearest to the stipulated test position. The sampling probe will then also be moved to remain opposite the source.
- 12.102 In the case of non-rectangular canopies, an interpretation of the above strategy should be adopted that will yield a no less searching examination of the unit's ability to control entrainment.

#### Test method

- 12.103 A measurement of particle penetration through a representative section of the EPA filter media is to be taken. The smallest non-penetrating particle size will be used as the reference background level and set in the detector instrument. The detector instrument should be set to take a reading over a 15-second sample interval and record the number of particles at the non-penetrating particle size determined above.
- 12.104 An initial sample of air at the source delivery head should be taken to check that there are sufficient particles of the considered size present. The challenge will be considered suitable if:
- the particles are within the size range 5 to 0.3  $\mu\text{m}$  and thus capable of remaining airborne for a substantial time;
  - the particles should not be able to penetrate the canopy EPA filters in sufficient numbers to cause a background count that is more than 0.1% of the challenge count;
  - the number of particles present will enable a minimum of three logarithm (1000-fold) range of counts to be recorded between the source and background readings. A concentration of approximately 105 particles per cubic metre of source air has been shown to be adequate.

**Note:** The same equipment should be used to measure both the challenge source and penetration so as not to bias results through particle losses within the test equipment.

- 12.105 The sampling probe of the detector instrument is mounted on a test stand with its orifice facing outwards horizontally from the centre of the UCV canopy, 1 m above floor level. The sampling probe will be orientated at right angles to the partial wall

when sampling along the sides of the test grid but will be set to bisect the angle when measuring at the corner test positions. (See Figure 15 for test locations and see photograph of entrainment test equipment in Figure 13.)

- 12.106 The test will commence at the first test position; this being designated the left-most corner of the test grid when facing the wall housing the theatre control panel. The penetration will also be measured at the corresponding test point on the inner zone commencing at the corner nearest to the first test position.

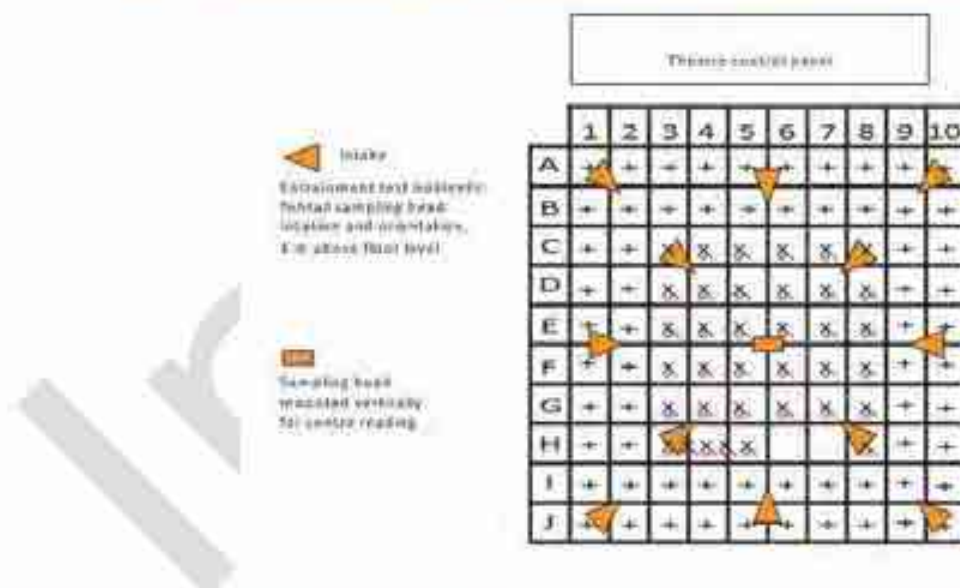
When these tests have been completed, the source distribution head and sampling probe will be moved to the next test positions, working around the test grid in a clockwise direction.

- 12.107 The test stands will be positioned on each test point in turn and a pair of readings (challenge, then penetration) taken when the instrument has stabilised.

- 12.108 When taking a reading, the test person should stay within the UCV canopy footprint but on the side opposite the sampling probe.

- 12.109 A single measurement will be taken at the geometrical centre of the UCV canopy footprint. The centre measurement will be taken with the sampling probe mounted vertically 1 m above floor level

Figure 15: Entrainment test locations for a 2.8 m x2.8 m UCV terminal



**Note:** Test grid layout is as for Figure 11. Entrainment test set-up and guidance is given in paragraphs 12.86 onwards.

For this test the challenge source distribution head will be placed at the test position that yielded the greatest penetration at the periphery of the canopy footprint.

### Analysis and Interpretation

- 12.110 The following standard is to be achieved:

- penetration to be no greater than 10% of the challenge at each test position in the outer zone;



- penetration to be no greater than 1% of the challenge at each test position in the inner zone;
- penetration to be no greater than 0.1% of the challenge at the centre of the test grid.

12.111 If a result is close to or above the given limits, a further reading should be obtained using a longer time base (1 minute) and the penetration should not exceed the given limit.

#### **UCV canopy flow visualisation**

12.112 The use of smoke to gain an understanding of the overall performance of the canopy may prove useful at this stage in the validation process but cannot be relied on to produce a contractually definitive measure of performance.

#### **UCV canopy noise level**

12.113 An industrial-grade sound level meter to BS EN 61672 Type 2 fitted with a muff will be used to check the noise level. The instrument should be calibrated using a matched sound source prior to each set of readings.

12.114 The noise level readings are to be taken at a typical normal listening position 1.5 m above floor level and at least 1 m from any surface and not on any line of symmetry. Measurements should be taken under the centre of each quadrant and in the centre of the canopy, and the five readings averaged.

12.115 The readings should be taken with the UCV canopy at operational speed and repeated with it at set back.

12.116 For UCV operating suites, the noise level should not exceed:

- operating theatre and spaces without doors that are open to it (for example, the scrub): 53 dB(A);
- all other peripheral rooms of the suite: 48 dB(A).

#### **UCV terminal control system checks**

##### **Temperature**

12.117 The readings of temperature taken under the UCV canopy should be within  $\pm 1^{\circ}\text{C}$  of the readout on the theatre control panel.

##### **Humidity**

12.118 The readings of humidity taken under the UCV canopy should be within  $\pm 5\%$  RH of the readout on the theatre control panel.

##### **Direct reading differential pressure gauges**

12.119 The differential pressure across the terminal filter should be measured to confirm the accuracy of the indicated reading of any gauge.

### Control functions

- 12.120 The operation of all control functions provided on the theatre control panel should be checked for conformity with the design specification (see Appendix 10).
- 12.121 If an auxiliary panel has been fitted, its interlocking with the main theatre control panel control functions will be checked for conformity with the design specification.

### Panel indicator lights

- 12.122 The panel indicators should illuminate as appropriate when the control functions are selected, or warning levels are reached (see Appendix 10 for an example "cause and effect" test regime).

### BMS interface

- 12.123 The operation, monitoring and alarm functions should be checked for conformity with those set out in the design specification.

### UCV theatre microbiological tests

- 12.124 There is little value in performing microbiological sampling in an empty operating theatre supplied with ultra clean ventilation. The foregoing filter challenge tests, air velocity measurements and entrainment test will have proved that the system operates satisfactorily and achieves the contracted level of performance. The EPA filters will remove bacteria-sized particles from the air supplied through the UCV canopy. Therefore, there will be an insignificant number of bacterial and/or fungal cfus present until the theatre is actually used.
- 12.125 Following full validation, in-use microbiological sampling during a surgical procedure will not be required unless specified by the client's VSG.

### UCV operating suite validation report

- 12.126 Following validation, a full report detailing the findings will be produced and sent to the client's lead project manager. The report should conclude with a clear statement on whether the UCV operating suite as a whole achieved or did not achieve the standard set out in the agreed design specification.
- 12.127 The client's lead project manager should lodge a copy of the report with:
- theatre manager;
  - infection prevention and control;
  - estates and facilities.

### Pharmacy aseptic preparation facilities

- 12.128 The following regime of inspection and testing should be applied to the validation of new installations. The test regime has been devised to ensure that the system as installed fully achieves the operational requirement for these systems as set out in EUGGMP and the design specification.



**Basic requirement**

- 12.129 The validation procedure set out in paragraphs 12.1–12.33 should have been satisfactorily completed prior to attempting to validate the aseptic preparation facility. The suite to be validated should be physically complete with final finishes applied and have been completely cleaned. All ventilation systems serving it should be operating correctly and delivering their design airflow rates.

**Aseptic preparation facility validation procedure**

- 12.130 Tests to validate the suitability and performance of the aseptic preparation facility should be undertaken in the order that they appear below. Should an item fail to meet the required standard it should be rectified and successfully retested before passing on to the next test.

**Summary of test regime**

- 12.131 Challenge tests should ensure that:

- the supply terminal HEPA filters are sealed in their housings so that no air will bypass them;
- the terminal filters are of a uniform quality and undamaged.

- 12.132 Differential pressure measurements should ensure the correct pressure cascade.

- 12.133 Particle counting should be carried out at a specified number of test positions in order to determine the individual cleanroom classification in accordance with ISO EN 14644 and ISO 17141.

- 12.134 Control system checks should ensure that the system operates as specified.

- 12.135 Microbiological sampling should check the air quality.

**Test and measuring conditions**

- 12.136 While validating the aseptic preparation facility, the conditions in the cleanrooms should be stable and within the given ranges.

Temperature: 19–23°C dry bulb.

Humidity: 30–70% relative humidity.

**Test and measuring equipment**

- 12.137 Any test or measuring equipment used should have a certificate to prove that its calibration has been checked within the previous 12 months at a facility using traceable national standards.

**Supply terminal EPA or HEPA filter seal leak test**

- 12.138 The test will confirm that there is no unfiltered air bypassing the EPA or HEPA filter seal.

- 12.139 Each EPA or HEPA filter seal should be scanned using a light scattering airborne particle counter (LSAPC) to prove that there are no leaks.

- 12.140 A spot reading will be taken at the face of the filter to determine the background particle level. A leak is defined as a significant and repeatable rise above the background level.

#### **Terminal (EPA or HEPA) filter media leak test**

- 12.141 The test will confirm that the terminal filters have not sustained damage while being installed.
- 12.142 The face of each terminal filter should be scanned using an LSAPC to prove that there are no leaks.
- 12.143 A leak is defined as a significant and repeatable rise above the background level.

#### **Cleanroom particle count**

- 12.144 The test will confirm the number and size of particles present and therefore the classification of the cleanroom in terms of ISO 14644 or EUGGMP as specified in the project brief.
- 12.145 The number of test positions is determined by reference to Table A.1 in ISO 14644-1.
- 12.146 The complete test methodology will be as set out in ISO 14644.

#### **Cleanroom biocontamination control**

- 12.147 BS EN 17141 gives details on cleanroom biocontamination control.

#### **Radiopharmacy aseptic preparation facilities**

- 12.148 Validation will be as for a pharmacy aseptic preparation facility.
- 12.149 Additional radiological tests as specified in the project brief will be required. These will be carried out and/or witnessed by the client's appointed specialist.

#### **Inspection, assembly and packing (IAP) rooms in central decontamination units**

- 12.150 Validation will be as for the standard practice described in paragraphs 12.1–12.33.
- 12.151 The pressure cascade and associated automatic monitoring sensors and alarms should be tested for correct operation in accordance with the design specification.

**Note:** The detail of the sealing between the instrument washers, transfer hatches and sterilizers that penetrate the walls of the IAP room will be critical in attaining the specified room pressure.

- 12.152 Following the satisfactory validation, the IAP room should be physically cleaned using specialist contractors. Particle counts at locations related to the floor area as set out in table A.1 of ISO 14644 Part 1, along with instructions from ISO 17141 will then be used to establish whether the room achieves a Class 8 cleanroom standard.



### Containment level 3 laboratories

- 12.153 Validation will be as for the standard practice described in paragraphs 12.1–12.33.
- 12.154 The room will be subject to a permeability test as set out in paragraph 12.17.
- 12.155 The pressure cascade and associated automatic monitoring sensors and alarms should be tested for correct operation in accordance with the design specification.

### Isolation rooms

- 12.156 Validation will be as for the standard practice described in paragraphs 12.1–12.33.
- 12.157 See Scottish Health Planning Note 4 Supplement 1 for details of the test regime.

### Microbiological sampling

- 12.158 It is essential that all parts of the validation test specified above have been successfully completed and the areas thoroughly cleaned prior to any microbiological sampling.
- 12.159 Microbiological sampling will not normally be required for either general or local exhaust ventilation (LEV) systems unless otherwise specified within the contract.
- 12.160 The procedure for carrying out microbiological sampling in cleanrooms is set out in ISO 17141.

### Microbiological sampling conventional theatres

- 12.161 The level of airborne bacteria introduced by the supply air can be checked by closing all doors and leaving the operating room empty with the ventilation system running for 15 minutes. An active air sampler set to 1 cubic metre and mounted on the operating table should then be activated remotely. Aerobic cultures on non-selective media should not exceed 10 bacterial and/or fungal colony forming units per cubic metre (CFU/m<sup>3</sup>).
- 12.162 The results should be examined to establish the broad category of organisms present. A high preponderance of fungal organisms may be an indication of inadequate filtration for the particular installation. Precise guidance is inappropriate and will depend on local circumstances.
- 12.163 It may be appropriate to carry out a check of airborne bacteria during a surgical operation. If required, this should be carried out as soon as possible after handover. Unless there are unusually high numbers of personnel or extensive activity in the room, the number of airborne bacterial and/or fungal CFU averaged over any five-minute period, would be unlikely to exceed 180 per cubic metre.
- 12.164 Information on the microbiological testing of UCV Operating suites is given in clauses 12.124 and 12.125.

## 13. Information

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### Records required

- 13.1 There is a requirement under the Building Regulations to provide documentary evidence of the design, commissioning and subsequent performance of ventilation systems as well as recommended maintenance routines (Building Regulations, 2010, Part 8, Paragraph 39).
- 13.2 Electronic records should be in a format that is compatible with the client's archive and retrieval system.

### Handover

- 13.3 The following general information is required at plant handover:
- "as fitted" drawings of the plant showing the location of all items and listing the size of ducts, grilles and diffusers together with their factors;
  - "schematic" drawing of the air distribution system showing design and actual airflows from all outlets together with the design and actual airflows in each duct. The duct centre correction factors should be given and the grille factors;
  - the location of all volume control dampers should be marked on the "as fitted" and "schematic" drawings;
  - a floor plan of the area served by the plant showing all doorways, hatches, transfer grilles, pressure relief dampers, pressure stabilisers, supply and extract terminals. The total supply and extract volumes should be shown for each room served by the plant. The volume flow and direction of flow through transfer grilles, pressure relief dampers and pressure stabilisers should also be shown, together with the room pressures in pascals measured with regard to atmospheric pressure. For operating suites the "key" door should be identified;
  - a fire plan of the area served showing the fire zone and location of all fire and smoke dampers and detectors. An explanation of the ventilation strategy in the event of an in-zone fire, adjacent zone fire or smoke being drawn into the airhandling unit from an outside source should be provided.
  - wiring diagrams for all electrical equipment associated with the air handling systems including motor control circuit details and any interlocking and safety devices such as emergency stop buttons adjacent to the item of plant;
  - manufacturer's operating instructions and "setting to work" guidance for all specialist components incorporated in the systems;
    - a schematic of the control system showing the location of all plant sensors;
    - control algorithm(s) of the actual plant operation and the set points entered during commissioning together with the control panel access codes and keys.

### Plant design information

- 13.4 The following plant design information is required at plant handover:



- a simple statement of the design intent;
- a description of the plant's intended mode of operation;
- winter outside design temperature in °Cdb;
- winter outside design humidity in % saturation;
- winter room supply air design temperature in °Cdb;
- winter room supply air design humidity in % saturation;
- winter inside design temperature for each room in °C;
- winter inside design humidity for each room in % saturation;
- summer outside design temperature in °Cdb;
- summer outside design humidity in % saturation;
- summer room supply air design temperature in °Cdb;
- summer room supply air design humidity in % saturation;
- summer inside design temperature for each room in °C;
- summer inside design humidity for each room in % saturation;
- winter psychrometric chart showing the condition of the air between all items of plant and the design outside, supply and room air conditions;
- summer psychrometric chart showing the condition of the air between all items of plant and the design outside, supply and room air conditions;
- the design mass airflow rate used to size the plant in kg/s;
- the design volumetric flow rate in m<sup>3</sup>/s.

### Individual equipment information

#### Heater-batteries including energy recovery

13.5 The following information concerning heater-batteries is required at plant handover:

- the size of the battery, number of passes and fin spacing;
- the design flow and return temperatures and flow rate in L/s;
- the pressure drop across the water side of the battery in Pa;
- the number of phases, supply voltage, current drawn and number of steps if electric;
- the maximum rated capacity of the battery and actual design rating in kW;
- the design and actual face velocity in m/s;
- the pressure drop across the air side of the battery in Pa;
- the design on and off coil air temperature and humidity at winter and summer design conditions

#### Cooling coils

13.6 The following information concerning cooling coils is required at plant handover:

- the size of coil, number of passes and fin spacing;
- the design flow and return temperatures and flow rate in L/s if chilled water;
- the pressure drop across the water side of the coil in Pa;
- the supply pressure and mass flow rate if direct expansion;
- the maximum rated capacity of the coil and actual design rating in kW;
- the contact factor;
- the design sensible and latent cooling loads in kW;
- the design and actual face velocity in m/s;
- the pressure drop across the air side of the coil in Pa;
- the design on and off coil air temperature and humidity at summer design conditions.

### Humidifiers

13.7 The following information concerning humidifiers is required at plant handover:

- the size of the humidifier and number of lances;
- the supply pressure and mass flow rate of the steam;
- the number of phases, supply voltage, current drawn and number of steps if electric;
- the maximum rated capacity of the humidifier and actual design rating in L/hour;
- the design and actual face velocity in m/s;
- the design upstream and downstream air temperature and humidity at winter design conditions

### Filters

13.8 The following information concerning filters is required at plant handover:

- the size of the filter and number in bank;
- its grade;
- the design and actual face velocity in m/s;
- the initial pressure drop across the filter when clean in Pa;
- the final pressure drop across the filter when dirty in Pa;
- the manufacturer's name and filter identification code.

### Fans

13.9 The following information concerning fans is required at plant handover:

- the size of the fan and its type;
- the fan curve;
- speed and direction of rotation;



- the drive motor frame size;
- the number of phases, voltage and maximum design and actual current drawn;
- the design and actual delivered air volume in m<sup>3</sup>/s;
- the fan suction pressure at high and low speed in Pa;
- the fan delivery pressure at high and low speed in Pa;

### Attenuators

13.10 The following information concerning attenuators is required at plant handover:

- the size of the attenuator and number in bank;
- the design and actual face velocity in m/s;
- the initial pressure drop across the attenuator in Pa;
- the upstream sound level in dB(A); the downstream sound level in dB(A).

### System information

13.11 The preservation of information and records of ventilation systems and their performance is a legal requirement. It is therefore essential that when new systems are completed, full information as to their purpose, design, layout and actual commissioned performance are handed on to the client. If any derogations were agreed from this standard, they should be noted and the reason for them explained. The system information if electronic (for example, BIM model) should be in a form that is compatible with the client's IT standard and can be accessed and searched by it.

13.12 In new "green field" developments an inventory of the installed ventilation systems should be compiled. In existing developments the client will normally have an inventory of their installed systems, and all new systems should be added to it.

13.13 The inventory will be subdivided into the following categories:

- local exhaust ventilation systems (LEV) – note these are statutory items;
- critical healthcare ventilation systems (CHV).

(These are systems the loss of which would seriously limit the delivery of healthcare – for example, operating suite, SCBU, critical care areas, interventional imaging suite, aseptic preparation facility.)

- general ventilation system [supply and extract] (GVS);
- general extract systems (GES);
- systems installed for smoke clearance in the event of a fire, classed as smoke and heat exhaust ventilation systems;
- – (SHEVS) (for example, smoke extract fans in stairwells, automatic smoke clearance dampers in atria).

**Note:** During the design and contract process, ventilation systems are often given "construction" codes for drawing reference and site identification purposes. It is

imperative that prior to handover the actual identification codes and labels affixed to the systems conform to the inventory in use at the site or desired by the client. Each system code should be unique and conform to the categorisation format for the client's inventory given above.

For ease of future reference, a list of design and construction references for drawings and plant, cross-referenced to the client's building designations and plant inventory codes, should be produced.

- 13.14 For each ventilation system the inventory should contain the following details:
- a unique system identification code (for example, LEV 001; CHV 001) as appropriate;
  - the location of the ventilation fan unit or supply and extract AHU(s);
  - the location of the fresh air inlet;
  - the location of the extracted air discharge;
  - the specific area(s) served by the system;
  - the date the system was installed;
  - the date the system was validated and accepted by the client.
- 13.15 Each ventilation system should have a logbook (physical or electronic) that contains the following information:
- the unique system identification reference;
  - purpose of the system;
  - date of installation;
  - details of the installed equipment and ductwork layout;
  - detail of the fire plan and location of fire and smoke dampers;
  - design performance parameters (for example, airflow rates, air-change rates, pressures);
  - commissioned date and performance;
  - record of the system validation and acceptance;
  - records of the annual inspection and verification;
  - maintenance records and plant information (for example, fan specifications and filter sizes).
- 13.16 The records should be linked to the inventory and stored in such a way as to be readily available in the event of plant breakdown or other incident.
- 13.17 Every ventilation system should be clearly identified with a permanent label. The label should show in lettering 100 mm high the inventory reference code of the AHU and clearly identify the area that it serves. The label should be mounted with screws or rivets in an easily visible place near the fan of the unit adjacent to the local electrical isolator. The system control panel should have a duplicate label. Any subsystems and the principal branch ducts should be similarly labelled.



- 13.18 The nature of air and direction of flow should be clearly marked on all ducts using the symbols given in BS 1710.
- 13.19 All airflow test-points should be clearly identified with a permanent label and the design information given (for example, TPS 1 – Anaesthetic supply; 400 × 300; Design 185 L/s).
- 13.20 If two ventilation systems supply a common room or an outlier from another zone, the room identification label should state the relevant ventilation identification codes, for example: Theatres 5&6 Utility; [CHV 012 and CHV 015], as should the labels on their individual AHUs.
- 13.21 Any ventilation system that conveys a hazardous substance or is affected by a hazardous radiation must be clearly marked with the appropriate symbol.

### **Fire and smoke dampers**

- 13.22 A complete schedule of dampers fitted, their location and unique identification code should be provided.
- 13.23 A statement of when they were tested and by whom should be included.

### **Spares**

- 13.24 Unless otherwise agreed with the site maintenance department, spares should be stored on a rack in the entrance of the relevant plantroom and preserved from casual damage or contamination.
- 13.25 The scale of spare fans to be provided should relate to the number of AHUs using fans of the same size. The spare fans should be pre-wired with power and control connectors so that when used they are plug and play.
- 13.26 A complete set of new filters should be handed over.
- 13.27 A complete set of any other consumable item installed in the installation should be handed over.

### **BIM status**

- 13.28 If the installation was modelled using BIM during construction, the BIM model should be brought up to date and all asset tags incorporated prior to handover.
- 13.29 Training for estates staff who will be tasked with keeping the BIM model in date should be given, ideally while the original BIM team is available.

### **Maintenance routines**

- 13.30 Any product or installation-specific maintenance routines should form part of the handover documentation and, if necessary, training.
- 13.31 Information on routine inspection and maintenance is given in Part B of Scottish Health Technical Memorandum 03-01.

### Expected service life

- 13.32 Air handling units (AHUs) have an expected service life of 20 years. Part B of this SHTM states that ventilation systems should be taken out of service, deep cleaned, their controls renewed and recommissioned after 10 years. The handover information will both assist this process and help inform the selection of replacement plant.

### Additional end user information

- 13.33 The information itemised above is intended to fulfil the contract requirement and provide a record for the client and their appointed operational management and maintenance teams. There is also a need in some circumstances to provide the end-user with information as to the role that them and their patients from airborne contaminants.
- 13.34 In operating suites and interventional imaging suites of any type, a simplified plan of the suite showing the principal direction of air movement should be displayed at the entrance to the suite. The following bullet points should be appended to the plan:
- the air supplied to each room is intended to dilute any airborne contaminants;
  - the airflow between rooms will ensure that contaminants do not enter;
  - people are the main source of airborne contaminants; they disperse such contaminants as they move around: the more people, the more movements, the more airborne contaminants;
  - optimum conditions exist when all doors are closed;
  - in order to ensure that the system operates correctly and efficiently:
    - routine checks should be carried out of the system performance;
    - the system should be taken out of use periodically to carry out essential maintenance.
- 13.35 The VSG should advise if other applications require similar explanatory information.

### Staff training

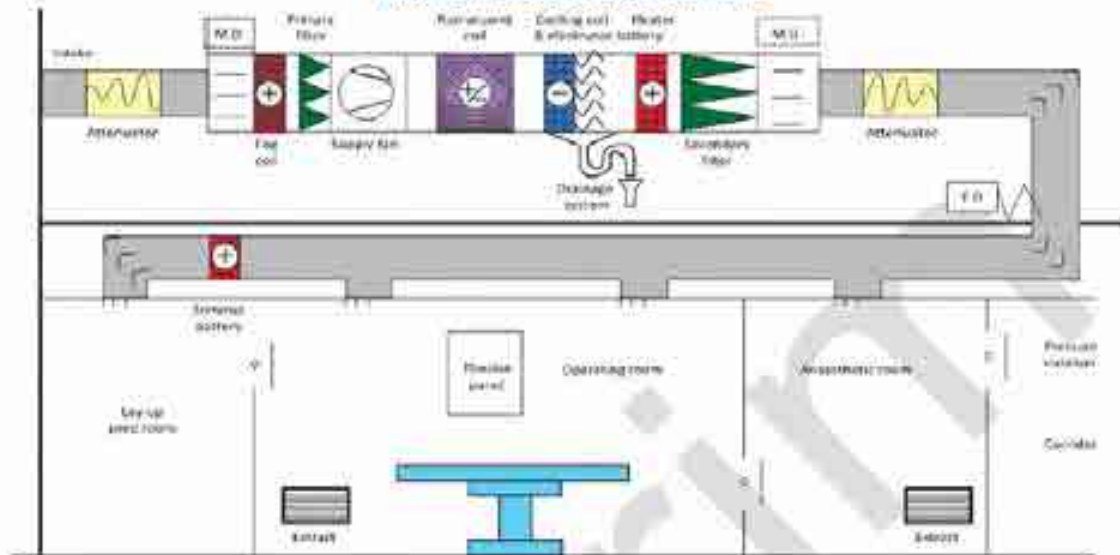
- 13.36 On completion of the project, training in the correct use, operation and routine maintenance of the installed systems should be given as appropriate to the following staff groups:
- the end-users;
  - those who will operate and maintain the installed systems.



# Appendix 1: Typical AHU Plant Layouts

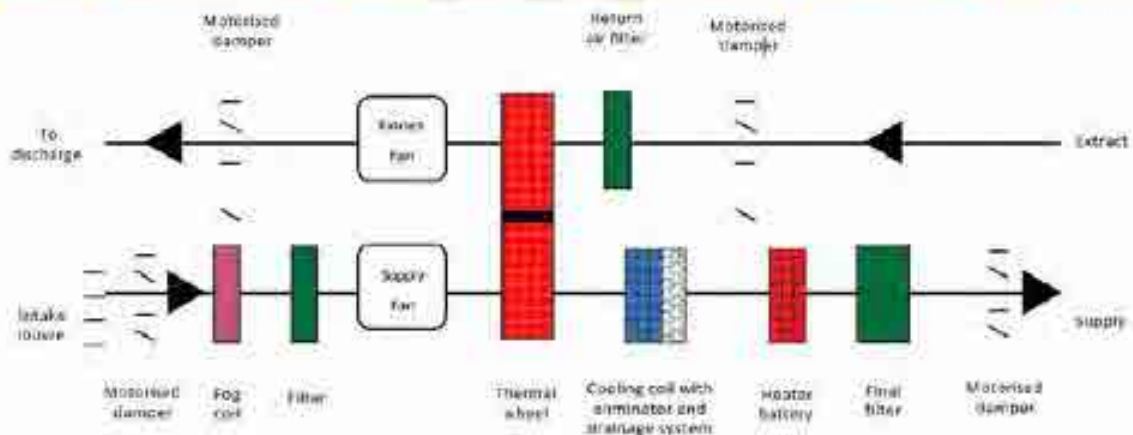
## Supply AHU with remote extract unit

Figure A1: Schematic of typical operating suite AHU with energy recovery by run-around coil from a remote extract fan unit



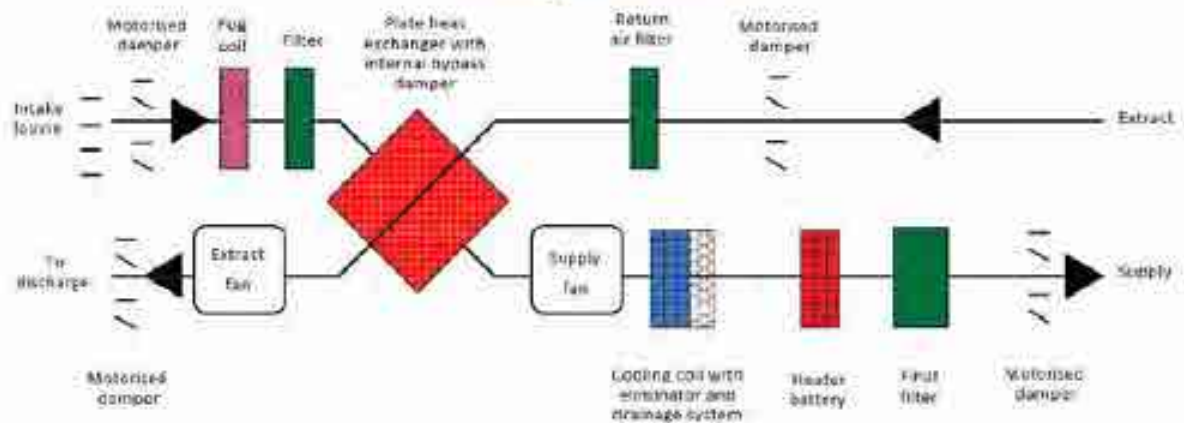
## Double-stacked supply and extract AHU

Figure A2: Schematic of typical double-stacked AHU with energy recovery by thermal wheel



Note: Other configurations are possible

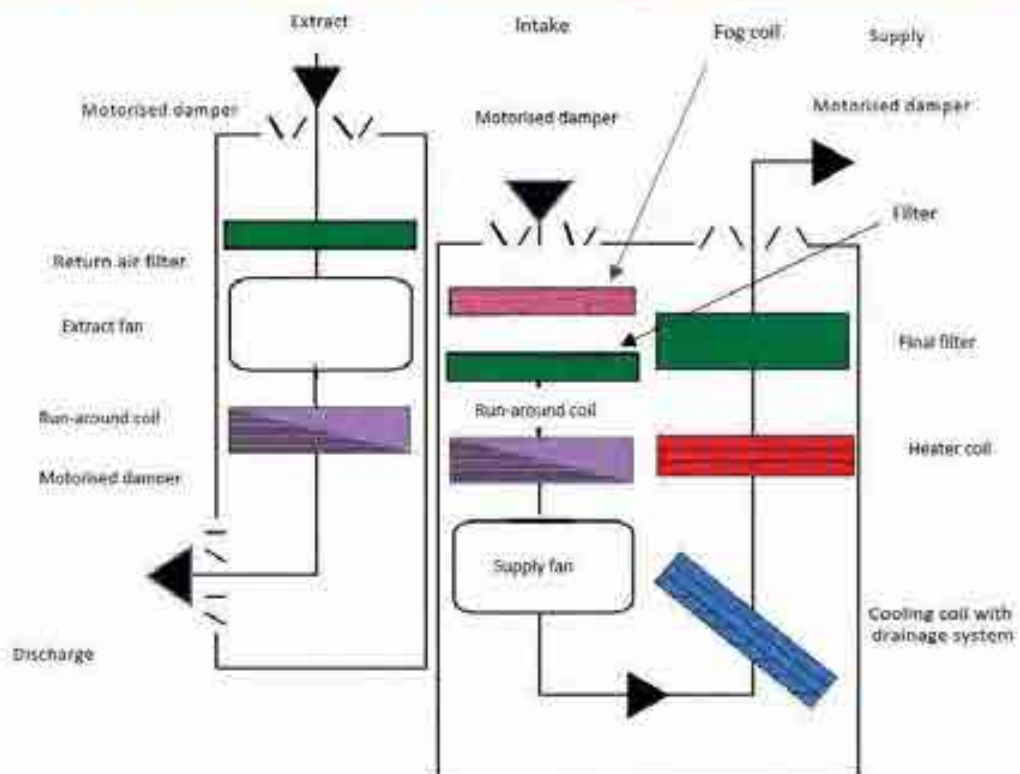
**Figure A3: Schematic of typical double-stacked Cabinet AHU with energy recovery by plate heat exchanger**



Note: Other configurations of the fan positions are possible

### Cabinet AHU

**Figure A4: Schematic of typical cabinet-style AHU with energy recovery by run-around coil**



Note: Other types of compact vertical AHUs are possible

## Appendix 2: Summary of design conditions

Table A1 Design conditions for miscellaneous rooms

Application	Ventilation	Air-change rate (ac/h)	Pressure (Pascal Pa)	Supply filter grade (BS EN 16798 or BS EN 1822-1)	Noise (dB(A))	Temp (°C)	Comments (for further information see Chapter 8)
General ward (level 0 and 1 care)	S/N	6	–	SUP2	35	18–28	
Communal ward toilet	E	6	–ve	–	45	–	
Single room	S/E/N	6	0 or –ve	SUP2	35	18–28	
Single room WC	E	>10	–ve	–	45	–	
Clean utility	S	6	+ve	SUP3	45	18–22	
Dirty utility	E	6	–ve	–	45	–	
Ward isolation room (PPVL)	S	10	Lobby +10 Room 0	SUP2	35	–	See Scottish Health Planning Note 4 (Supplement 1)
Infectious diseases isolation room	E	10	–5	SUP2	35	–	See Table 4
Neutropaenic patient ward	S	10	+10	E12	35	–	See Table 3
Critical care areas (Level 2 and 3 care)	S	10	+10	SUP1	35	–	Isolation room may be –ve pressure or PPVL. See Table 3
Birthing room	S & E	10	0	SUP2	45	20–25	See Table 5
NICU/SCBU	S & E	10	+ve	SUP1	35	20–28	Isolation room may be –ve pressure
Operating department recovery room	S & E	15	0	SUP2	45	18–25	Provide clean airflow path
Catheterisation room	S & E	10	+ve	SUP2	45	18–22	
Interventional or non-interventional Imaging room of any type	S & E	10	+ve	SUP2	48	–	Stable conditions as specified for the imaging equipment
Sedation recovery room as in paragraph 8.16	S & E	15	S/E	SUP2	45	18–28	
Endoscopic procedure room	S & E	15	–5	SUP2	40	20–25	See Table 2
Endoscope reprocessing wash room	E	10	–ve	–	45	–	
General treatment room	S & E	10	Neutral	SUP2	45	20–25	See Table 2
Emergency department waiting area	S & E	6	–	SUP2	–	18–25	See Table 2



Application	Ventilation	Air-change rate (ac/h)	Pressure (Pascal Pa)	Supply filter grade (BS EN 16798 or BS EN 1822-1)	Noise (dB(A))	Temp (°C)	Comments (for further information see Chapter 8)
Containment level 3 laboratory	#	>20	#	H14*	–	18–22	# See ACDP guide: *Filter in extract See Table 4
Post-mortem room	S & E	S = 10 E = 12	–ve	SUP2	45	18–22	Provide clean airflow path
Specimen store	E	–	–ve	–	–	–	Fan accessible from outside of store

## Notes:

For general and UCV operating suites and associated rooms, see specific guidance in Chapter 8 and typical design solutions in Appendix 7

Waiting and circulation areas should be directly or indirectly ventilated to provide a comfortable environment and control airborne contamination and odours.

**18–22°C** indicates the range over which the temperature may float.

18–22°C indicates the range over which the temperature should be capable of being controlled at any point within that range.

S = Supply

E = Extract

N = Natural ventilation where possible where natural ventilation is used the design must reflect clauses 5.2 to 5.9

SUP refers to the supply air quality as defined in BS EN 16798



## Appendix 3: Hierarchy of cleanliness

Table A2 Hierarchy of cleanliness

Class	Room	Nominal pressure (Pa) <sup>a</sup>	Airflow rate for bacterial contaminant dilution Flow in or supply (m <sup>3</sup> /s)	Flow out or extract(m <sup>3</sup> /s)
Sterile	Preparation room	35	See standard schemes in Appendix 7 and detailed calculation process in Appendix 8 for recommended design values	
	lay-up	25		
	sterile pack store	25		
	Operating theatre Scrub bay	25		
Clean	Sterile pack store Anaesthetic room	+ve 15c	6 ac/h	–
	Scrub room	15	The greater of 15 ac/h or 0.15 –	The greater of 15 ac/h or 0.15 0.10 mind
Transitional	Recovery room	0	15 ac/he (See note f) (See note f) 7 ac/h	15 ac/he
	Clean corridor	0		7 ac/h
	General access corridor	0		7 ac/h
	Changing rooms	3		7 ac/h
Dirty	Service corridor	0	–	(See note g)
	Utility room	–5 or 0	–	0.40 or 0.10

### Notes:

Nominal room pressures are given to facilitate setting up of pressure-relief dampers, the calculation process, and the sizing of transfer devices. In practice, the resultant pressures are not immutable provided the desired airflow rates and movement directions are achieved.

An open or semi-open bay is considered to be part of the operating theatre; a low-level extract under the scrub trough is required. (See Chapter 8 paragraph 8.45 onwards and "Note" for more information.)

For design purposes, anaesthetic should be assumed to be at 15 Pa. When commissioning, equal to or greater than 10 Pa is considered suitable.

May need to be increased if scrub is large to promote scouring.

15 ac/h is considered necessary for the control of anaesthetic gas (see Appendix 9).

Supply airflow rate necessary to make up 7 ac/h after taking into account secondary air from cleaner areas.

No dilution requirement. Temperature control requirements only.

## Appendix 4: Leakage flows in m<sup>3</sup>/s through closed door gaps

### Pressure difference (Pa)

Table A3 Leakage flows through closed door gaps

Type	5	10	15	20	25	30	35	40
Single door	0.03	0.05	0.06	0.06	0.07	0.08	0.09	0.10
Single door + half	0.04	0.06	0.07	0.08	0.09	0.10	0.11	0.12
Double door	0.05	0.08	0.10	0.11	0.12	0.13	0.14	0.15

#### Designers' notes:

The door gaps assumed are 4 mm along the bottom, 3 mm at the top and sides, and 2 mm between double leaves.

If doors are fitted with cold smoke seals, these will significantly reduce the door leakage rate when new and undamaged. It is therefore recommended that provision for the design leakage be factored into the size of the appropriate transfer grille or pressure stabiliser. Failure to do this will result in air-gap whistles and doors being held partially open by air pressure.

Factory-assembled door-sets with a steel frame and pre-hung leaves are becoming common. There is effectively no leakage across these doors when closed. Therefore, when this type of door assembly is fitted, the door leakage can be ignored and the design airflow into the room reduced accordingly. The design airflow would then become that required either (i) for open door protection (Appendix 5), or (ii) to achieve the specified air-change rate – whichever is the greater.



## Appendix 5: Recommended airflow rates in m<sup>3</sup>/s through a doorway between rooms of different cleanliness to control cross-contamination

Table A4 Flows through doorways

Room class		Dirty	Transitional	Clean	Sterile
Sterile	Hatch	0.3	0.24	0.18	
	Single door	0.47	0.39	0.28	0 or 0.28a
	Double door	0.95	0.75	0.57	0 or 0.57a
Clean	Single door	0.39	0.28	0 or 0.28a	
	Double door	0.75	0.57	0 or 0.57a	
Transitional	Single door	0.28	0 or 0.28a		
	Double door	0.57	0 or 0.57a		
Dirty	Single door	0	Open single door = 0.80 m x 2.01 m high	Open single door = 0.80 m x 2.01 m high	Open single door = 0.80 m x 2.01 m high
	Double door	0	Open double door = 1.80 m x 2.01 m high	Open double door = 1.80 m x 2.01 m high	Open double door = 1.80 m x 2.01 m high

### Designers' notes:

The degree of protection required at an open doorway between rooms is dependent on the degree of difference in cleanliness between them.

Flow-rate required between rooms within the same class tends to zero as class reduces.

If two rooms are of equal cleanliness, no flow is required (in practice there will be an interchange in either direction) and the design of the air movement will assume zero airflow. In certain cases, however, interchange is not permitted, and a protection airflow of 0.28 is assumed in the design – for example, in the case of a preparation room used as a "lay up".

## Appendix 6: Typical approximate pressures in an operating suite when a given door is open

### Typical approximate effect on other rooms

Table A5 Pressure in room with open door

Door open between	Typical approximate resultant	Room	Pressure (Pa) pressure in these rooms (Pa)
Operating theatre and corridor or Scrub bay and corridor	0	Anaesthetic Preparation – lay-up Utility Preparation – sterile pack store	0 12 -6 5
Operating theatre and anaesthetic room (or other series room with double doors)	17	Preparation – lay-up Utility Preparation – sterile pack store	26 -9 22
Operating theatre and Utility room or Operating theatre and preparation room	25	No change	
Anaesthetic room and corridor (or other series room with double doors)	0	Preparation – lay-up Utility Operating theatre Preparation – sterile pack store	30 -6 20 25
Preparation room and corridor or Utility room and corridor	0	No change	
Utility room and outer corridor	0	No change	

#### Notes:

The room differential pressure protects against reverse flows when the door is closed.

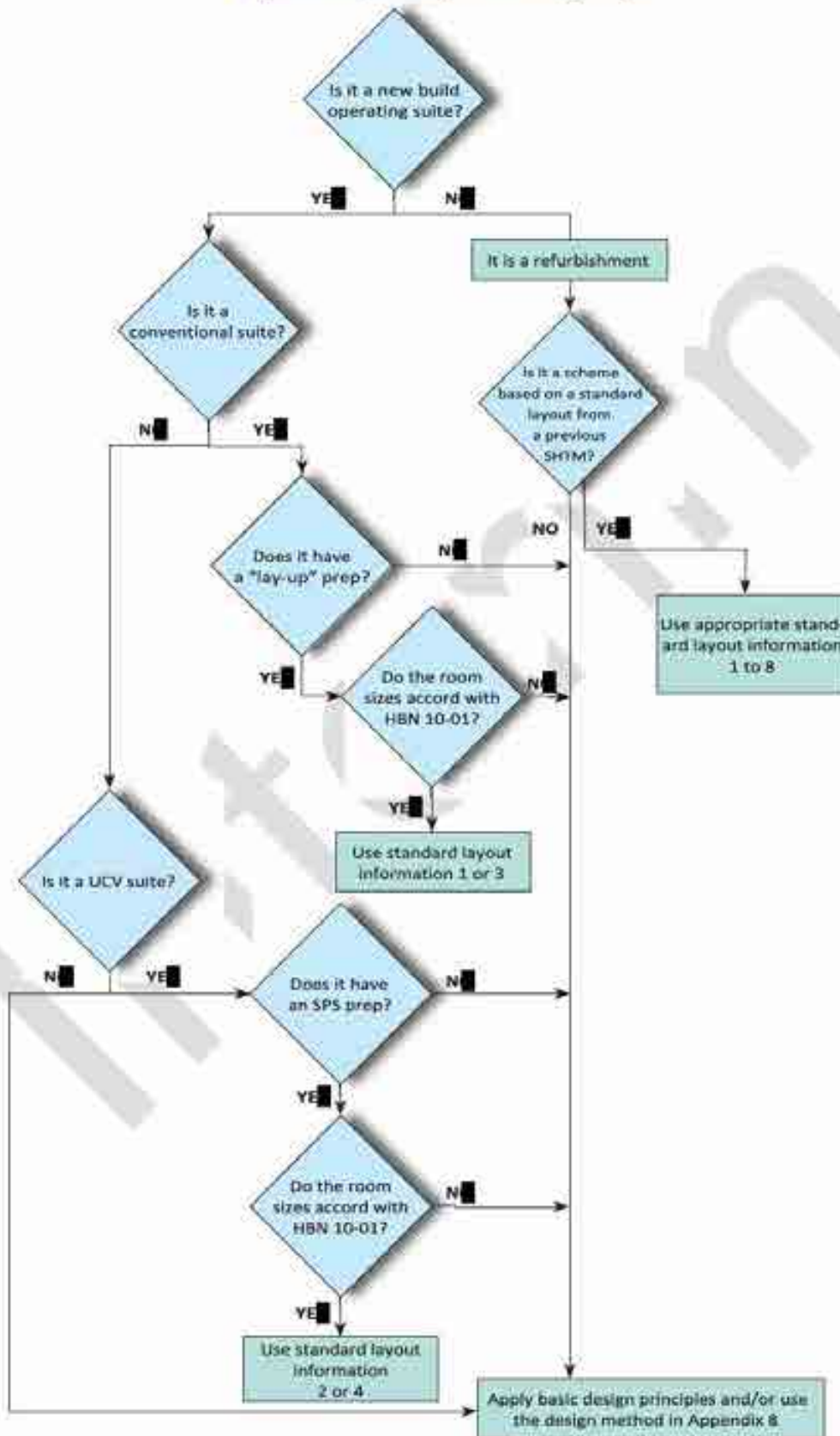
The flow of air through a doorway protects against reverse airflow when the door is open.

Pressure stabilisers control flow and ensure a known airflow path between rooms when doors are closed and also reduce backflow between rooms when doors to other rooms are open.



# Appendix 7: Operating suite design logic

Figure A5 Operating suite design logic



## Standard layout 1 – Two-corridor conventional operating suite with “lay-up” prep

Table A6 Two corridor conventional operating suite with “lay up” prep design criteria

Room	Size (m3)‡	Air-change rate (ac/h)	Nominal pressure (Pa)	Flow rate (m3/s)
Theatre	165	≥22	25	Primary = 0.73 From Prep = 0.28 Total = 1.010
Anaesthetic	57	15	Design 15 Commissioned ≥10	0.24
Lay-up prep	36	≥22	35	0.28**
Scrub	*	–	25	–

Notes:

‡ Derived from Health Building Note 10-01 (2021). If room sizes differ from those given, recalculate the design air flows to achieve the air change rate or door protection.

\*This is a separate scrub and is not considered as being part of the theatre volume.

\*\*Interchange is not permitted between the theatre and lay-up prep; therefore, as in Appendix 5, an airflow protection of

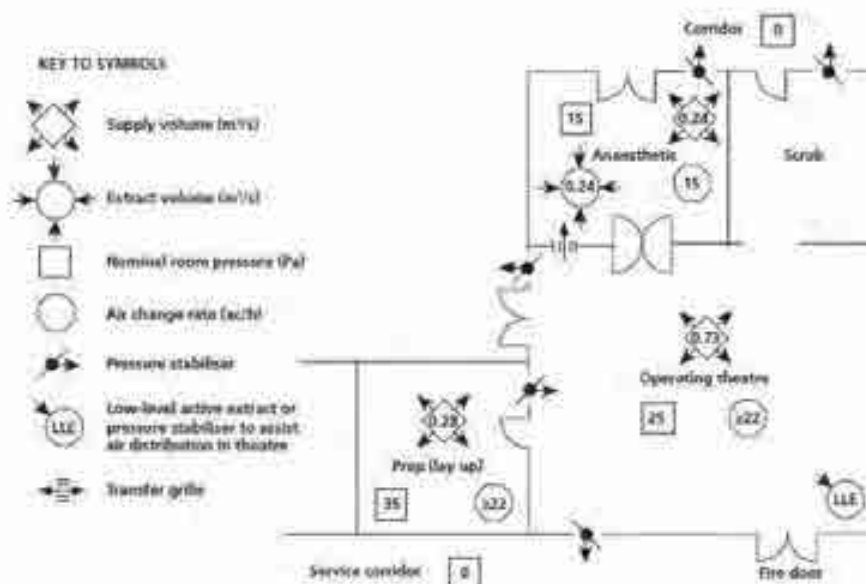
0.28 m3/s is required as a minimum (but see also the “designers’ notes” in Appendix 4).

N.B.If the lay-up prep also has a door or hatch to the corridor, its supply airflow volume would increase to 0.35 m3/s

The volume of air to be extracted from the theatre should be determined by subtracting the airflow required for door protection at the key door from the total air entering the space. The balance should be equally divided between the passive or active extract locations.

The extracts within the theatre and scrub may be either passive and fitted with pressure stabilisers or active and connected to the extract system. They should where possible be located at low level and positioned to promote the active ventilation and scouring of all areas of the space (see paragraph 8.92). Air transfer from theatre to anaesthetic room may be by pressure stabiliser or transfer grilles (see paragraphs A8.51 and A8.52 in Appendix 8). The anaesthetic room extract will be at low level (see Appendix 9).

Figure A6 Two corridor conventional operating suite with "lay up" prep, schematic layout



## Standard layout 2 – two-corridor UCV operating suite with SPS prep

Table A7 Two corridor UCV operating suite with SPS design criteria

Room	Size (m <sup>3</sup> )‡	Air-change rate (ac/h)	Nominal pressure (Pa)	Flow rate (m <sup>3</sup> /s)
Theatre	165	≥22	25	# 1.01
Anaesthetic	57	15	Design 15 Commissioned ≥10	0.24
Sterile pack store prep	36	10	25	0.10
Scrub	*	–	25	–

### Notes:

‡ Derived from Health Building Note 10-01 (2021). If room sizes differ from those given, recalculate the design air flows to achieve the air change rate or door protection.

\* This is a separate scrub and is not considered as being part of theatre volume.

# Primary fresh-air volume to UCV canopy only or ≥22 or door protection

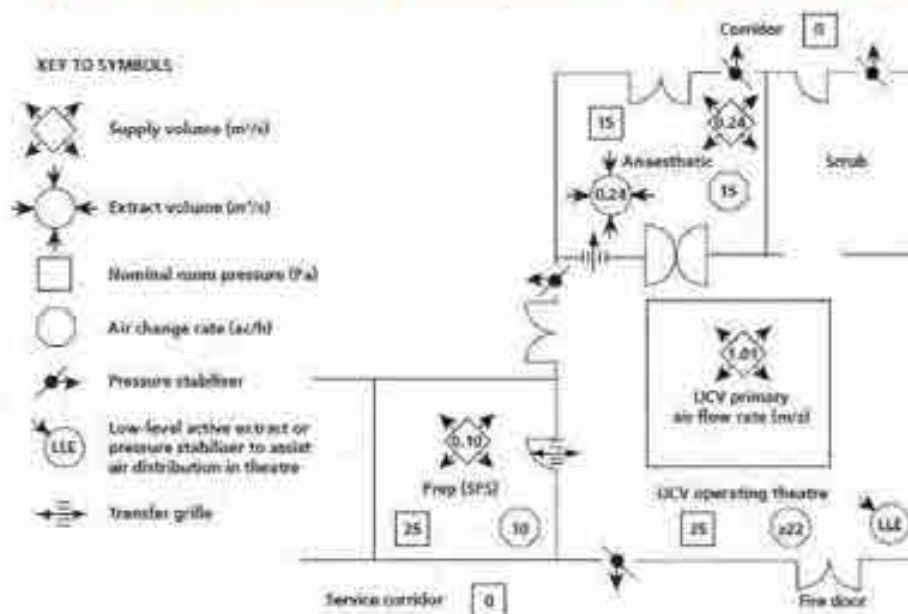
The volume of air to be extracted from the theatre should be determined by subtracting the airflow required for door protection at the key door from the total air entering the space. The balance should be equally divided between the passive or active extract locations.

The extracts within the theatre and scrub may be either passive and fitted with pressure stabilisers or active and connected to the extract system. They should where possible be located at low level and positioned to promote the active ventilation and scouring of all areas of the space (see paragraph 8.92). Air transfer from theatre to anaesthetic room may be by pressure stabiliser or transfer grilles (see



paragraphs A8.51 and A8.52 in Appendix 8). The anaesthetic room extract will be at low level (see Appendix 9).

Figure A7 Two corridor UCV operating suite with SPS schematic layout



### Standard layout 3 – single-corridor conventional operating suite with “lay-up” prep

Table A8 Single corridor conventional operating suite with “lay up” prep design criteria

Room	Size (m <sup>3</sup> )‡	Air-change rate (ac/h)	Nominal pressure (Pa)	Flow rate (m <sup>3</sup> /s)
Theatre	165	≥22	25	Primary = 0.73 From Prep = 0.28 Total = 1.01
Anaesthetic	57	15	Design 15 Commissioned ≥10	0.24
Lay-up prep	36	≥22	35	0.35**
Scrub	*	–	25	–
Utility	36	–	–5	0.40

Notes:

‡ Derived from Health Building Note 10-01 (2021). If room sizes differ from those given, recalculate the design air flows to achieve the air change rate or door protection.

\* This is a separate scrub and is not considered as being part of the theatre volume.

\*\* Interchange is not permitted between the theatre and lay-up prep; therefore, as in Appendix 5, an airflow protection of 0.28

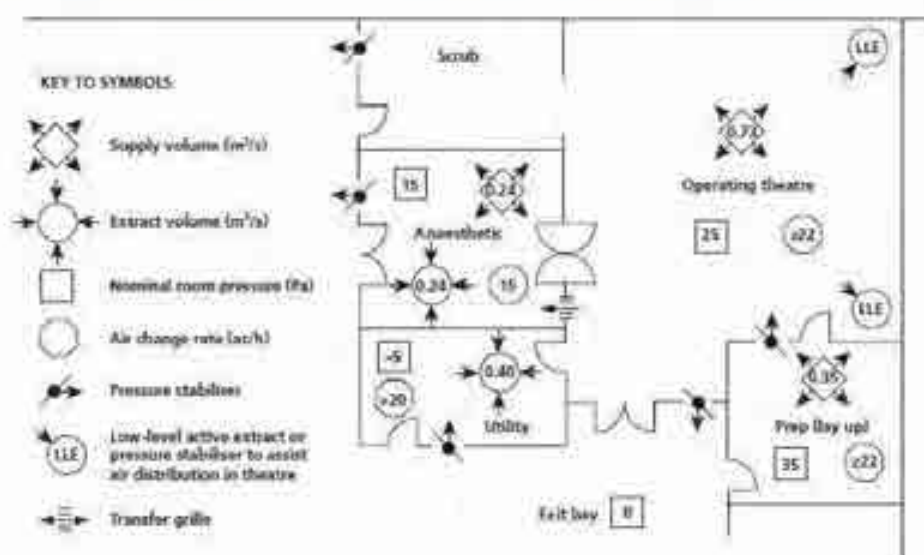


+ 0.07 closed-door airflow is required as a minimum (but see also the "designers' notes" in Appendix 4).

The volume of air to be extracted from the theatre should be determined by subtracting the airflow required for protection at the key door from the total air entering the space. The balance should be equally divided between the passive or active extract locations.

The extracts within the theatre and scrub may be either passive and fitted with pressure stabilisers or active and connected to the extract system. They should where possible be located at low level and positioned to promote the active ventilation and scouring of all areas of the space (see paragraph 8.92). Air transfer from theatre to anaesthetic room may be by pressure stabiliser or transfer grilles (see paragraphs A8.51 and A8.52 in Appendix 8). The anaesthetic room extract will be at low level (see Appendix 9).

Figure A8 Single corridor conventional operating suite with "lay up" prep schematic layout



## Standard layout 4 – single-corridor UCV operating suite with Lay-up prep

Table A9 single-corridor UCV operating suite with Lay-up prep design criteria

Room	Size (m <sup>3</sup> )‡	Air-change rate (ac/h)	Nominal pressure (Pa)	Flow rate (m <sup>3</sup> /s)
Theatre	165	≥22	25	#1.01
Anaesthetic	57	15	Design 15 Commissioned ≥10	0.24
Sterile pack store prep	36	≥22	35	0.35**
Scrub	*	–	25	–
Utility	36	–	-5	0.4

Notes:

‡ Derived from Health Building Note 10-01 (2021). If room sizes differ from those given, recalculate the design air flows to achieve the air change rate or door protection.

\* This is a separate scrub and is not considered as being part of the theatre volume.

\*\* Interchange is not permitted between the theatre and lay-up prep; therefore, as in Appendix 5, an airflow protection of 0.28

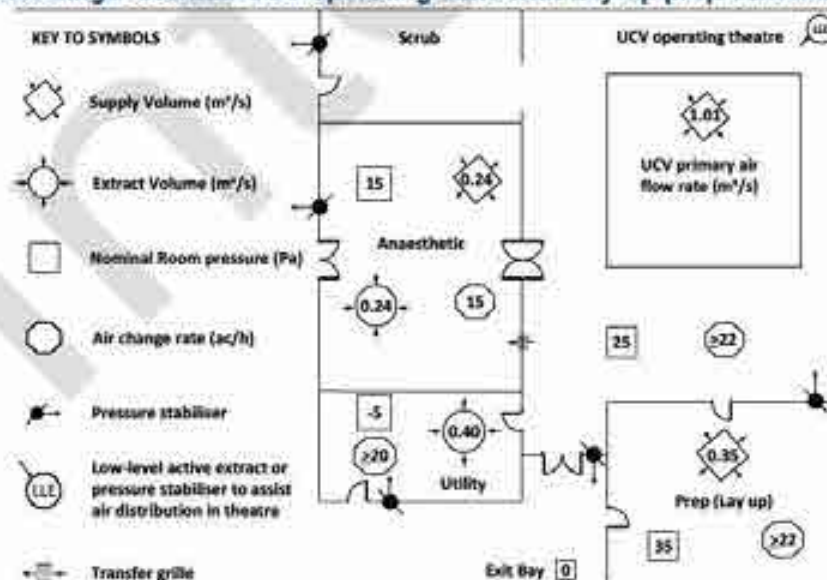
+ 0.07 closed-door airflow is required as a minimum (but see also the "designers' notes" in Appendix 4).

# Primary fresh-air volume for the UCV canopy or  $\geq 22$  ac/h or door protection

The volume of air to be extracted from the theatre should be determined by subtracting the airflow required for protection at the key door from the total air entering the theatre space. The balance should be equally divided between the passive or active extract locations.

The extracts within the theatre and scrub may be either passive and fitted with pressure stabilisers or active and connected to the extract system. They should where possible be located at low level and positioned to promote the active ventilation and scouring of all areas of the space (see paragraph 8.92). Air transfer from theatre to anaesthetic room may be by pressure stabiliser or transfer grilles (see paragraphs A8.51 and A8.52 in Appendix 8). The anaesthetic room extract will be at low level (see Appendix 9).

Figure A9 single-corridor UCV operating suite with Lay-up prep schematic layout





### Standard layout 5 – (ex SHTM 2025 Plan 1b): single-corridor conventional operating suite with “lay-up” prep

**Note:** This layout and data is for historical purposes only. The information is to be used for the evaluation of existing systems, the fitting out of existing shell schemes or rebalancing of such systems following cleaning.

Table A10 (ex SHTM 2025 Plan 1b): single-corridor conventional operating suite with “lay-up” prep design criteria

Room	Size	Air-change rate (ac/h)	Nominal pressure (Pa)	Flow rate (m <sup>3</sup> /s)
Theatre	* See Notes below	≥22	25	# See Notes below
Anaesthetic	* See Notes below	15	Design 15 Commissioned ≥10	~ Supply and extract to achieve the air change rate
Lay-up prep	* See Notes below	≥22	35	0.35**
Scrub	* See Notes below	–	25	–
Utility	* See Notes below	>20	–5	0.40

Notes:

\* Existing theatre suite rooms to be measured on site

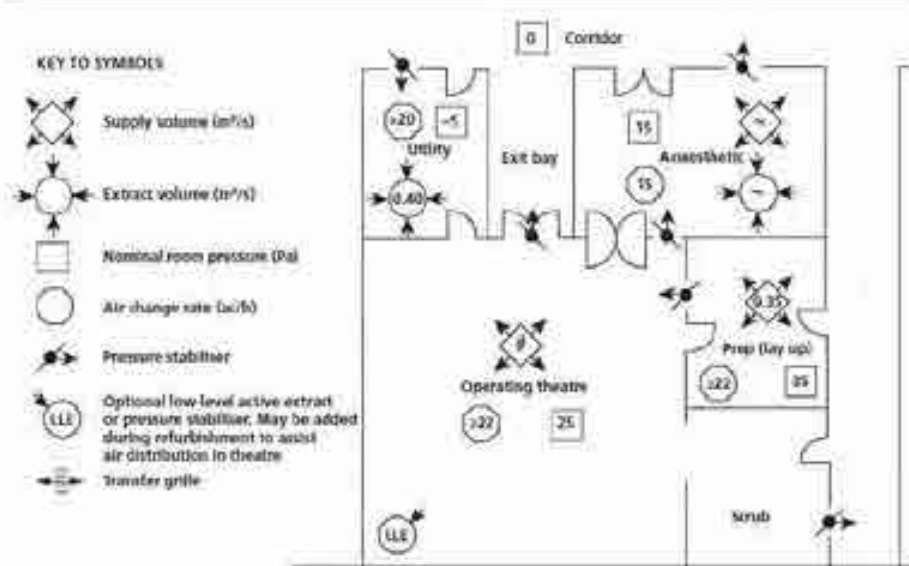
# Total airflow related to volume of theatre to give ≥22 ac/h or door protection value = primary theatre supply + 0.28 m<sup>3</sup>/s from the Lay-up Prep pressure stabiliser

\*\* See the “designers’ notes” in Appendices 4 and 5.

The utility layout design figures will remain the same if a hatch is fitted instead of a door onto the service corridor.

The extracts within the theatre and scrub may be either passive and fitted with pressure stabilisers or active and connected to the extract system. They should where possible be located at low level and positioned to promote the active ventilation and scouring of all areas of the space (see paragraph 8.92). Air transfer from theatre to anaesthetic room may be by pressure stabiliser or transfer grilles (see paragraphs A8.51 and A8.52 in Appendix 8). The anaesthetic room extract will be at low level (see Appendix 9).

Figure A10 (ex SHTM 2025 Plan 1b): single-corridor conventional operating suite with "lay-up" prep schematic layout



### Standard layout 6 – (ex SHTM 2025 Plan 1a): single-corridor UCV operating suite with SPS prep

**Note:** This layout and data is for historical purposes only. The information is to be used for the evaluation of existing systems, the fitting out of existing shell schemes or rebalancing of such systems following cleaning. If difficulties are experienced with entrainment around the periphery of the UCV, adding a low-level active or passive extract in the location indicated will usually resolve the problem.

Table A11 (ex SHTM 2025 Plan 1a): single-corridor UCV operating suite with SPS prep design criteria

Room	Size	Air-change rate (ac/h)	Nominal pressure (Pa)	Flow rate (m <sup>3</sup> /s)
Theatre	* See Notes below	≥22	25	# See Notes below
Anaesthetic	* See Notes below	15	Design 15 Commissioned ≥10	~ Supply and extract to achieve the air change rate
Sterile pack store prep	* See Notes below	10	25	0.1
Scrub	* See Notes below	–	25	–
Utility	* See Notes below	–	–5	0.4

Notes:

\* Existing theatre suite to be measured on site

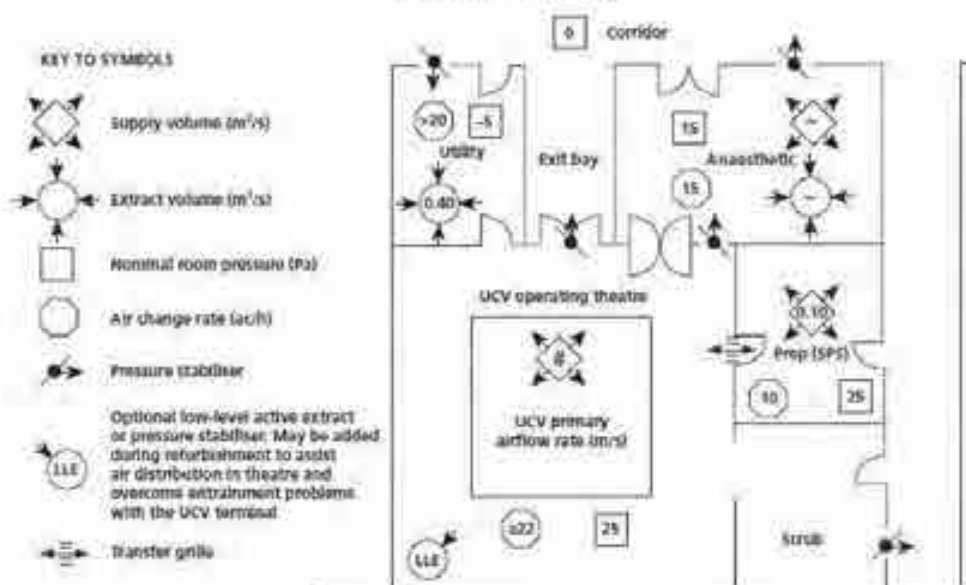
# Theatre total airflow related to volume of theatre to give ≥22 ac/h or door protection value

The utility layout design figures will remain the same if a hatch is fitted instead of a door onto the service corridor.



The extracts within the theatre and scrub may be either passive and fitted with pressure stabilisers or active and connected to the extract system. They should where possible be located at low level and positioned to promote the active ventilation and scouring of all areas of the space (see paragraph 8.92). Air transfer from theatre to anaesthetic room may be by pressure stabiliser or transfer grilles (see paragraphs A8.51 and A8.52 in Appendix 8). The anaesthetic room extract will be at low level (see Appendix 9).

Figure A11 (ex SHTM 2025 Plan 1a): single-corridor UCV operating suite with SPS prep schematic layout



### Standard layout 7 – (ex SHTM 2025 Plan 5b): two-corridor conventional operating suite with “lay-up” prep

**Note:** This layout and data is for historical purposes only. The information is to be used for the evaluation of existing systems, the fitting out of existing shell schemes or rebalancing of such systems following cleaning.

Table A12 (ex SHTM 2025 Plan 5b): two-corridor conventional operating suite with “lay-up” prep design criteria

Room	Size	Air-change rate (ac/h)	Nominal pressure (Pa)	Flow rate (m <sup>3</sup> /s)
Theatre	* See Notes below	≥22	25	# See Notes below
Anaesthetic	* See Notes below	15	Design 15 Commissioned ≥10	~ Supply and extract to achieve the air change rate
Lay-up prep	* See Notes below	≥22	35	0.35**
Scrub	* See Notes below	–	25	–
Utility	* See Notes below	–	0	0.1

Notes:

\* Existing theatre suite to be measured on site

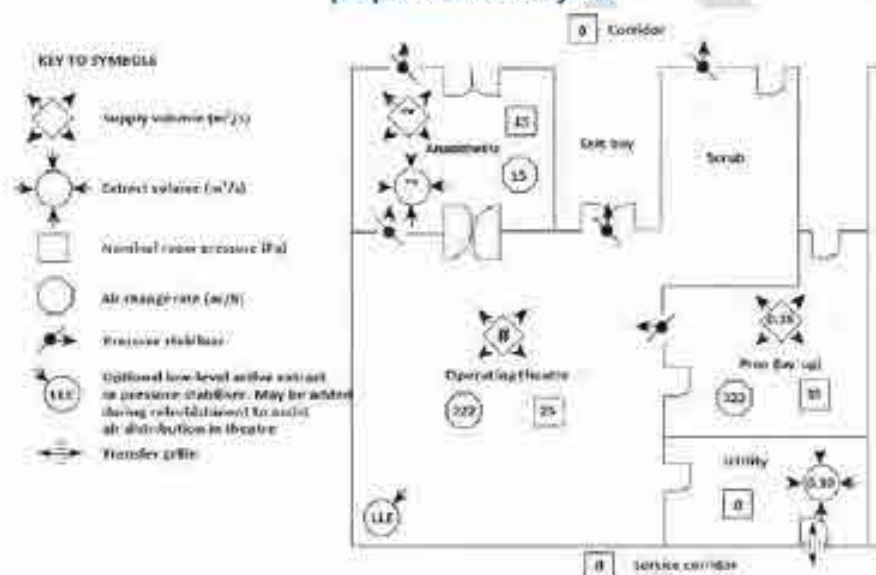
# Theatre total airflow related to volume of theatre to give  $\geq 22$  ac/h or door protection  
 = primary theatre supply + 0.28 m<sup>3</sup>/s from Lay-up Prep pressure stabiliser

\*\* See the "designers' notes" in Appendices 4 and 5

The utility design figures will remain the same if a hatch is fitted instead of a door onto the service corridor. Alternatively, if the operating department has a central waste processing station, the utility room may be omitted and replaced with a hatch between the theatre and service corridor.

The extracts within the theatre and scrub may be either passive and fitted with pressure stabilisers or active and connected to the extract system. They should where possible be located at low level and positioned to promote the active ventilation and scouring of all areas of the space (see paragraph 8.92). Air transfer from theatre to anaesthetic room may be by pressure stabiliser or transfer grilles (see paragraphs A8.51 and A8.52 in Appendix 8). The anaesthetic room extract will be at low level (see Appendix 9).

Figure A12 (ex SHTM 2025 Plan 5b): two-corridor conventional operating suite with "lay-up" prep schematic layout



### Standard layout 8 – (ex SHTM 2025 Plan 5a): two-corridor UCV operating suite with SPS prep

**Note:** This layout and data is for historical purposes only. The information is to be used for the evaluation of existing systems, the fitting out of existing shell schemes or rebalancing of such systems following cleaning. If difficulties are experienced with entrainment around the periphery of the UCV, adding a low-level active or passive extract in the location indicated will usually resolve the problem.



Table A13 (ex SHTM 2025 Plan 5a): two-corridor UCV operating suite with SPS prep design criteria

Room	Size	Air-change rate (ac/h)	Nominal pressure (Pa)	Flow rate (m <sup>3</sup> /s)
Theatre	* See Notes below	≥22	25	# See Notes below
Anaesthetic	* See Notes below	15	Design 15 Commissioned ≥10	~ Supply and extract to achieve the air change rate
Sterile pack store prep	* See Notes below	10	25	0.1
Scrub	* See Notes below	–	25	–
Utility	* See Notes below	–	0	0.1

## Notes:

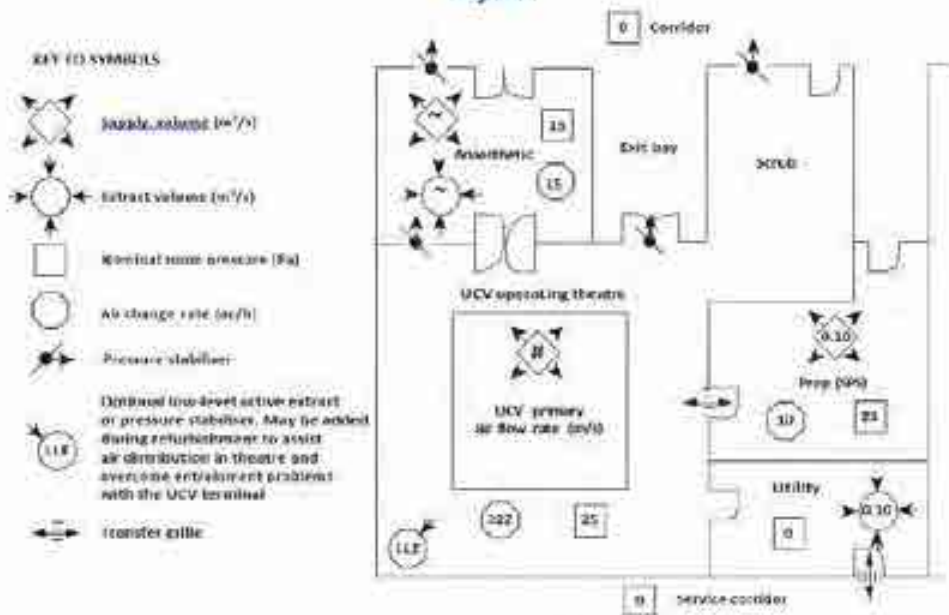
\* Existing theatre suite to be measured on site

# Primary fresh supply air for the UCV canopy is related to volume of theatre to give ≥22 ac/h or door protection

The utility design figures will remain the same if a hatch is fitted instead of a door onto the service corridor. Alternatively, if the operating department has a central waste processing station, the utility room may be omitted and replaced with a hatch between the theatre and service corridor.

The extracts within the theatre and scrub may be either passive and fitted with pressure stabilisers or active and connected to the extract system. They should where possible be located at low level and positioned to promote the active ventilation and scouring of all areas of the space (see paragraph 8.92). Air transfer from theatre to anaesthetic room may be by pressure stabiliser or transfer grilles (see paragraphs A8.51 and A8.52 in Appendix 8). The anaesthetic room extract will be at low level (see Appendix 9).

Figure A13 (ex SHTM 2025 Plan 5a): two-corridor UCV operating suite with SPS prep schematic layout





## Appendix 8: Design of air- movement control schemes for operating theatres

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### General

- A8.1 Standard operating suite design solutions are given in paragraphs 8.27–8.74 and Appendix 7. If these standard solutions cannot be used, the following procedure should be adopted, which will result in an acceptable design. Note that the method employed may equally be used to provide a design solution to a ventilated suite of rooms for any application.
- A8.2 The method is concerned with the calculation of air-flow rates to ensure that correct air movement occurs between rooms when any one door is open. Under most circumstances, the air quantities required for air-movement control will approximate to those for either temperature control or bacterial contaminant dilution. This flow rate is sufficient to control the effects of any slight reverse flows occurring when a door is opened.
- A8.3 The progression through the design procedure is shown in the air-flow design procedure chart (Figure A24) and is supported by worksheets WS1 to WS7 described in paragraph A8.4. It is recommended that a plan of the suite and an air-flow network be made (Figure A23) to collate all information. Flow rates, air- transfer devices etc should be entered as required. The remainder of this Appendix may be treated as reference data to assist in the various steps. The following symbols are used:
- SS – supply air-flow rate for summer temperature control;
  - SW – supply air-flow rate for winter temperature control;
  - SD – supply air-flow rate for dilution of bacterial contaminants;
  - SL – supply air-flow rate for heat loss;
  - SG – supply air-flow rate for heat gain;
  - ED – extract air-flow rate for dilution of bacterial contaminants;
  - SF – final supply air-flow rates
  - EF – final extract flow rates;
  - SAMC – air-supply flow rate for air- movement control;
  - EAMC – air-extract flow for air- movement control;
  - LOUT – leakage air-flow rate outward;
  - LIN – leakage air-flow rate inward;
  - $\Sigma$ OUT - total air-flow rate outward;

$\Sigma$ IN total air-flow rate inward.

- A8.4 To simplify the procedure, standard worksheets (WS1 to WS7) have been devised. For each operating suite, a set is required comprising one each of WS1, WS3, WS5, WS6a, WS6b and WS7, one WS4 for each corridor and one WS2 to cover each peripheral room. WS2 has five versions:

WS2a single flow,

WS2b parallel/series multi-flow,

WS2c parallel multi-flow or series multi-flow (unbalanced);

WS2d series multi-flow (balanced); and

WS2e bay (semi-open).

### Peripheral room type

- A8.5 The rooms in the operating suite other than the operating theatre and corridor are referred to as peripheral rooms. Peripheral rooms have been classified according to the flows in and out. These room classifications are defined in paragraphs A8.6–A8.11.

#### Single flow

- A8.6 This is a room with only one door and a net surplus of supply or extract air.

#### Parallel multi-flow

- A8.7 This is a room with two or more doors through each of which the air flows either outwards (high pressure) or inwards (low pressure) (for example the Prep (lay-up) in standard layout 5 in Appendix 7).

#### Parallel/series multi-flow

- A8.8 This is a room having a net surplus of supply or extract and with two or more doors. One or more doors will be to an area of equal cleanliness and need not be protected; hence, the flow may vary between inwards and outwards, the remaining door being to an area of greater or lesser cleanliness (for example the Prep (SPS) in standard layout 6 in Appendix 7).

#### Series multi-flow (unbalanced)

- A8.9 This is a room having a net surplus of supply or extract and with two or more doors. Air flows inwards through one or more doors and outwards through one or more doors.

#### Series multi-flow (balanced)

- A8.10 This is a room as in paragraph A8.9 above, but having either no mechanical ventilation or no net surplus of supply or extract (for example an anaesthetic room).

#### Bay

- A8.11 A room which has a permanent opening to the operating theatre may be considered as a bay off the latter (for example a scrub). Two categories exist:



open bay – the opening is larger than a normal single door opening. The bay may be considered as part of the main room;

semi-open bay – the opening is no larger than a normal single door opening. In this case it is possible to protect the bay from the main room by provision of air supply or extract in the bay, or by passing air to or from another area.

### Air-movement control in peripheral rooms

- A8.12 For the design of air-movement control, two types of air-transfer device are considered. These are transfer grilles and pressure stabilisers. Each has a particular field of application within the design, as described in paragraphs A8.34– A8.43. Air movement is controlled in each of the different room types described in paragraphs A8.13–A8.31.

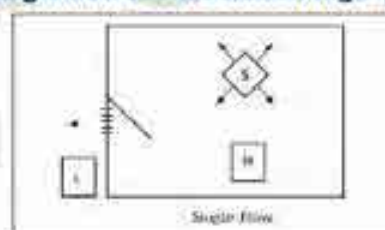
Figure A14 Key to symbols



### Single flow rooms

- A8.13 An appropriately-sized transfer grille should be located in or adjacent to the door of each single flow room to relieve the pressure differences across the door when closed.

Figure A15 Single flow room solution high-pressure room



### Parallel multi-flow rooms

- A8.14 The pressure difference across the closed doors should be relieved, but transfer grilles are not appropriate where two doors lead to areas of different pressures, because reverse flow could occur when the other door is open. For this reason, pressure stabilisers are used.

Figure A16 Parallel, multi-flow room solution high-pressure

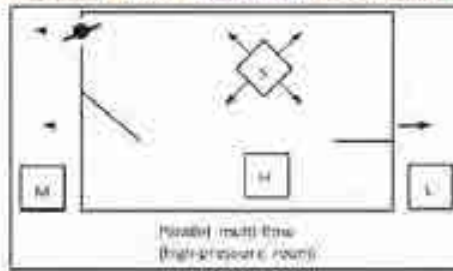
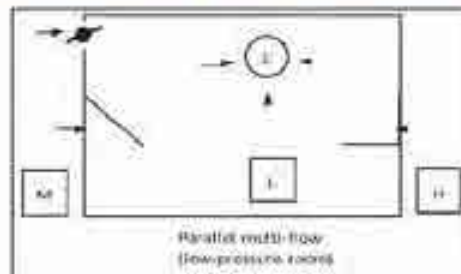


Figure A17 Parallel, multi-flow room solution low-pressure

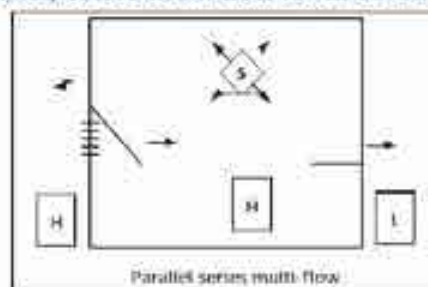


- A8.15 These rooms will be either high- pressure or low-pressure with respect to the adjacent areas (see preparation lay-up room and disposal room, respectively, in standard layout 5 of Appendix 7). The pressure-relief damper is always situated between the room and area, which results in the smaller differential pressure to ensure best use of air.
- A8.16 Just as reverse flow can occur if transfer grilles are used, it can similarly occur via door gaps when the other door is opened. It is not possible to avoid this, except by using air locks, but due to the low flow rates and short durations involved, this is not considered to be of importance.

#### Parallel-series multi-flow rooms

- A8.17 These rooms are similar to those in paragraph A8.14 above, but because the room is of equal cleanliness to one of the adjacent rooms, the nominal pressures will be equal and air may flow through the adjoining doorway in either direction (for example the Prep (SPS) in standard layout 6 of Appendix 7).

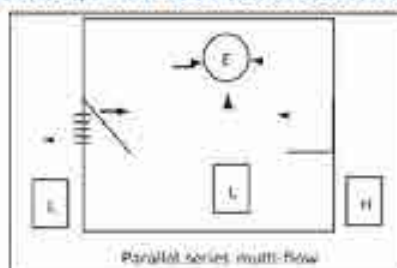
Figure A18 Parallel, series multi-flow room solution high-pressure



- A8.18 Where the nominal room pressure equals that of the higher-pressure adjacent room, the best use of air is by supplying air required for bacterial dilution only and allowing this to exhaust via a transfer grille to the area of equal cleanliness. The doorway to the lower pressure area is protected by the combination of the supply air and the air that will flow inwards through the transfer grille from the area of equal cleanliness.



Figure A19 Parallel, multi-flow room solution low-pressure

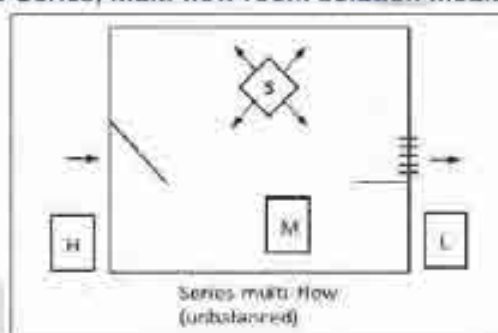


- A8.19 Conversely, where the nominal pressure equals that of the lower-pressure adjacent room, extract ventilation and a transfer grille to the lower pressure adjacent room should be provided (for example the disposal room in standard layout 8 of Appendix 7).

#### Series multi-flow (unbalanced)

- A8.20 These rooms are somewhat similar to those in paragraph A8.15 above, but because the pressure lies between that of the rooms on either side, the back-flow problem does not exist.

Figure A20 Series, multi-flow room solution medium-pressure

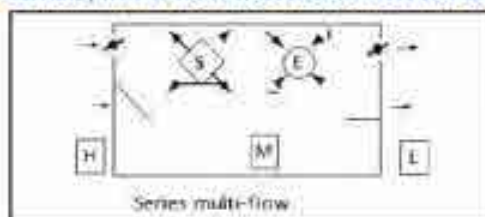


- A8.21 Where the room has a net surplus of mechanical supply air, a transfer grille should be located in or adjacent to the door through which air flows outwards, and the mechanical supply flow rate to the room should be chosen to give protection when this door is open.
- A8.22 Where the room has a net surplus of mechanical extract air, a transfer grille should be located adjacent to the door through which the air flows inwards, and the mechanical extract flow rate to the room should be chosen to give protection when this door is open.
- A8.23 The grille should be sized for the protection requirement of the opposing door when open. When the room on the high-pressure side depressurises, there is a possibility of back-flow through gaps around the door, but this problem may be ignored.

#### Series multi-flow (balanced)

- A8.24 In these rooms, a transfer device adjacent to each doorway is required in order to provide a flow path for the air required to protect the opposing door when opened.

Figure A21 Series, multi-flow room solution medium-pressure



- A8.25 These transfer devices will normally be pressure stabilisers, although transfer grilles may be used where a large amount of excess air is to be exhausted from the operating theatre when all doors are closed (for example anaesthetic rooms).
- A8.26 The calculation procedure is to assume that pressure stabilisers are being used; then – if there is sufficient excess air – change to transfer grilles as described in paragraph A8.50.

### Bay

#### Open bay

- A8.27 A bay of the open type (for example scrub-up) is considered to be part of the operating theatre. There should be an active or passive extract/pressure stabiliser under, or directly adjacent to, the scrub trough.

#### Semi-open bay

- A8.28 In a bay of the semi-open type, protection of one area from the other is possible (for example scrub-up).
- A8.29 As stated previously, the need for protection between operating theatre and scrub-room is not very great. Better use of air can therefore be achieved in this case by installing a pressure stabiliser between the scrub-room and clean corridor. This will allow a flow of air through the scrub-room at all times, except when a door is opened elsewhere in the suite. The pressure stabiliser will then close and the air will be diverted to the other door. When it is considered necessary to protect the scrub-room at all times, either a transfer grille to the corridor or mechanical extract in the scrub-room should be provided.

#### Operating theatre

- A8.30 Once the peripheral rooms have been considered, the operating theatre requirements may then be decided and the supply flow rate required for air-movement control calculated. This flow rate should be such that, with any one door open, the correct air movement directions are maintained. There will be one door in the suite that will require the largest supply flow rate to the operating theatre for protection when open. This is called the “key door” and is discussed separately in paragraph A8.33. Use of this concept avoids repetitive calculations for each door in turn. Having established the required supply flow rate, a relief route should be provided to the clean corridor for any excess air when the doors are closed. This would be via transfer grilles or pressure stabilisers through a series-flow room or via pressure stabilisers to the clean corridor directly.



### Corridors

- A8.31 All surplus air from the suite, except that lost through structure leakage and any passing to the outer corridor, will arrive in the patient/staff corridor. Should this air be insufficient to achieve the required air- change rate (see Appendix 3), some additional air supply should be provided. (The air balance should take account of structural leakage.)
- A8.32 Whereas the resulting pressures are dependent on ductwork layout, room relationships and characteristics of the fan, the generalisations shown in Appendix 6 may be used to estimate the change in room pressure when a door is opened.
- A8.33 The "key door" will be the open double door which leaves the operating theatre at the highest pressure, and/or requires the largest air flow. This should be determined using the procedure in worksheet WS3.

### Transfer grilles

- A8.34 These may be used to limit the pressure differences across the closed door of a single-flow room or, in some instances, for protection of a series-flow or parallel-series-flow room. They allow air flow in both directions and may not be suitable for all applications.
- A8.35 The free area of a grille is calculated from the following equation:

$$A = \frac{Q}{0.84\sqrt{\Delta P}}$$

where:

A is free area (m<sup>2</sup>)

Q is flow rate (m<sup>3</sup>/s)

P is pressure difference (Pa)

0.84 is the grille's resistance- correction factor.

- A8.36 The flow through a grille at a different pressure may be found from the following equation:

$$Q_2 = Q_1 \sqrt{\frac{\Delta P_1}{\Delta P_2}}$$

where:

Q<sub>1</sub> and P<sub>1</sub> are original flow and differential pressure

Q<sub>2</sub> and P<sub>2</sub> are new flow and differential pressure.

- A8.37 The transfer grille may be replaced by carefully proportioned door undercuts of the equivalent free area.

- A8.38 The function of the transfer grille is to provide a means of air-flow control by which the volume and pressure loss can be established. If a grille is used, it should have an easily removable core to facilitate cleaning.

### Pressure-relief dampers

- A8.39 The functions of a pressure-relief damper are now carried out by pressure stabilisers. Accordingly, all mention of them has been removed from this document.

### Pressure stabilisers

- A8.40 Pressure stabilisers can be adjusted to hold the pressure constant over a wide range of flow rates. They are used where requirements exist for accurate room- pressure control or rapid shut-off on pressure fall.
- A8.41 The installation of a grille or baffle in association with a stabiliser will alter the operating characteristics. It is recommended that a location be chosen to avoid the need for visual screening, for example, at high level. The location should be chosen to minimise the likelihood of damage.
- A8.42 The stabilisers used should be virtually silent in operation, adjustable on site, maintenance-free and of a type which cannot be wrongly inserted. They should not be used in external walls or where the pressure difference is less than 5 Pa. The required size of a pressure stabiliser is dependent on the design pressure difference across it and flow rate through it. The manufacturer should provide data relating pressure difference to mean velocity (or flow rate per unit area). From this, the required area can be calculated and then rounded-up to the nearest size manufactured or nearest combination of smaller sizes.
- A8.43 It is sometimes possible to arrange for a pressure stabiliser to perform two tasks. In an anaesthetic room, for example, the two pressure stabilisers may be made to pass the open door protection air, and also control the operating and anaesthetic room pressures with the door closed. To achieve this, the stabilisers are sized for the flow rate required with one of the doors open, but the pressure setting is adjusted to be the value required with the doors closed.

This is shown in Figure A22.

### Door leakage flows

- A8.44 For an air-movement control scheme to work satisfactorily, it is essential that the estimates of door-gap leakage made at the design stage are closely related to those which are achieved in practice. The calculation of gap-flows is complicated by the fact that such flows generally fall into the transition region between laminar and turbulent flow and hence do not follow the normal flow equations. The gaps assumed are 4 mm along the bottom, 3 mm at the top and sides, and 2 mm between double leaves. Doors should not have wider gaps than these. Tighter gaps would result in lower flow-rate requirements and hence lower fan power, but care should be taken to ensure that all doors in the suite have similar gap dimensions. It may be possible to



ignore the door leakage and so reduce the air-flow requirement (see the “designers’ notes” in Appendix 4).

### Room temperature estimation

A8.45 The air-flow rate required to prevent back-flow through an open door is dependent on the temperature difference across the door. The design figures shown in Appendix 6 are based on the temperature differences that will normally occur in practice, assuming heat gains and losses in accordance with Appendix 4.

A8.46 At step 11 of the air-flow design process, the temperature differences across the doors of all rooms classed as “sterile” are calculated. Worksheet WS6 is recommended for the calculations, using the following criteria:

- a. assume that the operating theatre is being controlled at 20°C and calculate the incoming air-supply temperature as shown on worksheet WS6;
- b. the calculation should be repeated for both summer and winter conditions, with an operation in progress;
- c. assume all doors are closed;
- d. use the room supply flow rates from WS1;
- e. use the inward air flows through air-transfer devices and closed door leakages from WS2a to WS2E;
- f. the formula used in worksheet WS6 is as follows:

$$T = \frac{(t_1 Q_1 + t_2 Q_2 + \dots + t_n Q_n) + 0.828H}{(Q_1 + Q_2 + \dots + Q_n)}$$

where:

Q = flow rate from source (m<sup>3</sup>/s)

t = the temperature of source (°C)

H = the room heat gain (kW).

A8.47 If the evaluated temperature differences between rooms do not exceed 2°C, the solution is satisfactory; otherwise proceed as follows:

- (i) check the assumption on which the heat gains are based;
- (ii) take steps to reduce the heat gains;
- (iii) if the door is to a corridor, the flow through the open door will be larger than the value given in Appendix 6. Calculate on WS3, assuming it is the “key door” with door-flow unknown, and the supply as known;
- (iv) if the door leads to a room with mechanical supply, install a trimmer heater in the supply to the room controlled by either a differential thermostat or a

thermostat slaved to the operating theatre thermostat to ensure that T is minimised;

- (v) if the door leads to a room with no mechanical supply, increase the door protection flow as follows:

$$Q_{\text{new}} = Q_{\text{old}} \frac{2}{[\Delta T + 1]}$$

- A8.48 These options should be considered in this order, and (i), (ii) and (iii) should be investigated thoroughly before proceeding to (iv) or (v). The mechanical supply may need to be increased in order to achieve the desired air-change rates.

### Relief of excess air from operating theatre when all doors are closed

- A8.49 As the mechanical supply to the operating theatre is sized to provide an appropriate flow outwards through any door which is opened, it follows that when all doors are closed, there will be more air supplied to the operating theatre than can exit from it via leaks etc. This "excess" air can be relieved by either of the two methods described in paragraphs A8.50– 8.54.

#### By transfer devices via the anaesthetic room

- A8.50 The transfer device (pressure stabiliser or transfer grille) between the theatre and anaesthetic room needs to accommodate an air volume of 0.46 m<sup>3</sup>/s at 20 Pa (see Appendix 6) when the door between the anaesthetic room and corridor is open. An additional 0.11 m<sup>3</sup>/s will pass through the door gaps of the theatre to anaesthetic door to give a total door flow protection figure of 0.57 m<sup>3</sup>/s through the open door between the anaesthetic room and corridor. The optimum duty for this device with all the doors closed would be 0.33 m<sup>3</sup>/s at the room differential of 10 Pa. The following equation shows how this figure is arrived at:

$$\begin{aligned} Q &= \frac{Q_1}{\frac{(\sqrt{\Delta P_2})}{\Delta P_1}} \\ &= \frac{0.46}{\frac{(\sqrt{\Delta 20})}{\Delta 10}} \\ &= 0.33\text{m}^3/\text{s} \end{aligned}$$

where:

Q = excess air to be vented with doors closed

Q1= airflow required for door protection through the transfer device

$\Delta P_1$ = nominal differential pressure with door to operating theatre closed and door to corridor closed



$\Delta P_2$  = nominal differential pressure between the operating theatre and anaesthetic room when the corridor door is open.

- A8.51 If the excess air is less than 0.33 m<sup>3</sup>/s, a pressure stabiliser is required to ensure that the correct pressure and protection airflow is available to pass through the door.
- A8.52 If the excess air is greater than 0.33 m<sup>3</sup>/s, a transfer grille is acceptable because at all times the airflow will exceed the flow required for pressure and door protection.

#### By pressure stabilisers to the corridor

- A8.53 If it is undesirable to pass all the extra remaining air volume through the anaesthetic room after the door flow- protection volumes have been achieved, it may be passed from the theatre directly to the corridor via a separate pressure stabiliser.
- A8.54 If there is sufficient excess air, the transfer grille solution at paragraph A8.52 should be adopted, as it provides the simplest solution and, once set up, will require no further maintenance. With less excess air, it is recommended that the air be passed through the anaesthetic room via the pressure stabilisers as at paragraph A8.51, thus keeping the number of pressure stabilisers to a minimum. Both these solutions increase the air-change rate in the anaesthetic room, but care should be taken to avoid passing excessive amounts through that would cause discomfort to the occupants.

Figure A22: Pressure stabilisers performing two tasks

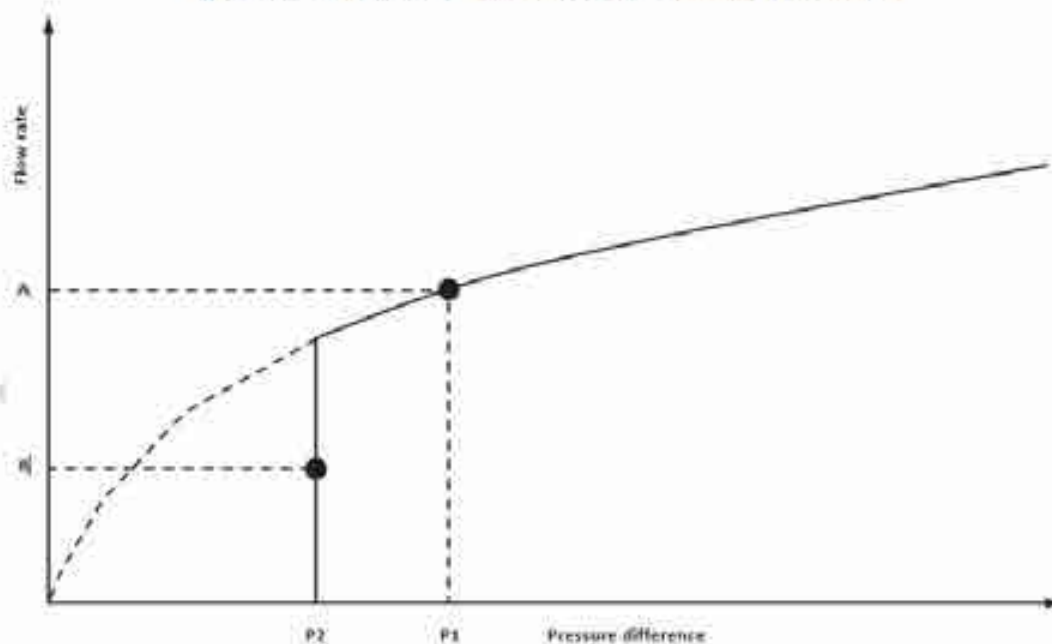
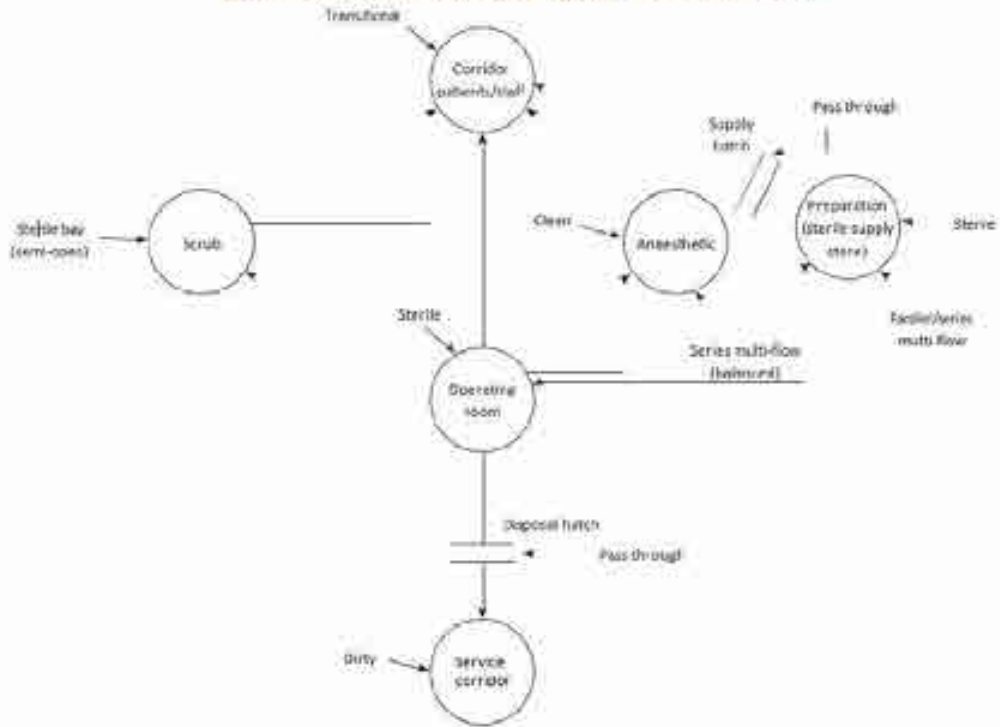


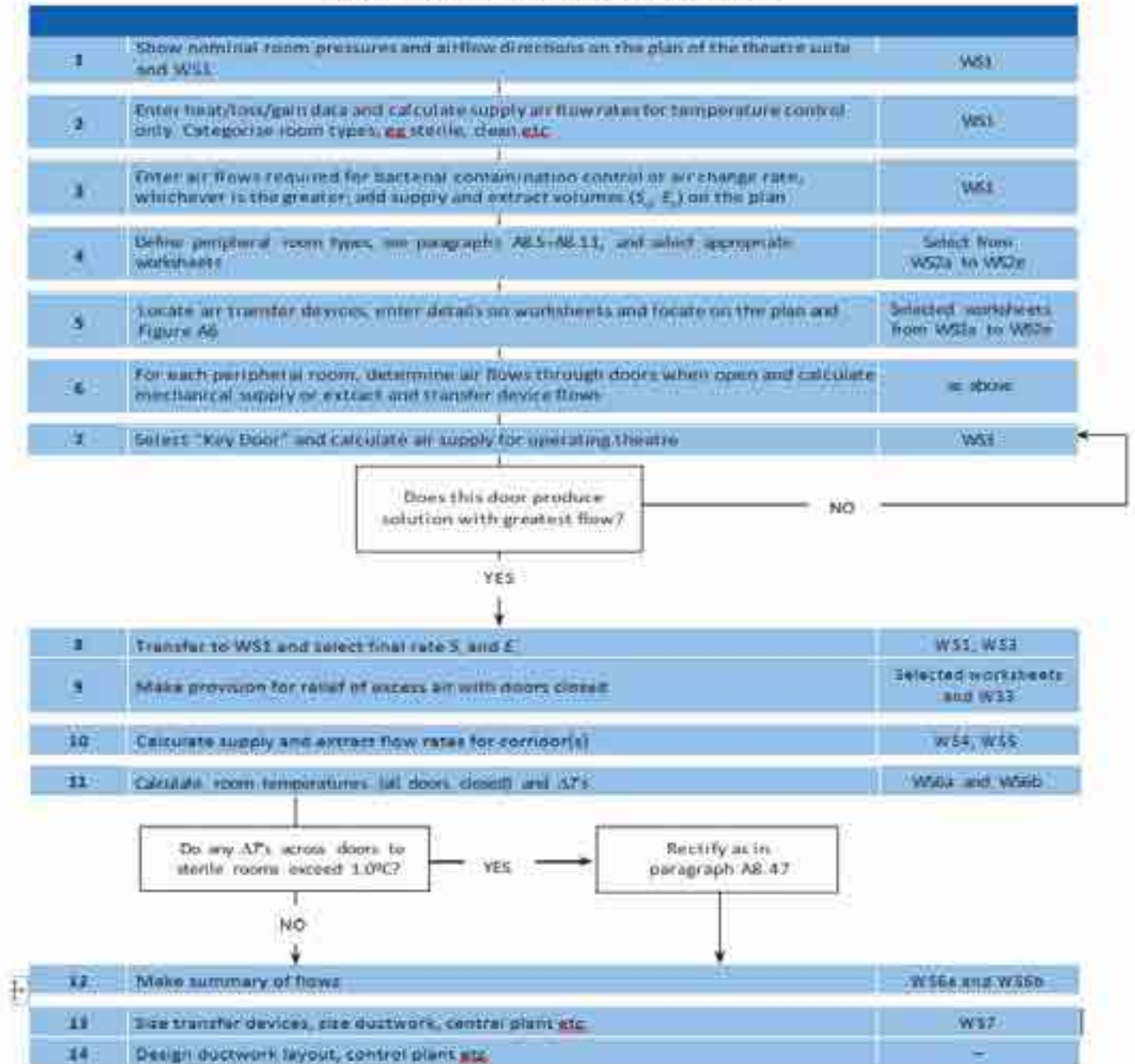
Figure A23: An example of an air-flow network



Interim



Figure A24: Air-flow design procedures



## Calculation sheet for flow rates

### Worksheet WS1

Reference:

Room name					
1. Summer temperature control Heat gain	kW				
2. Acceptable $\Delta t$	°C				
3. Air flow rate ( $S_o$ ) $= \frac{\text{Gain}}{\Delta t \times 1.2}$	m <sup>3</sup> /s				
4. Winter temperature control Heat loss	kW				
5. Acceptable $\Delta t$	°C				
6. Air flow rate ( $S_i$ ) $= \frac{\text{Loss}}{\Delta t \times 1.2}$	m <sup>3</sup> /s				
7. Dilution of bacterial contaminants Air flow rate $S_o$ or $E_o$	m <sup>3</sup> /s				
8. Desired air change rate $\frac{\text{AC/hr} \times \text{room volume (m}^3\text{)}}{3600}$	AC/hr  m <sup>3</sup> /s				
9. Maximum of $S_o$ , $S_i$ , $S_o$ or $E_o$ or air change rate from step 8	m <sup>3</sup> /s				
10. Air movement control Air flow rate for air movement control $S_{AMC}$ or $E_{AMC}$ (from WS2, WS3 or WS4)	$S$ m <sup>3</sup> /s  $E$ m <sup>3</sup> /s				
11. Final supply flow rate ( $S_s$ )	m <sup>3</sup> /s				
12. Final extract	m <sup>3</sup> /s				
13. Total supply		m <sup>3</sup> /s			
14. Total extract		m <sup>3</sup> /s			

Designer ..... Date .....

Template A1 Worksheet WS1

Air movement control Peripheral room ..... type, single flow		Worksheet WS2a Reference:				
		Nominal pressure: ..... Pa				
Consider door to ..... open						
		Air flow, m <sup>3</sup> /s				
		Pa	$\Delta t$	Out	In	Remarks
Flow required through doorway to give protection						
		Total				
$S_{AMC}$ $(\Sigma_{OUT} - \Sigma_{IN})$ m <sup>3</sup> /s						
or						
$F_{AMC}$ $(\Sigma_{IN} - \Sigma_{OUT})$ m <sup>3</sup> /s						
Transfer $S_{AMC}$ or $F_{AMC}$ to WS1						
Consider door to ..... closed						
		Pa	$\Delta t$	Out	In	Remarks
Closed door leakage						
		Total				
Return $S_r$ and $E_r$ to WS1 _____						
Flow through transfer grille outward $(S_r - E_r - L_{out})$ _____						
or						
Flow through transfer grille inward $(E_r - S_r - L_{in})$ _____						

Designer ..... Date .....

## Template A2 Worksheet WS2a

Air movement control Peripheral room ..... type, parallel/series multi-flow			Worksheet WS2b Reference:		
			Nominal pressure: _____ Pa		
Door from this room to ..... (room of equal cleanliness) is not to be protected. A transfer grille is located in, or adjacent to, this door.					
Consider other door to ..... open.					
Room pressure now becomes: _____			or _____		Pa (see Appendix G)
			Air flow, m <sup>3</sup> /s		
			Out	In	Remarks
Flow required through doorway to give protection					
At above pressures leaks through closed doors	Pa	$\Delta P$			
Mechanical supply or extract (S/E)					
			Total		
$X (\sum_{out} - \sum_{in})$			or $Y (\sum_{in} - \sum_{out})$		
Transfer grille required from high-pressure zone		Flow = X			
or			at		$\Delta Pa$
to low-pressure zone		Flow = Y			
Size of transfer grille (free area) A1					
Consider doors and hatch closed – room pressure becomes			Pa (nominal)		
Closed door leakage from Appendix 4 (assuming no transfer grille)	Pa	$\Delta P$	Out	In	Remarks
Mechanical supply or extract					
			Total		
Air flow required through transfer grille = IN – OUT = Z or OUT – IN = Z* _____					
Transfer grille required flow Z or Z* @ _____ $\Delta P$					
Size of transfer grille (free area) A2 = _____					
Select larger of A1 or A2 _____					

Designer ..... Date .....



## Template A3 Worksheet WS2b

Air movement control Peripheral room ..... type, parallel multi-flow high/low or series multi-flow (unbalanced)			Worksheet WS2c Reference:		
			Nominal pressure: _____ Pa		
Consider door from this room to ..... open.					
Room pressure now becomes			or	Pa (see Appendix 6)	
			Air flow, m <sup>3</sup> /s		
			Out	In	Remarks
Flow required through open doorway to give protection:					
At above pressures leaks through closed doors are:			Pa	$\Delta P$	
			Total		
$S_1 (\Sigma_{out} - \Sigma_{in})$			or $E_1 (\Sigma_{in} - \Sigma_{out})$		
Consider door from this room to ..... open.					
Room pressure now becomes			or	Pa	
			Out	In	Remarks
Flow required through open doorway to give protection:					
At above pressures leaks through closed doors are:			Pa	$\Delta P$	
			Total		
$S_2 (\Sigma_{out} - \Sigma_{in})$			or $E_2 (\Sigma_{in} - \Sigma_{out})$		
Consider doors closed. Closed doors leakage from Appendix 4					
Door to:	Pa	$\Delta P$	Out	In	Remarks
			Total		
Return $S_1$ and $E_1$ from WS1 _____					
Flow through transfer device outward ( $S_2 - L_{out}$ ) or _____ to .....					
Flow through transfer device inward ( $E_2 - L_{in}$ )					
Transfer grille _____ Pressure relief damper _____ from .....					



Designer ..... Date .....

**Template A4 Worksheet WS2c**

Interim



Flow through transfer device (TD1) to protect  
door 1 = Q1 \_\_\_\_\_ at resultant  
 $\Delta P$  .....

Flow through transfer device (TD2) to protect  
door 2 = Q2 \_\_\_\_\_ at resultant  
 $\Delta P$  .....

Designer ..... Date .....

Template A5 Worksheet WS2d

Interim





Air movement control Operating room			Worksheet WS3 Reference:		
			Nominal pressure: _____ Pa		
Note: To avoid considering each door open in turn, the "key door" concept is introduced. This is the door which requires the greatest mechanical flow when open. See paragraph A8.33.					
Select "key door" (see above).					
Consider this door open – room pressure now becomes _____ Pa (see Appendix 6)					
See Appendix 7 for room pressures:					
			Air flow, m <sup>3</sup> /s.		
			Out	In	Remarks
Flow required through doorway to give protection					
Air flow "out" or "in" via doors, transfer devices etc	Pa	$\Delta P$			
Mechanical extract					
Total					
$S_{\text{Ave}} (\sum_{\text{OUT}} - \sum_{\text{IN}})$ _____ transfer $S_{\text{Ave}}$ to WS1					
Consider all doors closed.					
Return $S_r$ from WS1 _____			Room pressure now _____ Pa (nominal)		
Air flow "out" or "in" via door leakage, transfer devices etc	Pa	$\Delta P$	Out	In	Remarks
Mechanical extract and supply					
Total					
Flow ( $\sum_{\text{IN}} - \sum_{\text{OUT}}$ ) through transfer device _____ @ $\Delta P$ _____ to _____					
For final selection of transfer device see paragraphs A8.50–A8.54					

Designer ..... Date .....

## Template A7 Worksheet WS3

Air movement control Corridor		Worksheet WS4 Reference:		
		Nominal pressure: _____ Pa		
Consider all doors closed				
		Air flow, m <sup>3</sup> /s		
		Out	In	Remarks
Flow required through doorway to give protection				
Leaks through closed doors, transfer devices, permanent openings etc	Pa	$\Delta P$		
Total flow inwards ( $S_1$ )				
Add mechanical input ( $S_2$ ) if necessary to increase $S_1$ to give 7 AC/hr				
Total flow outwards and inwards				
$S_{AMC} = (\sum_{out} - \sum_{in} + S_2)$ _____ Transfer to WS5				
or $E_{AMC} = (\sum_{in} - \sum_{out} + S_2)$ _____ Transfer to WS5				

Note: this sheet to be used for each individual operating theatre suite (or pair of suites if they share a preparation room).

Designer ..... Date .....

### Template A8 Worksheet WS4

Air movement control		Worksheet WS5	
		Reference:	
Summary of air supply and extract for an operating suite			
Air flow to corridor	All doors closed	Anaesthetic (key door open)	
	m <sup>3</sup> /s	m <sup>3</sup> /s	
From preparation			
From operating theatre			
From scrub			
From anaesthetic			
Total (a)			
Air flow to corridor			
From utility			
From other source			
Total (b)			
Other room supplies .....	Total (c)		
Total air supply (a) + (b) + (c)			
Consider corridor ventilation (see Appendix 3) and calculate air volume required, based on 7 AC/hr (see Note 1)			
Air flow required to ventilate corridor (m <sup>3</sup> /s)			
Air flow required to ventilate service corridor (see Note 2) (m <sup>3</sup> /s)			
If the air flow from the operating suite (a) and (b) is greater than the calculated required volume, no further supply air is necessary			
Additional air to ventilate corridor (m <sup>3</sup> /s)			
Additional air to ventilate service corridor (see Note 2) (m <sup>3</sup> /s)			
Air extract (m <sup>3</sup> /s)			
The size of the extract plant should be of the order of 10% below the supply to assist in maintaining the department under positive pressure relative to the outside departments			
Extract plant	=	Supply less leakage (m <sup>3</sup> /s)	
Less 10% of supply			
Total extract (see Note 3)			

## Notes:

1. In the case of a multi-theatre operating department, the air balance for the corridor should be considered as a separate exercise, taking into account the final dispersal of excess air.
2. Omit these if only one corridor in operating suite.
3. The extract volume includes 0.24 m<sup>3</sup>/s from the anaesthetic room for a balanced condition

Designer ..... Date .....

## Template A9 Worksheet WS5





Room temperature – winter	Worksheet WS6b Reference:
---------------------------	---------------------------

Find winter supply temperature  $T_{sw} = 20 - 0.828H(O/R)$  \_\_\_\_\_ °C  
 $= T_{ce} + \frac{Q(O/R)}{Q_1 + Q_2 + \dots + Q_n}$

Note: the temperature of a space may be calculated from

$$T = \frac{t_1 Q_1 + t_2 Q_2 + \dots + t_n Q_n + (0.828H)}{Q_1 + Q_2 + \dots + Q_n}$$

Where  $t_1$  is temperature of source 1 (°C)  
 $Q_1$  is flow from source 1 when all doors are closed (m<sup>3</sup>/s) H is heat gain in space (kW)

Room	Heat gain kWh	Supply		Flows inwards										Temperature °C T			
		Q	T <sub>sw</sub>	From		From		From		From		From					
				Q	t	Q	t	Q	t	Q	t	Q	t				

Check doors to sterile areas

Door between:	Calculated room ΔT (°C)	Maximum ΔT permitted	Remarks

Designer ..... Date .....

**Template A11 Worksheet WS6b**

Transfer grilles, pressure relief dampers and pressure stabilisers							Worksheet WS7 Reference:
Transfer grilles – see paragraphs A8.34–A8.38							
No	Location	Pressure difference Pa	Flow rate m <sup>3</sup> /s	Free area m <sup>2</sup>	Model	Resultant $\Delta p$ Pa	Remarks
Pressure relief dampers – see paragraph A8.39							
No	Location	Pressure difference Pa	Flow rate m <sup>3</sup> /s	Free area m <sup>2</sup>	Pressure setting Pa	Remarks	
Pressure stabilisers – see paragraphs A8.40–A8.43							
Note: where a stabiliser is acting both as series room door protection and operating pressure control, "pressure difference" and "flow rate" are from WS2d; "pressure setting" is from WS3							
No	Location	Pressure difference Pa	Flow rate m <sup>3</sup> /s	Free area m <sup>2</sup>	Pressure setting Pa	Remarks	

Designer .....

Date .....

Template A12 Worksheet WS7

February 2022

Interim Version v3.0:

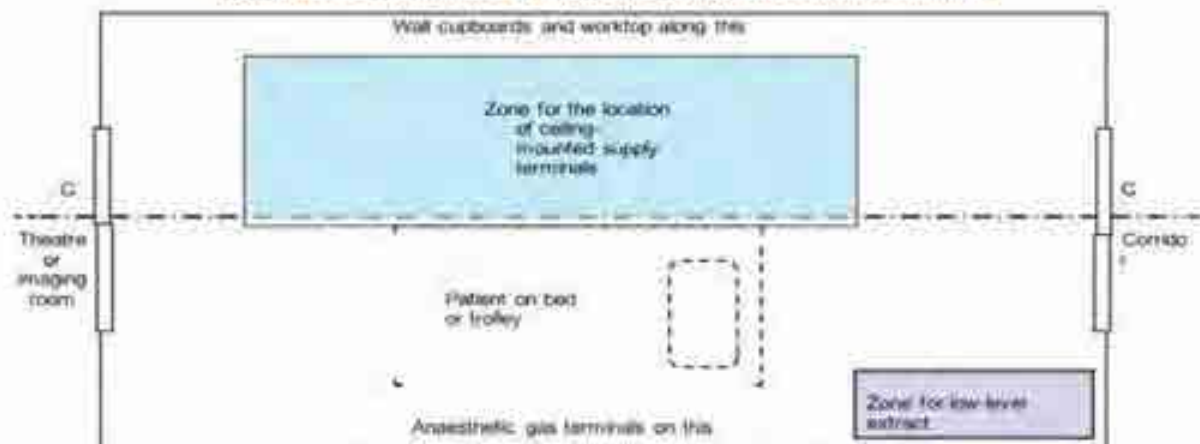
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## Appendix 9: Design of air- movement control scheme for anaesthetic room

### General

Figure A25 Schematic of suitable supply and extract solution



The above shows the typical zones for the positioning of ceiling-mounted supply and low-level extracts in an anaesthetic room. The objective is to comply with the COSHH Regulations and SHTM 03-01 Part A by providing a clean airflow path for staff working in anaesthetic rooms and so reduce their risk of casual exposure to waste/leaking anaesthetic agents.

**Note 1:** Supply terminals should not be positioned above wall-mounted cupboards as this will prevent their output being measured directly with a balometer. It will also negatively impact on the air distribution within the room.

**Note 2:** See photographs below for details of the recommended low-level extract installation.

**Note 3:** Low-level extracts should have a spring-clip-retained pull-off grille face for ease of cleaning.

### Low-level extract installation

#### Traditional installation (not recommended)

- Low-level extract easily obstructed by equipment
- Extra corners to clean around



**Figure A26 Low level extract traditional installation (not recommended)**



### Recommended installation

- low-level extract cut back at 80° and stops short of the floor;
- no added detail to floor covering or coving;
- no additional corners to clean around;
- not easily obstructed by equipment;
- pull-off grille face for ease of cleaning;
- grille still accessible for airflow measurement.

**Figure A27 Low level extract recommended installation**



The photograph is for illustrative purposes only and shows a cutback of approximately 65°. This was found to make airflow measurement quite difficult, hence the change to an 80° cutback so that measurement can be easily taken with a balometer.

### Operating theatre to anaesthetic room air-transfer device

The air-transfer device between an operating theatre and anaesthetic room may be either by a transfer grille or pressure stabiliser. The choice will be determined by the volume of air to be transferred.

Paragraphs A8.51 and A8.52 in Appendix 8 give details.

## Appendix 10: Example cause-and-effect check-sheets

### Example cause-and-effect check-sheet for general theatre or imaging suite

Site			Date		
Area served			System ID		
Test	AHU Checks	Y/N	TCP Indication	Y/N	
1	AHU Off	Supply and extract dampers closed		Red	
2	Switch AHU "On"	Supply damper open		Red	
		Extract damper open			
		Supply fan start and run		Red	
		Extract fan start and run			
		Prove airflow		Green	
3	Switch AHU to "Set Back"	Supply fan slows Extract fan slows		Red	
4	Switch AHU to Operational speed	Supply fan speeds up Extract fan speeds up		Green	
5	End of day <b>10 minute</b> warning that system will switch to "Set Back" (Not all TCPs have this facility)			Yellow display information box	
	Do nothing	System goes to "Set back"		Red	
	Reset to full speed			Green	
6	End of day <b>10 minute</b> warning that system will switch to "Set Back" (Not all TCPs have this facility)			Yellow display information box	
	Press "Continue"	System stays at full speed for 1 hour		Green	
7	Supply fan fail			Red	
	Reset system to normal			Green	
8	Extract fan fails			Yellow display information box	
	Warning on TCP and BMS. AHU locks out if fault not rectified by following day				
	Reset system to normal			Green	
9	Theatre/imaging room temperature to be stable at 20°C at the start of this test				
	Reduce set point temperature to lowest possible on (IC)	Chiller battery valve opens fully Record min temp reached and time taken to stabilise.		Set temp: °C Measured: Ind (IC) Time taken	°C °C mins
10	Increase set point temperature to highest possible on TCP			Set temp: °C Measured: Ind (TCP) Time taken	°C °C mins
	Reset set point to 20°C			Green	
11	Switch AHU "Off"	Extract fan stops Supply fan stops Extract damper closes Supply damper closes		Red	

Template A13 Example cause-and-effect check-sheet for general theatre or imaging suite



### Example cause-and-effect check-sheet for ultra-clean theatres

Site		Date			
Area served		System ID			
Test	AHU/UCV Checks	Y/N	TCP Indication	Y/N	
1	AHU Off	Supply and extract dampers closed		Red	
2	Switch AHU "On"	Supply damper open Extract damper open		Red	
		Supply fan start and run Extract fan start and run		Red	
		Prove airflow UCV "Off"		Red	
3	Switch AHU to "Set Back"	Supply fan slows Extract fan slows		Red	
4	Switch AHU to Operational speed	Supply fan speeds up Extract fan speeds up		-	
5	AHU at operational speed	Switch UCV on in "Low speed"		Amber = "Conventional Theatre mode"	
	Press "UCV mode"	UCV goes to "Full speed"		Green "UCV Theatre Mode"	
	Press "Conventional Theatre mode"	UCV goes to "Low speed"		Amber	
6	Switch AHU to "Set Back"	UCV goes to "Low speed" or "Off"		Red	
	Reset system to normal	UCV stays in "Low speed"		Amber	
7	Switch UCV "Off"	UCV fans stop		Red	
	Reset system to normal with UCV at full speed			Green	
8	Fail each UCV quadrant fan in turn and Coanda fans (4 + 2)			Red	
	Reset system to normal with UCV at full speed			Green	
9	Trigger HEPA filter high pressure switch			Green plus Blue light	
10	End of day 10 minute warning that system will switch to "Set Back" or "Off" <i>(Not all Theatre Control Panels have this facility)</i>			Yellow display information box	
	Do nothing	AHU & UCV go to "Set back" or "Off"		Red	
	Reset to full speed including UCV			Green	
11	End of day 10 minute warning that system will switch to "Set Back" or "Off" <i>(Not all Theatre Control Panels have this facility)</i>			Yellow display information box	
	Press "Continue"	System stays at full speed for 1 hour		Green	
12	Supply fan fails	System shuts down. UCV to "Low speed or Off"		Red	
	Reset system to normal			Green	
13	Extract fan fails	Warning on TCP and BMS. AHU locks out if fault not rectified by following day		Yellow display information box	
	Reset system to normal and UCV to full speed			Green	
Site		Date			
Area served		System ID			

Test	AHU/UCV Checks	Y/N	TCP Indication	Y/N
14	Theatre temperature to be stable at 20°C at the start of this test.			
	Reduce set point temperature to lowest possible on TCP	Chiller battery valve opens fully Record min temp reached and time taken to stabilise	Set temp: °C Measured: °C Ind (TP) °C Time taken mins	
15	Increase set point temperature to highest possible on TCP.	Heater battery valve opens fully Record max temp reached and time taken to stabilise	Set temp: °C Measured: °C Ind (TP) °C Time taken mins	
	Reset set point to 20°C		Green	
16	Switch AHU "Off"	Extract fan stops Supply fan stops Extract damper closes Supply damper closes UCV drops to "Set back"	Red	
Note any additional tests or checks below				

Template A14 Example cause-and-effect check-sheet for ultra clean theatre



## Appendix 11: References

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Building Regulations 2010. SI 2010 No 2214.

<http://www.legislation.gov.uk/ukSI/2010/2214/contents/made>

Control of Substances Hazardous to Health Regulations 2002. SI 2002 No 2677.

<http://www.legislation.gov.uk/ukSI/2002/2677/regulation/7/made>

Health and Social Care Act 2008 (Regulated Activities) Regulations 2014.

<https://www.legislation.gov.uk/ukdsi/2014/9780111117613/contents>

Health and Safety at Work etc. Act 1974. HMSO, 1974.

<http://www.legislation.gov.uk/ukpga/1974/37/contents>

Human Medicines Regulations 2012. SI 2012 No 1916. <http://www.legislation.gov.uk/ukSI/2012/1916/contents/made>

<http://www.legislation.gov.uk/ukSI/2012/1916/contents/made>

Medicines Act 1968 c.67. <http://www.legislation.gov.uk/ukpga/1968/67>

Workplace (Health, Safety and Welfare) Regulations 1992. SI 1992 No 3004.

<http://www.legislation.gov.uk/ukSI/1992/3004/contents/made>

### Building Regulations Approved Documents

Building Regulations 2010: Approved Document F: Ventilation. Ministry of Housing, Communities & Local Government, 2010.

<https://www.gov.uk/government/publications/ventilation-approved-document-f>

Building Regulations 2010: Approved Document L: Conservation of fuel and power. Ministry of Housing, Communities & Local Government, 2018.

<https://www.gov.uk/government/publications/conservation-of-fuel-and-power-approved-document-l>

### European regulations

Commission Regulation (EU) No 1253/2014 of 7 July 2014 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for ventilation units.

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AQJ>

Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products.

<https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32009L0125>

Regulation (EU) No 517/2014 of the European Parliament and of the Council of 16 April 2014 on Fluorinated Greenhouse Gases and Repealing Regulation (EC) No 842/2006.

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014R0517>

### British Standards

BS 1710. Specification for identification of pipelines and services. British Standards Institution, 2014.

BS 5925. Code of practice for ventilation principles and designing for natural ventilation. British Standards Institution, 1991.

BS 7671. Requirements for electrical installations. IET Wiring Regulations. British Standards Institution, 2018.

BS EN 1751. Ventilation for buildings. Air terminal devices. Aerodynamic testing of damper and valves. British Standards Institution, 2014.

BS EN 1822-1. High efficiency air filters (EPA, HEPA and ULPA). Classification, performance testing, marking. British Standards Institution, 2019.

BS EN 1886. Ventilation for buildings. Air handling units. Mechanical performance. British Standards Institution, 2007.

BS EN 13030. Ventilation for buildings. Terminals. Performance testing of louvres subjected to simulated rain. British Standards Institution, 2001.

BS EN ISO 14644-1. Cleanrooms and associated controlled environments. Classification of air cleanliness by particle concentration. British Standards Institution, 2015.

BS EN ISO 14644-2. Cleanrooms and associated controlled environments. Monitoring to provide evidence of cleanroom performance related to air cleanliness by particle concentration. British Standards Institution, 2015.

BS EN ISO 14644-3. Cleanrooms and associated controlled environments. Test methods. British Standards Institution, 2019.

BS EN 15780. Ventilation for buildings. Ductwork. Cleanliness of ventilation systems. British Standards Institution, 2011.

BS EN 16798-3. Energy performance of buildings. Ventilation for buildings. For non-residential buildings. Performance requirements for ventilation and room conditioning systems (Modules M5-1, M5-4). British Standards Institution, 2017.

BS EN ISO 16890-1. Air filters for general ventilation. Part 1: Technical specifications, requirements and classification system based upon particulate matter efficiency (ePM). British Standards Institution, 2016.

BS EN ISO 17141. Cleanrooms and associated controlled environments. Bio contamination control. British Standards Institution, 2020.

### Health and Safety Executive guidance

Health and Safety Executive (2008). HSG258 Controlling airborne contaminants at work: a guide to local exhaust ventilation (LEV). HSE Books, Sudbury.  
<https://www.hse.gov.uk/pubns/books/hsg258.htm>



Health and Safety Executive (2013). Approved Code of Practice and guidance on regulations. Legionnaires' disease: The control of legionella bacteria in water systems (L8). (4th edition). HSE Books, Sudbury.

<https://www.hse.gov.uk/pubns/books/l8.htm>

Health and Safety Executive (2014). HSG274 Legionnaires' disease – technical guidance. Part 2: The control of legionella bacteria in hot and cold water systems.

HSE Books, Sudbury. <https://www.hse.gov.uk/pubns/books/hsg274.htm>

Health and Safety Executive (2014). HSG274 Legionnaires' disease – technical guidance. Part 3: The control of legionella bacteria in other risk systems. HSE Books, Sudbury.

<http://www.hse.gov.uk/pubns/priced/hsg274part3.pdf>

Department of Health (2015). The Health and Social Care Act 2008 Code of Practice on the prevention and control of infections and related guidance.

<https://www.gov.uk/government/publications/the-health-and-social-care-act-2008-code-of-practice-on-the-prevention-and-control-of-infections-and-related-guidance>

Health and Safety Executive (2020). EH40/2005 Workplace exposure limits: containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations 2002 (as amended). HSE Books, Sudbury.

<https://www.hse.gov.uk/pubns/books/eh40.htm>

### **Health Technical Memoranda**

Scottish Health Technical Memorandum 02-01. Medical gas pipeline systems.

Scottish Health Technical Memorandum 04-01. Safe water in healthcare premises.

Health Technical Memorandum 05-01. Managing healthcare fire safety.

<https://www.gov.uk/government/publications/managing-healthcare-fire-safety>

Health Technical Memorandum 05-02. Fire safety in the design of healthcare premises. <https://www.gov.uk/government/publications/guidance-in-support-of-functional-provisions-for-healthcare-premises>

Health Technical Memorandum 05-03. Fire safety measures for health sector buildings <https://www.gov.uk/government/publications/suite-of-guidance-on-fire-safety-throughout-healthcare-premises-parts-a-to-m>

Scottish Health Technical Memorandum 08-01. Acoustics.

### **Health Building Notes/Scottish Health Planning Notes**

Health Building Note 00-10 Part D – Windows. <https://www.gov.uk/government/publications/guidance-on-flooring-walls-and-ceilings-and-sanitary-assemblies-in-healthcare-facilities>

Scottish Health Planning Note 04-01. Adult in-patient facilities.

Scottish Health Planning Note 4. Supplement 1– Isolation facilities for infectious patients in acute settings.

Health Building Note 04-02. Critical care units.



<https://www.gov.uk/government/publications/guidance-for-the-planning-and-design-of-critical-care-units>

Health Building Note 10-01. Facilities for surgery (forthcoming).

Health Building Note 26. Facilities for surgical procedures.

<https://www.gov.uk/government/publications/facilities-guidance-for-surgical-procedures-in-acute-general-hospitals>

Health Building Note 26 – 'Facilities for surgical procedures' (2004) and Health Building Note 10-02 'Facilities for day surgery units' (2007) are currently under revision and will become Health Building Note 10-01 once updated.

### Other publications

Advisory Committee on Dangerous Pathogens (2001). The management, design and operation of microbiological containment laboratories.

<https://www.hse.gov.uk/biosafety/management-containment-labs.pdf>

Advisory Committee on Dangerous Pathogens (2005). Biological agents: managing the risks in laboratories and healthcare premises. [https://www.gla.ac.uk/media/Media\\_196331\\_smx.pdf](https://www.gla.ac.uk/media/Media_196331_smx.pdf)

Advisory Committee on Dangerous Pathogens (2009). Biological agents: the principles, design and operation of Containment Level 4 facilities.

<https://www.hse.gov.uk/pubns/web09.pdf>

BESA (2013). DW 143: Guide to good practice: ductwork air leakage testing. B&ES Publications, Penrith.

BESA (2016). DW 144: Specification for sheet metal ductwork. B&ES Publications, Penrith.

BESA (2020). DW 145: Guide to good practice for the installation of fire and smoke dampers. B&ES Publications, Penrith.

BESA (2020). DW 172: Specification for kitchen ventilation systems. B&ES Publications, Penrith.

BESA (2019). TR/19: Guide to good practice – internal cleanliness of ventilation systems. B&ES Publications, Penrith.

BSRIA (2015). BG 49: Commissioning air systems. BSRIA, Bracknell.

BSRIA (2018). BTS 3: Air permeability testing of isolation facilities. BSRIA, Bracknell. <https://www.bsria.com/uk/product/BA8E4D/air-permeability-testing-of-isolation-facilities-bts-3-2018-a15d25e1/>

BSRIA (2018). Soft landings. <https://www.bsria.com/uk/consultancy/project-improvement/soft-landings/guides/>

CIBSE (2005). AM10: Natural ventilation in non-domestic buildings. CIBSE, London.



CIBSE (2000). AM13 Mixed mode ventilation systems. CIBSE, London.

CIBSE (2006). CCA Commissioning Code A: Air distribution systems. CIBSE, London.

CIBSE (2003). CCM Commissioning Code M: Commissioning management. CIBSE, London.

CIBSE (2002). CCR Commissioning Code R: Refrigerating systems. CIBSE, London.

CIBSE (2010). CCW Commissioning Code W: Water distribution systems. CIBSE, London.

CIBSE (2015). Guide A: Environmental design. CIBSE, London.

CIBSE (2016). Guide B2: Ventilation and ductwork. CIBSE, London.

CIBSE (2014). TM49: Design summer years for London. CIBSE, London.

CIBSE (2013). TM52: The limits of thermal comfort: avoiding overheating in European buildings. CIBSE, London.

European Commission (2011). EudraLex. Volume 4: Good manufacturing practice (GMP) guidelines. (Partly revised in 2017.) [https://ec.europa.eu/health/documents/eudralex/vol-4\\_en](https://ec.europa.eu/health/documents/eudralex/vol-4_en)

Humphreys, H., Coia, J.E., Stacey, A.,

Thomas, M., Belli, A.M., Hoffman, P., ... and Mackintosh, C.A. (2012). 'Guidelines on the facilities required for minor surgical procedures and minimal access interventions'. *Journal of Hospital Infection*, Vol. 80 No. 2, pp. 103–109.

<http://www.aspc-uk.net/wp-content/uploads/2014/03/Facilities-for-minor-surgery.pdf>

Lidwell, O.M., ed. (1972). *Ventilation in operation suites*. Report of a Joint DHSS/MRC Working Party. Department of Health and Social Security. HMSO, London.

Lidwell, O.M., Lowbury, E.J., Whyte, W., Blowers, R., Stanley, S.J. and Lowe, D. (1982). 'Effect of ultraclean air in operating rooms on deep sepsis in the joint after total hip or knee replacement: a randomised study'. *British Medical Journal (Clinical Research Ed.)*, Vol. 285 No. 6334, pp. 10–14.

Medical Research Council (2014). *Standards for containment level 3 facilities*. [https://mrc.ukri.org/documents/pdf/ssr\\_standards-for-containment-level-3-facilities/](https://mrc.ukri.org/documents/pdf/ssr_standards-for-containment-level-3-facilities/)

National Institute for Health and Care Excellence (2020). **NICE guideline [NG149]. Indoor air quality at home**. <https://www.nice.org.uk/guidance/ng149>

Royal College of Paediatrics and Child Health (2020). *The inside story: health effects of indoor air quality on children and young people*.

<https://www.rcpch.ac.uk/resources/inside-story-health-effects-indoor-air-quality-children-young-people>

Specialised Ventilation for Healthcare Society (2017). SVHSoc.01 – Operating theatres: energy control strategies and the surgeon’s panel.

<https://svhsoc.com/wp-content/uploads/2019/03/operating-theatre-surgeons-panel-and-control-strategies-1.pdf>

Specialised Ventilation for Healthcare Society (2018). **SVHSoc.02 – Change in air filter test and classification standards.** <https://svhsoc.com/wp-content/uploads/2019/03/change-in-air-filter-classification-1.pdf>

### Other guidance

For guidance from the World Health Organization on indoor air quality, visit WHO’s website at <https://www.who.int/airpollution/guidelines/en/#:~:text=The%20guidelines%20aim%20to%20eliminate,basis%20for%20legally%20enforceable%20standards>.

**Note:** In all cases the most recent version of any Legislation, Regulation, Standard or Guidance document should be consulted



## Appendix 12: Abbreviations used in this document

Table A15: Abbreviations and their meanings

Abbreviation	Meaning
ac/h	Air changes per hour
ACDP*	Advisory Committee on Dangerous Pathogens*
ACOP	Approved Code of Practice
AE(V)	Authorising Engineer (ventilation)
AGP	Aerosol-generating procedure
AHU	Air handling unit
AP(V)	Authorised Person (ventilation)
BESA	Building Engineering Services Association
BIM	Building Information Model
BMS	Building Management System
BEMS	Building Energy Management System
BS EN	British Standard European Number
BSRIA	Building Services Research and Information Association
CCA	Critical care area (Level 2 & 3 care)
cfu	Colony forming unit
CIBSE	Chartered Institution of Building Services Engineers
COSHH	Control of Substances Hazardous To Health
CP(V)	Competent Person (ventilation)
CT	Computed tomography (imaging)
DIPC	Director of Infection Prevention and Control
DOP	Dispersed oil particles
DX	Direct expansion (refrigeration cycle)
EC	Electronically commutated (fan)
EPA	Efficiency particulate air filter (E10 to E12)
ErP	Energy related products
EU GGMP	European Guide to Good Manufacturing Process (pharmacy)
GRP	Glass reinforced polymer
HBN	Health Building Note
HEPA	High efficiency particulate air filter (H13 to H14)
HIS	Healthcare Infection Society
SHTM	Health Technical Memoranda
IAP	Inspection, assembly and packing (room)
ISO	International Standards Organisation
Level 0 care	Patients whose needs can be met through normal ward care in an acute hospital
Level 1 care	Patients at risk of their condition deteriorating, or recently relocated from higher levels of care, whose needs can be met through normal ward care with additional advice and support from the critical care team.

Abbreviation	Meaning
Level 2 care	Patients requiring more detailed observation or intervention, including support for a single failing organ system or post-operative care and those 'stepping down' from higher levels of care.
Level 3 care	Patients requiring advanced respiratory support alone or monitoring and support for two or more organ systems. This level includes all complex patients requiring support for multi-organ failure.
LEV	Local exhaust ventilation
LSAPC	Light scattering airborne particle counter
MDR-TB	Multi-drug-resistant tuberculosis
MRI	Magnetic resonance imaging
NICU	Neonate intensive care unit
PFI	Private Finance Initiative
PPVL	Positive pressure ventilated lobby (isolation room)
PVC	Polyvinyl chloride
RH	Relative humidity
SCBU	Special care baby unit
SPATA	The Swimming Pool and Allied Trades Association
SUP	Supply air quality
SVHSoc	Specialised Ventilation for Healthcare Society
TB	Tuberculosis
TCP	Theatre control panel
UCV	Ultra clean ventilation
ULPA	Ultra low particulate air filter (U15 to U17)
UV	Ultraviolet
VAV	Variable air volume
VCD	Volume control damper
VSG	Ventilation Safety Group
WEL	Workplace exposure limit

Table A16: Symbols

Symbol	Meaning
°C(db)	Degrees centigrade (Dry bulb) temperature
K	Kelvin (temperature difference)
% RH	Percentage relative humidity
L/s	Litres per second
µm	Micrometres, microns
ePM1, 2.5, 10	Particle size in micrometres
≥	Equal to or greater than

\* ACDP Containment levels

Category 1 biohazard: a biological agent unlikely to cause human disease

Category 2 biohazard: a biological agent that can cause human disease and may be a hazard to employees; it is unlikely to spread to the community and there is usually effective prophylaxis or effective treatment available.



Category 3 biohazard: a biological agent that can cause severe human disease and presents a serious hazard to employees; it may present a risk of spread to the community, but there is usually effective treatment or prophylaxis available.

Category 4 biohazard: a biological agent that causes severe human disease and is a serious hazard to employees; it is likely to spread to the community and there is usually no effective prophylaxis or treatment available.

**Note:** This publication can be made available in a number of other formats on request.

Interim

## **Scottish Health Technical Memorandum 03-01 Specialised ventilation for healthcare premises (Interim Version – Additional guidance related to COVID 19 to be added in an update in 2022)**

Part B: The management, operation, maintenance and routine testing of existing healthcare ventilation systems

February 2022  
Interim Version 2.0

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Interim

## Preface

**Note:** This SHTM was prepared prior to the COVID-19 pandemic caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It has been reviewed against the known transmission evidence available at the time of publication. Ventilation is one of many mitigations against the virus and should be part of a package of infection prevention and control measures. The ventilation rates recommended in this document are likely to provide a lower risk environment for COVID-19 airborne transmission.

Emerging evidence will continue to be reviewed as and when available.

### About Health Technical Memoranda

Health Technical Memoranda (SHTMs) give comprehensive advice and guidance on the design, installation and operation of specialised building and engineering technology used in the delivery of healthcare.

The focus of Scottish Health Technical Memorandum guidance remains on healthcare-specific elements of standards, policies and up-to-date established best practice. They are applicable to new and existing sites, and are for use at various stages during the whole building lifecycle.

### Language usage in technical guidance

In SHTMs, SHPNs and HBNs, modal verbs such as “must”, “should” and “may” are used to convey notions of obligation, recommendation or permission. The choice of modal verb will reflect the level of obligation needed to be compliant.

The following describes the implications and use of these modal verbs in SHTMs/SHPNs/HBNs (readers should note that these meanings may differ from those of industry standards and legal documents):

- “Must” is used when indicating compliance with the law;
- “Should” is used to indicate a recommendation (not mandatory/ obligatory), i.e. among several possibilities or methods, one is recommended as being particularly suitable – without excluding other possibilities or methods;
- “May” is used for permission, i.e. to indicate a course of action permissible within the limits of the HBN, SHPN or SHTM.

### Typical usage examples

- “All publicly-funded organisations must ensure that all contracts established to collect and treat waste conform to the Public Contracts Regulations.” [obligation]

**Note:** This guidance is not mandatory (unless specifically stated). However, any departures/ derogations from this SHTM – including the measures implemented – should provide a degree of safety not less than that achieved by following the guidance set out in this SHTM.



- "All low voltage (LV) distributions should be configured as TN systems." [recommendation]
- "Alcohol hand gels that do not contain siloxanes may be rinsed out and the packaging recycled or placed into the municipal waste stream." [permission]

"Shall", in the obligatory sense of the word, is never used in current SHTMs/SHPNs/HBNs.

## Project derogations from the Technical Guidance

Healthcare facilities built for the NHS are expected to support the provision of high-quality healthcare and ensure the NHS Constitution right to a clean, safe and secure environment. It is therefore critical that they are designed and constructed to the highest and most appropriate technical standards and guidance. This applies when organisations, providers or commissioners invest in healthcare accommodation (irrespective of status, for example Foundation and non-Foundation trusts).

**Note:** Statutory standards plus technical standards and guidance specific to NHS facilities:

Health Building Notes/Scottish Health Planning Notes

Scottish Health Technical Memoranda/ Health Technical Memorandum (where no SHTM equivalent exists)

Complete list of NHS estates-related guidance

The need to demonstrate a robust process for agreeing any derogation from Technical Guidance is a core component of the business case assurance process.

The starting point for all NHS healthcare projects at Project Initiation Document (PID) and/or Strategic Outline Case (SOC) stage is one of full compliance.

Derogations to standards will potentially jeopardise business case approval and will only be considered in exceptional circumstances. A schedule of derogations will be required for any project requiring external business case approval and may be requested for those that have gone through an internal approvals process.

While it is recognised that derogation is required in some cases, this must be risk-assessed and documented in order that it may be considered within the appraisal and approval process.

Derogations must be properly authorised by the project's senior responsible owner and informed and supported by appropriate technical advice (irrespective of a project's internal or external approval processes).

## Sustainability and 'Net Zero Carbon' targets

Healthcare provision is a significant contributor to the UK's carbon footprint. (In 2019, this was estimated to be around 5.4% of our greenhouse gases.) Accordingly, all

NHS organisations have their part to play in meeting Net Zero Carbon targets alongside other [sustainability measures](#).

In January 2020, Health chief Sir Simon Stevens announced three steps the NHS will take during 2020 to tackle this problem:

- NHS England has established an expert panel to chart a practical route map to enable the NHS to get to 'net zero'. The panel will submit an interim report to NHS England in summer 2020 and a final report ahead of the November 2020 [UN Climate Change Conference \(COP26\)](#) in Glasgow. The panel will consider changes the NHS can make in its own activities; in its supply chain; and through wider partnerships;
- the [NHS Long Term Plan](#) commits to [better use of technologies](#) to make up to 30 million out-patient appointments redundant, sparing patients thousands of unnecessary trips to and from hospital. It is estimated that 6.7 billion road miles each year are from patients and their visitors travelling to the NHS;
- the panel will consider changes that can be made in the NHS's medical devices, consumables and pharmaceutical supply, and areas the NHS can influence such as the energy sector as the health service moves to using more renewable energy.

For specific ventilation-related measures, see the "Net Zero Carbon" section on page 10.



# Executive Summary

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## Preamble

Scottish Health Technical Memorandum 03-01 – 'Specialised ventilation in healthcare premises' is published in two parts:

Part A: The concept, design, specification, installation and acceptance testing of healthcare ventilation systems.

Part B: The management, operation, maintenance and routine testing of existing healthcare ventilation systems.

The documents give comprehensive advice and guidance on the legal requirements, design implications, maintenance and operation of specialised ventilation in healthcare premises providing acute care. The use of these premises is very intense, the occupancy level high and the patients may be particularly susceptible to airborne infection risks. Their condition may also require close control of the environment.

The ventilation of non-healthcare facilities within the hospital curtilage should be designed to suit the application and specific guidance relating to the activity should be followed, for example pharmacy, decontamination unit, etc. However, as they are on the hospital site, the means of providing ventilation should not adversely impact upon the hospital (for example, evaporative cooling towers should not be installed, sound levels should be appropriate and if the facility is within or attached to an area accessed by patients, their needs and the risk of airborne contamination should be considered).

In other types of healthcare facility that are outside of the hospital curtilage, for example GP practices, health centres, minor injuries units, dental, ophthalmic and podiatry clinics, mental health facilities, respite and long stay care homes and hospices, etc, a risk assessment of the nature of the treatment being delivered, condition of the patients and intensity of use needs to be undertaken by those responsible for the facility in order to determine the extent to which this guidance will be applicable.

The guidance contained in Part A of this Scottish Health Technical Memorandum applies to new installations and major refurbishments of existing installations and should be considered as the standard to be achieved.

The guidance contained in Part B of this Scottish Health Technical Memorandum applies to all ventilation systems installed in healthcare premises irrespective of the age of the installation and should be considered as the standard to be achieved.

Scottish Health Technical Memorandum 03-01 (2022) supersedes all previous versions of Scottish Health Technical Memorandum 03-01 – 'Specialised ventilation in healthcare premises' (2011). It also supersedes SHTM 2025 (1994) and DV4 (1983).

## Who should use this guidance?

This document is aimed at specifiers, designers, suppliers, installers, estates and facilities managers and operations. Elements of the document will also be relevant to managers concerned with the day-to-day management of healthcare facilities and senior healthcare management.

## Main changes since the 2011 edition

- design information for specific healthcare applications has been revised and information on the reason for ventilation given. For example, endoscopy rooms may now be either negative (to contain and remove odours and manage airborne risks to staff) or positive pressure (to maintain a higher level of cleanliness where it is intended to puncture body membranes with the endoscope). These endoscopy-specific risks (i.e. waste anaesthetic gases and pathogenic material (for example, multi-drug-resistant tuberculosis) discharged by the patient during the procedure being undertaken) were identified prior to the SARS-CoV-2 pandemic. As with other elements in Part A, the application of this change is not retrospective but applies to new installations and major refurbishments (see Preamble above);
- the client's needs and legal requirements are more clearly explained;
- this edition of Scottish Health Technical Memorandum 03-01 introduces the concept of the Ventilation Safety Group in healthcare organisations (similar to the Water Safety Group in Scottish Health Technical Memorandum 04-01 and the Electrical Safety Group in Scottish Health Technical Memorandum 06-01). This is a multidisciplinary group whose remit will be to assess all aspects of ventilation safety and resilience required for the safe development and operation of healthcare premises;
- the SHTM introduces a standard method of identifying and labelling ventilation systems and the creation of an inventory of installed systems;
- the issues of resilience and diversity are addressed;
- guidance is provided on refurbishments or when changing the use of an existing installation;
- guidance is given on lifecycle and the updating of mid-life plant;
- design information for specific healthcare application has been extensively revised;
- issues around rooms where anaesthetic agents are used are addressed;
- airflow rates are more tailored to the applications to take advantage of new fan and control technology and so reduce energy consumption;
- revised air quality and filter standards are given;
- new and emerging technologies are catered for;
- advice is given on installation standards and the appointment of an Independent validator;
- more detailed information is given on the commissioning process;
- validation acceptance standards and methodology has been completely revised;



- routine inspection and maintenance guidance has been revised and updated.

## Net zero carbon

Scottish Health Technical Memorandum 03-01 supports UK legislation to bring all greenhouse gas emissions to net zero by 2050, and promotes sustainable methods of ventilation in healthcare facilities.

The SHTM's core principle is that the default method of ventilation should as far as possible be natural ventilation followed by mixed mode (natural with mechanical ventilation), with mechanical ventilation being the last option.

The energy consumption of ventilation systems should be further minimised by specifying solutions with the lowest lifecycle environmental cost. The basic objective of energy-saving strategies in this SHTM is to provide the required ventilation service using the minimum energy. To this end, Scottish Health Technical Memorandum 03-01 recommends switching a system "off" when not required to be the most energy-efficient policy. If the system is needed to maintain a minimum background condition, reducing its output by "setting back" to the minimum necessary to achieve and maintain the desired condition is the next best option.

Fans represent an enormous potential for energy savings to reduce carbon emissions, as they are among the largest single users of energy (they use approximately 40% of all electricity in ventilation systems). The European Regulation 1253/2014, implementing the Energy-related Products (ErP) Directive, has significantly reduced the power to drive fans. Accordingly, Scottish Health Technical Memorandum 03-01 recommends using electronically commutated fans, as these have been proven to be the most energy-efficient, while also advising that belt-driven fans should no longer be installed.

There have been many legislative changes aimed at reducing energy consumption and technical advances that have increased operational efficiency. This revised SHTM incorporates those changes and has amended many of the design parameters for healthcare ventilation. Designs that are simply repeated from previous installations designed to superseded standards and guidance will not meet the revised energy or operational standards and will not produce a compliant result.

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---

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# 1. Introduction

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## Preamble

### 1.1 Scottish Health Technical Memorandum 03-01

'Specialised ventilation in healthcare premises' is published in two parts: Part A deals with the concept, design, specification, installation and acceptance testing of ventilation systems; Part B covers the management, operation, maintenance and routine testing of existing healthcare ventilation systems.

### 1.2 The document gives advice and guidance to healthcare management, design engineers, estates managers and operations managers on the legal requirements, design implications, maintenance and operation of specialised ventilation in all types of healthcare premises.

### 1.3 The guidance contained in Part B of this Scottish Health Technical Memorandum applies to all ventilation systems installed in healthcare premises irrespective of the age of the installation.

### 1.4 This revision of Scottish Health Technical Memorandum 03-01 supersedes the 2011 version of Scottish Health Technical Memorandum 03-01.

## Ventilation in healthcare premises

### 1.5 Ventilation is used extensively in all types of healthcare premises to provide a safe and comfortable environment for patients and staff. It is provided to help control airborne infection risks in areas such as operating departments, critical care facilities, isolation rooms and treatment areas.

### 1.6 It may also be installed:

- to maintain a suitable environment by removing odours and controlling temperature;
- to ensure compliance with the quality assurance requirements of items processed in pharmacies and decontamination units;
- to protect staff from harmful organisms or toxic substances, for example in laboratories and anaesthetic rooms;
- to contain the spread, and clear smoke as part of the fire strategy.

## Statutory requirements

### The Health Act 2009

### 1.7 The Health Act places a duty of care on healthcare providers. Increased health risks to patients will occur if ventilation systems do not achieve and maintain the required standards. The link between surgical site infection and theatre air quality has been well established. If the ventilation plant has been installed to dilute or contain harmful



substances, its failure may expose people to unacceptable levels of contamination. Breaches of the statutory requirements can result in prosecution and may also give rise to a civil suit against the operators.

#### **Health and Safety at Work etc. Act 1974**

- 1.8 The Health and Safety at Work etc. Act 1974 is the core legislation that applies to ventilation installations. As these installations are intended to prevent contamination, closely control the environment, dilute contaminants or contain hazards, their very presence indicates that potential risks to health have been identified.

#### **COSHH**

- 1.9 The Control of Substances Hazardous to Health (COSHH) Regulations 2002 (as amended) place upon management an obligation to ensure that suitable measures are in place to protect their staff and others affected by the work activity. These methods may include both safe systems of work and the provision of a specialised ventilation system. In laboratories the requirements are often met by the provision of fume cupboards and microbiological safety cabinets.
- 1.10 Where specialised ventilation plant is provided as part of the protection measures, there is a statutory requirement that it be correctly designed, installed, commissioned, operated and maintained. The local exhaust ventilation (LEV) section of COSHH requires that the system be examined and tested at least every 14 months by a competent person (P601 certified) and that management maintain comprehensive records of its performance, repair and maintenance.
- 1.11 Certain substances have workplace exposure limits (WELs) set out in the Health and Safety Executive's Guidance Note EH40
- 'Workplace exposure limits' contains the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations 2002 (as amended). If specialised ventilation systems are provided in order to achieve these standards, they will be subject to the COSHH Regulations as above.

#### **Workplace (Health, Safety and Welfare) Regulations**

- 1.12 These state that all enclosed workplaces must be ventilated by natural or artificial means.
- 1.13 Any plant provided under this legislation shall include an effective device to give an audible or visual warning of plant failure where necessary for health and safety.
- 1.14 The Regulations require that ventilation systems are "maintained in an efficient state, in efficient working order and in good repair".

#### **Building Regulations**

- 1.15 These apply to domestic and non-domestic buildings.
- 1.16 They clarify satisfactory methods of providing ventilation and give ventilation rates.
- 1.17 They set minimum standards for:
- the protection of the supply position;



- precautions against Legionella;
- the purity of recirculated air;
- access for service and maintenance;
- documentation and proof of performance.

### **Fire regulations**

- 1.18 The fire regulations require that, if ventilation ductwork penetrates the fabric of a building, it should be designed and installed to contain the spread of fire and smoke (see the Health Technical Memorandum 05 series for guidance).
- 1.19 When a ventilation system was originally designed, it will have conformed to an agreed fire strategy. This will have determined the provision of fire-rated ductwork, the siting of fire and smoke dampers and an agreed control action for the ventilation fans in the event of a fire.
- 1.20 It is management's responsibility to ensure that the fire strategy applied during the design and installation of a system is not reduced during the subsequent operation and maintenance of the equipment.
- 1.21 If a ventilation system is upgraded or altered to suit a change of use, it will be necessary to reassess the fire strategy.

### **Plant installed for units manufacturing medicinal products**

- 1.22 Plant installed for units manufacturing medicinal products to the standards set out in the current European guide to good manufacturing practice may also be subject to particular legislation with regard to their operation in addition to that mentioned above.
- 1.23 There are specific requirements under the Medicines Act 1968 to maintain accurate records of plant performance, room conditions and maintenance events. Such records would need to be preserved for at least 25 years as part of a quality assurance audit trail.

### **Plant installed for laboratories**

- 1.24 Specialised ventilation plant installed for laboratories dealing with research, development, testing or other specialist applications (this could concern medicinal products, IVF, tissue, animals or genetically modified organisms) may be subject to particular legislation with regard to their operation in addition to that mentioned above.

### **Codes of practice and guidance**

- 1.25 All ventilation systems should conform to the principles set out in the Health and Safety Executive's (HSE) Approved Code of Practice and guidance on regulations – 'Legionnaires' disease: the control of Legionella bacteria in water systems' (commonly known as L8), and Scottish Health Technical Memorandum 04-01 – 'Safe water in healthcare premises'.

- 1.26 The HSE has published complementary technical guidance in HSG274, which is split into three specific areas:
- Part 1 – evaporative cooling systems
  - Part 2 – hot and cold water systems
  - Part 3 – other risk systems.
- 1.27 The Department of Health publication 'The Health and Social Care Act (2013) Code of Practice on the prevention and control of infections and related guidance' (the HCAI Code of Practice) is a code of practice that helps NHS bodies to plan and implement how they can prevent and control healthcare-associated infections. It sets out criteria by which managers of NHS organisations are to ensure that patients will be cared for in a clean environment and where the risk of healthcare-associated infections is kept as low as possible. Specialised ventilation systems often play a significant role in achieving this objective.

### Management responsibilities – general

- 1.28 It is a management responsibility to ensure that inspection, service and maintenance activities are carried out safely without hazard to staff, patients or members of the public.
- 1.29 Those required to monitor and/or maintain ventilation equipment will need to show that they are competent to do so (see Chapter 2).
- 1.30 Maintenance procedures should be reviewed periodically to ensure that they remain appropriate.
- 1.31 The preservation of information and records of ventilation systems and their performance is a legal requirement. It is therefore essential that records are kept in a form that when archived can be accessed when necessary. Keeping records on a dedicated computer drive unit within the estates department, while satisfactory for day-to-day operation, is not adequate for archival storage.
- 1.32 Estates statutory maintenance records will be retained and managed through the healthcare provider's information governance arrangements. Estates departments should periodically archive their records of statutory and critical systems.

### System information

- 1.33 An inventory of all ventilation systems installed and in use or capable of being used will need to be kept. The inventory should be readily accessible within the operational section of the estates department in hard copy and electronic form.
- 1.34 The inventory should be subdivided into the following categories:
- local exhaust ventilation systems - (LEV) – note these are statutory items;
  - critical healthcare ventilation systems – (CHV). (These are systems the loss of which would seriously limit the delivery of healthcare, for example operating suite, NICU, critical care area, interventional imaging suite, aseptic suite);



- general ventilation system [supply and extract] (GVS);
- general extract systems (GES);
- systems installed for smoke clearance in the event of a fire, classed as smoke and heat exhaust ventilation systems (SHEVS) (for example, smoke extract fans in stairwells, automatic smoke clearance dampers in atria).

1.35 For each ventilation system the inventory should contain the following details:

- a unique system identification code for example LEV 001; CHV 001 etc as appropriate;
- the location of the ventilation fan unit or supply and extract air-handling unit(s) (AHU(s));
- the location of the fresh air inlet;
- the location of the extracted air discharge;
- the specific area(s) served by the system;
- the date the system was installed;
- the date the system was first commissioned;
- the date of its annual inspection;
- the date and details of any significant alterations or replacements made to the system.

1.36 When systems are removed or replaced, their unique identification code should be transferred from the inventory to an archive together with all its records.

These should be retained for a minimum of five years (25 years for a manufacturing pharmacy) (see paragraphs 1.31 and 1.32).

1.37 New or replacement systems should be allocated a new unique identification and added to the inventory.

1.38 Each ventilation system should have a log (physical or electronic) that contains the following information:

- the unique system identification reference;
- purpose of the system;
- date of installation;
- details of the installed equipment and ductwork layout;
- detail of the fire plan, any fire-rated ductwork and location of fire and smoke dampers;
- design performance parameters, for example airflow rates, air-change rates, pressures, etc.;
- commissioned date and performance;
- record of the system validation and original acceptance;

- records of the annual inspection and verification;
- maintenance records and plant information, for example fan specifications and filter sizes.

- 1.39 The records should be linked to the inventory and stored in such a way as to be readily available in the event of plant breakdown or other incident.
- 1.40 When new ventilation systems are accepted for use, full information as to their designed mode of operation together with recommended maintenance procedures should be provided as part of the handover procedure (Building Regulations 2010 Part 8 Para 39). Part A of this Scottish Health Technical Memorandum gives design parameters for new installations and lists the handover information required.
- 1.41 Many new installations are designed and stored electronically within a building information modelling (BIM) program. It is important to update the BIM model if there are any physical changes made or design parameters modified during the life of the system.
- 1.42 In existing systems, original design and commissioning information will often not be available. It will be necessary to determine a suitable level of system performance based on the function, purpose and age of the installation. This information should be entered in the system log file and form the baseline for the annual verification.
- 1.43 Chapter 3 of this document sets out the minimum standards for all air handling units (AHUs) and their air distribution systems irrespective of when they were installed.

**Note:** The minimum standards were first set out in Scottish Health Technical Memorandum 2025, 1994.

- 1.44 All system records must be kept for at least five years (25 years for a manufacturing pharmacy). The Health and Safety Executive and other interested bodies such as the Care Quality Commission (CQC) have a statutory right to inspect them at any time (see paragraph 1.31).

### Action in the event of an incident

- 1.45 In the event of a reportable incident connected with ventilation equipment or the area that it serves, copies of all records and plant logbooks may need to be collected as evidence. The requirements of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) will apply.

**Note:** In the event of an incident, while there may be a legal requirement to hand over information and records to the investigator, it is essential that the healthcare provider retains copies as they will be necessary for the continued safe operation and maintenance of the system, which is a legal requirement.



## Frequency of inspections and verifications

- 1.46 In order to comply with the Workplace (Health, Safety & Welfare) Regulations and Building Regulations, it is essential that all ventilation systems must be subject to at least a simple visual inspection annually.
- 1.47 In order to comply with the provisions of the Health Act, all CHVs should be inspected quarterly and their performance measured and verified annually. The quarterly inspection should be a simple visual check; the annual verification will be a more detailed inspection of the system together with the measurement of its actual performance.
- 1.48 Chapter 4 sets out the annual inspection and verification requirements and a supporting set of specimen checklists is given in the Appendices. Equipment manufacturers and suppliers may also recommend specific maintenance inspections.
- 1.49 The LEV section of the COSHH regulations contains a statutory requirement that systems installed to contain or control hazardous substances be examined and tested at least every 14 months by a competent person (P601 certificated). The statutory inspection and test must be of the complete system from the point of capture to the point of discharge.
- 1.50 Regular tests, at intervals agreed with the local fire prevention officer, will need to be carried out in order to demonstrate the continuing efficiency of the fire detection and containment systems. These may be in addition to the inspections detailed above. Records of these tests must be kept.

## Lifecycle of ventilation systems

- 1.51 Plant should be scheduled for replacement after 20 years. CIBSE Guide M gives advice on plant lifecycle and the risk assessment of plant condition. In order to secure funding and programme downtime for the area served, a site-wide plant replacement programme should be in place. As an example, if a site has 40 AHUs then at least two will need to be replaced every year. The plant replacement should coincide with a refurbishment of the area served.

**Note:** If the site was a new build with all plant of the same age, then assessment of the replacement programme should commence after 10 years as it will not be practical to replace all units simultaneously at the 20-year mark.

- 1.52 The Ventilation Safety Group (VSG) (see Chapter 2) will prioritise the replacement programme. Failure to plan for plant replacement has led to unplanned system failures with a consequent loss of the facility that they serve and cancellation or disruption to patient services.
- 1.53 In order to maintain efficiency, ventilation systems should be refurbished at their mid-life point (typically 10 years after original installation). The complete system should be taken out of use and thoroughly inspected. The AHU and its distribution ductwork should be cleaned as appropriate, any internal corrosion investigated and treated, the complete control system up-graded and the entire installation rebalanced and recommissioned. The performance of the system should be validated (see Chapter

12 in Part A of this Scottish Health Technical Memorandum) before being returned to service.

**Note:** During this process the opportunity should be taken to replace any belt-driven fans with the most energy-efficient fans available, for example electronically commutated (EC) plug fans or direct-drive plug fans. (Chapter 9 in Part A of this Scottish Health Technical Memorandum gives details of fan types and preferred selection and installation strategies.)

- 1.54 Whenever an area of the healthcare estate is being refurbished, the condition and energy performance of its ventilation plant should be reviewed. The plant should be upgraded, refurbished or replaced as appropriate in order to take advantage of the most energy-efficient equipment and control methods available at the time.

### Competency

- 1.55 The Board and their supply chain must ensure that the competence of all parties is considered at the point of their introduction and on an ongoing basis. The philosophies that are included in the HSE leaflet INDG368 (current revision), "Using Contractors" should be adopted. In addition, the outputs from the "Setting the Bar" report should be adopted as they are introduced through legislation. Evidence that the recommendations of "Setting the Bar" are being implemented in advance of the legislation would be considered to be good practice, particularly for high risk buildings. BSI Flex 8670 "Built environment. Core criteria for building safety in competence frameworks. Code of practice" should also form part of the project planning.



## 2. Functional responsibilities

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### Management responsibilities

- 2.1 Clear lines of managerial responsibility should be in place so that no doubt exists as to who is responsible for the safe operation and maintenance of the equipment.
- 2.2 A periodic review of management systems should take place in order to ensure that the agreed standards are being maintained.
- 2.3 Those required to inspect, verify or maintain ventilation equipment will need to show that they are competent to do so. As a minimum they should have sufficient knowledge of its correct operation to be able to recognise faults.
- 2.4 Training in the validation and verification of specialised healthcare ventilation systems for Authorised Persons (APs) and Competent Persons (CPs) is available from a variety of providers. While there is a duty on post holders to keep their knowledge up to date, as reflected for APs in their CPD record, there is no requirement to routinely attend any specific refresher course.

### Designated staff functions

- 2.5 A person intending to fulfil any of the staff functions specified below should be able to prove that they possess sufficient skills, knowledge and experience to be able to safely perform the designated tasks (see Chapter 3 in Scottish Health Technical Memorandum 00 for more detailed information).

#### Management (Duty Holder)

- 2.6 Management is defined as the owner, occupier, employer, general manager, chief executive or other person who is ultimately accountable for the safe operation of premises.

#### Designated Person

- 2.7 This person provides the essential senior management link between the organisation and professional support. The Designated Person should also provide an informed position at board level and confirm the appointment of the following staff in writing.

#### Authorising Engineer (Ventilation) (AE(V))

- 2.8 The AE(V) is defined as a person designated by Management to provide independent auditing and advice on ventilation systems, to review documentation on verification and validation and witness the process as necessary.

**Note:** Authorising Engineers should be able to show that they are free to provide independent advice and have been subject to an assessment of their competence by a registration body.

### **Authorised Person (Ventilation) (AP(V))**

- 2.9 The AP(V) will be an individual possessing adequate technical knowledge and having received appropriate training, appointed in writing by the Designated Person (in conjunction with the advice provided by the AE(V)), who is responsible for the practical implementation and operation of Management's safety policy and procedures relating to the engineering aspects of ventilation systems.

### **Competent Person (Ventilation) (CP(V))**

- 2.10 The CP(V) is defined as a person designated by Management to carry out maintenance and periodic testing of ventilation systems.

### **Infection Prevention and Control Person**

- 2.11 The Infection Prevention and Control Doctor or consultant microbiologist is the person nominated by management to advise on monitoring the infection control policy and microbiological performance of the systems.

### **User**

- 2.12 The User is the person responsible for the management of the unit in which the ventilation system is installed (for example head of department, operating theatre manager, laboratory manager, production pharmacist, head of research or other responsible person).

### **Contractor**

- 2.13 The Contractor is the person or organisation responsible for the supply of the ventilation equipment, its installation, commissioning, validation, verification or decommissioning. This person may be a representative of a specialist ventilation organisation or a member of the general manager/chief executive's staff.

### **Appointment of post holders**

- 2.14 All post holders should be appointed in writing by the "Designated Person" (see paragraph 2.7). A record should be kept of those appointed to carry out the functions listed above. The record should clearly state the extent of the post holder's duties and responsibilities, and to whom they are to report.
- 2.15 Substitute or replacement staff should be designated in order to cover for sickness, holidays and staff transfers.

### **Ventilation Safety Group (VSG)**

- 2.16 The management of the ventilation systems of a healthcare provider should be overseen by the Ventilation Safety Group (VSG). The VSG should have clearly defined roles and responsibilities, be part of a healthcare organisation's governance structure and report to the designated person at Board level. It will be led and chaired by a person who has appropriate management responsibility, knowledge, competence and experience (for example the Designated Person).
- 2.17 The VSG should be a multidisciplinary group and will typically comprise:



- an AE(V)/independent adviser for ventilation;
- an Infection Prevention and Control Person (as defined above);
- the AP(V);
- estates (operations and projects) staff;
- clinicians and specialist departments (for example theatres, critical care, pharmacy, medical microbiology, nursing);
- personnel from the finance department with accountability for capital and revenue evaluation;
- other stakeholders as appropriate;
- co-opted expertise, for example ventilation designers, consultants and suppliers.

2.18 The VSG remit will be to assess all aspects of ventilation safety and resilience required for the safe development and operation of healthcare premises. It should inform the following areas:

- the design process for new healthcare premises;
- the design process for modifications to existing premises;
- the commissioning and validation process;
- operational management and maintenance;
- annual verification and performance testing;
- prioritising the plant replacement programme;
- decommissioning and removal of redundant equipment.

**Note:** Where estates-and-facilities provider services are part of a contract (including PFI), it is essential that these providers participate fully in all those aspects of estates-and-facilities management that can affect patients. This includes responding to specific requests from the VSG, which may be in addition to relevant guidance and documentation.

2.19 It is important that decisions affecting the resilience, safety and integrity of the ventilation systems and associated equipment are not taken without the agreement of the VSG. The VSG should ensure that appropriate expertise and competence is available when making such decisions. Whenever significant building work is undertaken, the VSG should consider its effects on the existing ventilation system air intakes. These may need to be protected from airborne dust during construction by the fitting of temporary additional filtration. There will also be a need to identify any risks to construction personnel working in the vicinity of extract air discharges.

2.20 When building work is undertaken inside a building, the VSG should be consulted to determine its effects on the occupants. The VSG may need to specify the extent to which the area is to be sealed off from the operational parts of the building and the need for a temporary extract unit in order to maintain the worksite at a negative pressure to prevent the spread of contaminants into the rest of the building.

2.21 The healthcare provider, through its VSG, will be able to demonstrate that they have suitable governance, competence and accountability arrangements in place to

provide safe critical ventilation systems and appropriate clinical environments in their premises.

### Ventilation policy document

- 2.22 The VSG will produce a ventilation policy document for the healthcare provider. In its simplest form this may just be a statement that the healthcare provider will follow the guidance contained in Scottish Health Technical Memorandum 03-01 Parts A and B as appropriate. It may also specify any departures from that guidance in terms of local additional requirements or derogations.
- 2.23 The policy document will be endorsed by the healthcare provider's board.

### Specific health and safety aspects

- 2.26 Staff engaged in the service and maintenance of extract ventilation systems from pathology departments, mortuaries, laboratories, isolation facilities and other areas containing a chemical, biological or radiation hazard may be particularly at risk. In these cases, the risk should be identified and assessed.
- 2.27 The VSG should be consulted as to the means by which the system can be rendered safe to work on and a permit-to-work system implemented. Appendix 3 gives an example of a typical equipment release certificate (ERC) that could be used for routine inspection and maintenance by competent persons.
- 2.28 Training in the exact procedures should be given to all staff involved.
- 2.29 Some healthcare facilities may contain specialised units that are subject to access restrictions (for example pharmacy aseptic suites). Estates or contract staff requiring access may need additional training or be accompanied when entering the unit.
- 2.30 See also the following guidance published by the Health and Safety Executive:
- 'Safe working and the prevention of infection in clinical laboratories and similar facilities'.
  - 'The management and operation of microbiological containment laboratories'.
  - HSG 283 – 'Managing infection risks when handling the deceased: guidance for the mortuary, post-mortem room and funeral premises, and during exhumation'.



## 3. Ventilation systems – minimum standards

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### General requirements

- 3.1 All ventilation systems irrespective of when they were installed are to be inspected annually to ensure conformity with minimum standards required by the Building Regulations. These are designed to:
- assure the quality of intake air;
  - ensure that extract air is discharged in a suitable location;
  - prevent or control risks associated with Legionella and other potential hazardous organisms;
  - ensure safe access when carrying out routine service and maintenance activities;
  - provide documentary proof of performance.
- 3.2 All AHUs and their associated ventilation systems should achieve the minimum standard set out below.

**Note:** These standards have not changed since Scottish Health Technical Memorandum 2025 was issued in 1994 so all systems currently in use should therefore achieve them.

### Location and access

- 3.3 All ventilation plant should be secured from unauthorised access.
- 3.4 It is a requirement to uniquely identify individual plantrooms on site and fix a list just inside the door detailing the major plant elements within and the areas that they serve.
- 3.5 Plantrooms should, where possible, be provided with a sink so that glass drainage traps may be cleaned out and staff can wash their hands after handling dirty filters. A source of DHW with a hose connection point will also be required so that AHUs can be washed out internally as part of their routine maintenance.
- 3.6 Units located on roofs should have a safe and permanent means of access and adequate illumination as they may need to be accessed at any time. Suitable precautions should be in place to prevent personnel or equipment from falling off during maintenance activities.
- 3.7 Units located outside at ground level should be secured within a compound to prevent unauthorised access or preferably within a plantroom. Vehicles should be excluded from the vicinity to ensure that exhaust fumes will not be drawn into intakes.
- 3.8 All parts of the AHU should be easily and safely accessible for routine inspection, service and maintenance.

- 3.9 The area around an AHU within a building should be tanked to prevent water penetration to adjacent areas, and should be adequately drained.
- 3.10 Fire precautions should be in accordance with the Health Technical Memorandum 05 series.
- 3.11 Combustion equipment must not be located in a fire compartment that houses air-handling equipment.
- 3.12 Plantrooms that house AHUs should not be used for general storage. Care should be taken to ensure that the amount of combustible material in a plantroom is kept to an absolute minimum. Ventilation stock such as filters should be kept in a central store.
- 3.13 If a spare set of filters is kept in the plantroom they should be kept in their original packing to preserve them from contamination and stored off the floor so that they cannot become wet. The number stored should be kept to a minimum to reduce the fire load in the plantroom. Used filters should be placed in an empty box or bag and removed immediately.
- 3.14 Spare fans should be stored on a purpose-built rack near the plantroom entrance. Staff should be instructed to "spin" the fan every time they enter the plantroom to help prevent the bearings settling.

### Identification and labelling

- 3.15 All ventilation systems should be clearly identified with a permanent label in accordance with the requirements of paragraph 1.33 onwards. The label should identify both the AHU and the area that it serves. The lettering should be at least 100 mm high and be mounted in an easily visible place near the fan of the unit adjacent to the local electrical isolator. Any subsystems and the principal branch ducts should be similarly labelled as should any associated control panels.
- 3.16 The nature and direction of airflow should be clearly marked on all main and branch ducts (see BS1710).
- 3.17 All airflow test-points should be clearly identified with a permanent label and the design information given (for example TPS 1 – Anaesthetic supply; 400 × 300; Design 185 L/s).

### Basic requirements

- 3.18 The ventilation system should not contain any material or substance that could support the growth of micro-organisms.
- 3.19 Access to items that require routine service, such as filters, fog coils and cooling coils, should be via hinged doors.
- 3.20 Items requiring infrequent access such as attenuators may be via clipped or bolted-on lift-off panels.
- 3.21 All doors and panels should be close-fitting and without leaks.



- 3.22 Access to plant and equipment above 1.5 m should be via platforms, fixed ladders, hook ladders, pulpit-style movable steps or access platforms.
- 3.23 Electrical and mechanical services should not restrict or impede access to those parts of the plant that require inspection.
- 3.24 Viewing ports and internal illumination should be fitted in order to inspect filters and drainage trays.
- 3.25 Internal illumination should be provided by luminaires to at least IP55 rating. Fittings are to be mounted inside the unit so that they provide illumination for inspection and task lighting when the access doors are open.
- 3.26 A single clearly labelled switch should operate all the lights in a unit.

### AHU intakes and discharges

- 3.27 Intake and discharge points should not be situated where they will cause vitiated air to be drawn into a system (paragraph 9.30 onwards in Part A of this Scottish Health Technical Memorandum gives detailed information). In existing systems, it may be necessary to extend the intake or discharge point to a suitable position.

**Note:** Steps should be taken to prevent birds landing or roosting in the vicinity by removing ledges or fitting anti-pigeon spikes.

- 3.28 Each intake and discharge point should be fitted with corrosion-resistant weatherproof louvres or cowls to protect the system from driving rain. The inside of the louvres should be fitted with a mesh of not less than 6 mm and not more than 12 mm to prevent infestation by vermin and prevent leaves being drawn in.
- 3.29 The duct behind a louvre should be self-draining. If this is not practicable, it should be tanked and provided with a drainage system. Cleaning access should be provided either from the outside via hinged louvres or by an access hatch or door in the plenum behind the louvre. Where a common plenum is provided, cleaning access should be via a walk-in door. If the intake plenum is a builder's work duct, all of its surfaces should be sealed to prevent dust being shed into the airflow.

### Plant drainage system

- 3.30 All items of plant that could produce moisture should be provided with a drainage system. The system will comprise a drip-tray, borosilicate glass trap, air gap and associated drainage pipework.
- 3.31 Some older units may not have been mounted far enough above the floor to permit the correct installation of a drainage system. If the AHU cannot be raised to an adequate height, an alternative arrangement (such as a pump-out system) should be provided.
- 3.32 The drip-tray should be constructed of a corrosion-resistant material (stainless steel is preferred) and be so arranged that it will completely drain. To prevent "pooling", it is essential that the drain connection should not have an upstand and that a slope of



approximately 1 in 20 in all directions should be incorporated to the drain outlet position.

- 3.33 In AHUs that have access doors large enough for a person to enter, the drip-tray should be easily accessible for inspection and cleaning.
- 3.34 In AHUs with access doors too small for a person to enter, the complete drip-tray should be capable of being withdrawn. It should be clamped into the AHU with thumbscrews so that it can be removed without the need for tools.
- 3.35 Each drip-tray should be provided with its own drain trap. The drain trap should be of the clear (borosilicate) glass type. This permits the colour of the water seal to be observed, thus giving an early indication of corrosion, biological activity or contamination within the duct (see Table 3 in Chapter 5).
- 3.36 The trap should have a means for filling and should incorporate couplings to facilitate removal for cleaning. It should be located in an easily visible position where it will not be subject to casual knocks. The pipework connecting the drainage tray to the trap should have a continuous fall of not less than 1 in 20.
- 3.37 Traps fitted to plant located outside or in unheated plantrooms may need to be trace-heated in winter. The trace heating should be checked for operation. It should be ensured that the temperature of water in the trap does not exceed 5°C.
- 3.38 Water from each trap must discharge via a clear air gap of at least 15 mm above the unrestricted spill-over level of either an open tundish connected to a drainage stack via a second trap, or a floor gully (or channel) or directly onto a roof (if in a location that will not cause a slip hazard). A support should be provided to ensure that the air gap cannot be reduced. More than one drain trap may discharge into the tundish, providing each has its own air gap.
- 3.39 Drainage pipework from the tundish may be copper, thermoplastic or stainless steel. Glass should not be used. The pipework should be a minimum diameter of 22 mm and have a fall of at least 1 in 60 in the direction of flow. It should be well supported, and located so as not to inhibit access to the plant.

## Dampers

- 3.40 All AHUs should be fitted with motorised low-leak shut-off dampers at their intake and discharge ends. The damper actuators should be fitted with end switches and be spring-return so that they close automatically on power failure. Note that all new plant will in addition have motorised dampers at the supply and return air ends of an AHU.

## Fans and their drives

- 3.41 Belt-and-pulley fan drive-trains external to the AHU, whether supply or extract, should be easily visible without the need to remove access covers. Protecting the drive-train with a mesh guard is the preferred option. For weatherproof units located outside, the fan drive should be enclosed. It should be easily visible through a viewing port with internal illumination and be accessed via a lockable hinged door.

- 3.42 Plug and EC fan units are mounted inside the AHU. Their access door should have a viewing port and internal illumination. The door should be fitted with a two-stage opening latch so that if the door is inadvertently opened when the fan is running it will not blow outwards.
- 3.43 The motor windings of induction-drive "plug" motor arrangements, EC fans and in-line axial fans having a pod motor within the airstream must be protected from over-temperature by a thermistor and lock-out relay.
- 3.44 It is necessary to ensure that – should the computer control system or its software develop a fault – the fan in an AHU serving a critical healthcare application can be switched to a fixed speed and manual operation.

### Heater-batteries

- 3.45 Access for cleaning will need to be provided to both sides of all fog coils and heater-batteries.

### Cooling coils

- 3.46 All cooling coils, whether within the AHU or a branch duct, should be fitted with their own independent drainage system as specified above. A baffle or similar device in the drip-tray will prevent air bypassing the coil. The tray should be large enough to capture the moisture from the eliminator, bends and headers.
- 3.47 The cooling-coil control valve should close upon selection of low speed, system shut-down, low airflow or fan failure.
- 3.48 Where auxiliary wet cooling coils are located in false ceilings, they should be fitted with a catch tray and leak alarm. The catch tray should be installed under both the battery and the control-valve assembly to protect the ceiling from leaks. A moisture sensor and alarm should be fitted in the tray.

### Eliminators

- 3.49 Where fitted they should be removable so that the face of the cooling coil can be inspected and cleaned as necessary. In new units the eliminator will be mounted on slide rails for ease of removal. In existing systems, if bolted in position it should be secured with thumbscrews (not tech/spire screws) and fitted with lifting handles to enable removal and replacement without the use of tools.

### Humidifiers

- 3.50 Humidifiers are not generally required. Chapters 8 and 9 in Part A of this Scottish Health Technical Memorandum give examples of where humidification may be required.
- 3.51 Where they are fitted, but have been out of use for a significant period of time, they should be removed. All associated supply pipework must also be removed back to its



junction with the running main. Their drainage trap should be removed and the tray capped off.

- 3.52 Where humidifiers are fitted and their use is still required, they should fully conform to the installation standard set out in Chapter 9 of Part A of this Scottish Health Technical Memorandum.
- 3.53 The section of ductwork containing the humidifier may need to be periodically decontaminated. Hinged access doors with viewing ports and internal illumination should be provided.
- 3.54 All humidifiers should be fitted with their own independent drainage system as detailed in paragraph 3.30 onwards.
- 3.55 Only steam-injection humidifiers, whether mains steam fed or locally generated, are suitable for use in ventilation systems within healthcare facilities. Water humidifiers, if fitted, must be removed.
- 3.56 Self-generating steam humidifiers must be supplied with wholesome water. The installation should be capable of being isolated, drained and cleaned.
- 3.57 Some steam generators require regular cleaning and descaling. The installation should enable them to be physically isolated from the air duct in order to prevent contamination of the air supply by cleaning agents.
- 3.58 The humidifier control system should fully conform to the standard set out in Chapter 9 of Part A of this Scottish Health Technical Memorandum.

## Filtration

- 3.59 Filters should be securely housed in well-fitting frames that minimise air bypass. Air bypass significantly reduces filter efficiency; the higher the filter grade, the greater the effect. In horizontal AHUs the mounting frames should be designed so that the airflow pushes the filter into its housing to help eliminate air bypass. Supports with seals will master the joints between filters.
- 3.60 All filters should be of the dry type. Panel filters are generally used as prefilters and should be positioned on the inlet side of the supply fan, downstream of the fog/ frost coil. Where required, secondary filters (these will be bags or pleated paper) should be on the positive-pressure side of the fan.
- 3.61 The filter installation should provide easy access to filter elements for cleaning, removal or replacement; therefore, a hinged access door should be provided. The upstream side of the filter should be visible for inspection through a viewing port with internal illumination.
- 3.62 All filters should be provided with a means of checking the differential pressure across them. Direct-reading dial-type gauges marked with clean and dirty sectors are preferred.



**Note:** Direct-reading gauges may be omitted (if desired) providing the filter differential pressure is continuously monitored by a sensor connected to the BMS and there are capped tappings so that a portable gauge can be attached when required for diagnostic purposes or fault-finding.

### Efficiency (EPA) and high- efficiency (HEPA) filters

- 3.63 Where fitted, EPA or HEPA filters should be of the replaceable-panel type with leak-proof seals. Their installation should permit the validation of the filter and its housing.
- 3.64 EPA or HEPA filters fitted in supply ducts should have a metal case so that they cannot support fungal growth.
- 3.65 EPA or HEPA filters are sometimes used in extract systems to prevent the escape of hazardous substances or organisms. They may be supplied with a particleboard or plywood case so that they can be disposed of by incineration.
- 3.66 When used for the containment of hazardous substances, the installation should incorporate design provision for the subsequent safe removal and handling of contaminated filters by maintenance staff (see paragraph 5.16).

**Note 1:** In view of the costs and problems associated with placing EPA or HEPA filters in extracts, it is essential that a full risk assessment be carried out in conjunction with the VSG. It should include defining the true need for a filtered extract, the validation of its performance at installation, the method of safely changing a contaminated filter, and its subsequent disposal.

**Note 2:** General extracts from mortuaries and post-mortem rooms may contain odours, but these are not in themselves hazardous to health and do not require filtration prior to discharge. In high-risk post-mortems (for example, known or suspected tuberculosis cases), the infected organs will be removed and then dissected in a class 1 microbiological safety cabinet provided under the COSHH Regulations. Extracts from infectious disease Isolation rooms or wards do not normally require filtration prior to discharge. However, if the discharge cannot be made in a safe location and it is likely that the vitiated air could be drawn back into the building or there are people in its vicinity (for example, a discharge into a courtyard), filtration would be required.

### Energy recovery

- 3.67 Energy recovery, where fitted, will require cleaning access to both sides of the device.
- 3.68 Whichever type of energy recovery device is fitted, the extract side should be protected by an ISO ePM10  $\geq$  50% filter and provided with a drainage system to remove condensate.
- 3.69 The energy-recovery device should be controlled in sequence with the main heater-battery, and may need to incorporate a control to prevent the transfer of unwanted heat when the air-on condition rises above the plant's required set-point.

## Attenuation

- 3.70 Cleaning access should be provided at both ends of any attenuator unit.

## Pressure stabilisers

- 3.71 Pressure stabilisers should be unobstructed and silent in operation. (See Chapter 5 for maintenance requirements.)
- 3.72 Pressure stabilisers that direct air into a UCV operating theatre will need to be baffled on the theatre side to prevent the air jet disturbing the UCV canopy air pattern. Pressure stabilisers between the theatre and anaesthetic room may also need to be baffled if the jet of air from them creates uncomfortable conditions for patients or staff.
- 3.73 Where a pressure stabiliser incorporates a fire and smoke damper, the damper test switch or trip mechanism should be accessible from the corridor side without the need to remove the grille face, if fitted.

## Chilled beams – active and passive types

- 3.74 Chilled beams should not be installed above a patient's bed or diagnostic medical equipment without the agreement in writing of the VSG. Where currently fitted they should be easily accessible for cleaning. In a room with openable windows, the window frame must have a switch to automatically turn the cooling off when the windows are opened (see paragraph 5.18 onwards in Part A of this Scottish Health Technical Memorandum).

## Stand-alone air-conditioners

- 3.75 Stand-alone air-conditioners include fan coil units, split-comfort air-conditioners, room conditioners and cassette units. They should not be installed above a patient's bed or diagnostic medical equipment and should be easily accessible for cleaning.
- 3.76 To avoid fungal-spore contamination, the ceiling void should not be used as a plenum either for supply, extract or as a return air path. All air connections will be ducted directly to the fan coil unit and ceiling terminals.

## Portable air-conditioners

- 3.77 Portable air-conditioners are not recommended for use in healthcare premises. The need for them is to be assessed by the VSG for every occasion that they are requested. If used, they will be subject to a strict cleaning and maintenance regime (see Chapter 5). Units no longer required will need to be stripped down, cleaned and decontaminated before being used again.
- 3.78 Stand-alone units that draw in outside air should do so through a bespoke sealable air intake through a wall, roof or window. They should not just be placed in front of an open window.



### Portable recirculating filter units

- 3.79 The need for portable recirculating air-filter units will be risk-assessed by the VSG for every occasion that they are considered. If used, they will be subject to a strict cleaning and maintenance regime (see Chapter 5). Units no longer required will need to be stripped down, cleaned and decontaminated before being used again.

### Low-level extracts

- 3.80 Low-level extracts should not be obstructed by fixed or portable equipment, furniture or fittings. If necessary, stand-off guarding will need to be fitted.
- 3.81 Low-level extract grille faces should be of the pull-off type to facilitate routine cleaning. (See Chapter 9 in Part A of this Scottish Health Technical Memorandum for further information).

### Fire and smoke dampers

- 3.82 All fire and smoke dampers must be fixed directly to the fabric of the building. They should have an access door with a test switch adjacent so that the actual operation of the damper can be directly observed during the annual test and be undertaken by a single operative. (See also the Health Technical Memorandum 05 series for detailed guidance).

### Control panels

- 3.83 Ventilation control panels of any type and purpose must be clearly marked with the unique identifier of the plant that they control and the area/zone that the plant serves.
- 3.84 Inverters are not to be located within the airstream inside an AHU. They should be mounted externally with the readouts of their control pads and plant data screens visible at a convenient height. Their settings may be password-protected but they should be able to be switched to manual, without the need to isolate plant or unlock access panels.

### Theatre, imaging and treatment room panels

- 3.85 Local control panels should have a clear means of indicating that the ventilation is operating to a satisfactory standard for the application. The minimum requirement would be a green light for "On" and a red light for "Set back", "Off" or "Fault". The panel should also display the room temperature and have a means of adjusting it. (See Chapter 9 in Part A of this Scottish Health Technical Memorandum).

**Note:** The Specialised Ventilation for Healthcare Society's (2017) SVHSoc.01 – 'Operating theatres: energy control strategies and the surgeon's panel' provides additional information of minimum standards for a variety of panel types.



## Energy efficiency

- 3.86 The basic objective will be to provide the necessary service utilising the least amount of energy possible. To this end switching a system "Off" when not required is the most energy-efficient policy.
- 3.87 If the system is needed to maintain a minimum background condition then reducing its output to the minimum necessary to achieve and maintain the desired condition is the next best option.

**Note on "Set back":** In many existing systems the fan motor has two speeds so turning the system down means switching to the lower fan speed and hence air volume. With inverter-controlled or EC fans the speed can be adjusted across a wide range so "Set back" need not be a fixed fan speed but rather a control strategy that reduces the system output in order to maintain a desired minimum condition. This may be related to the air velocity at a fixed point, air-change rate, pressure differential, temperature, humidity or a combination of any of these parameters.

- 3.88 The system should only run at full output when needed to achieve and maintain the defined "in use" operational condition.
- 3.89 Care should be taken to discover the true "in use" operational condition. Overstating the condition will lead to oversized plant, unstable control and excessive energy consumption.
- 3.90 A ventilation system should not be run at full output "just in case it will be needed". This is particularly a problem in operating departments where the ventilation is often run out of hours as it is believed that it will "maintain sterility" in the operating suite. This is not true as airborne contamination in operating theatres is caused by the people in them when they are in use. The theatre ventilation is provided to cater for this "in use" biological load. When the theatre is not in use, there is no biological load so the ventilation can be turned off and set to automatically start at "Set back" (see above note) in order to maintain a minimum background condition, for example room temperature, if needed. The time taken to start the ventilation and achieve full operating conditions in an emergency will be less than the time taken to bring a patient to theatre and prepare the staff and instruments ready for emergency surgery to commence. A similar situation applies to obstetrics theatres and "special" delivery rooms.

**Note:** UCV theatre ventilation can be completely switched off when the theatre is not in use but the room temperature should not be allowed to drop below 18°C (see also paragraph 8.96 in Part A of this Scottish Health Technical Memorandum). The AHU and UCV control should be interlocked so that when the AHU goes to "Set back" the UCV also goes to "Set back", and if the AHU goes "Off", the UCV terminal fans also switch "Off". There is no aerobiological benefit in keeping the UCV terminal fans running when the theatre is not in use, it merely wastes.

- 3.91 The selection of set points for an AHU and associated extract system will have a significant impact on the overall energy consumption and efficiency of the system as a whole.



- 3.92 The control strategy for existing systems should be reviewed in line with the above guidance. (See Chapters 6 and 9 in Part A of this Scottish Health Technical Memorandum for further information.)

**Note:** Energy-recovery devices have been mandatory for all new and refurbished AHUs since 2016. Where installed they provide a significant portion of the heating requirement, and the size of the AHU heater-battery will have been reduced as a consequence. It is therefore essential that the energy-recovery device operates as intended and is well maintained.

Interim

## 4. Annual inspection and verification requirements

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### Ventilation systems inspection

- 4.1 All ventilation systems will be subject to at least a simple visual inspection annually.
- 4.2 The purpose of the inspection is to establish that:
- the system is still required;
  - the plant conforms to the minimum standard (see Chapter 3);
  - the fire containment has not been breached;
  - the general condition of the system is adequate for purpose;
  - the system overall is operating in a satisfactory manner.
- 4.3 It is recommended that a simple check sheet be used to record the result of the inspection. Examples are given in Appendices 1 and 2.

### Critical healthcare ventilation systems

- 4.4 All critical healthcare ventilation systems will be inspected quarterly and verified at least annually. In some circumstances the verification may need to be carried out more frequently.
- 4.5 The quarterly inspection should be as detailed in paragraphs 4.1–4.3.
- 4.6 The purpose of the annual verification will be to additionally ensure that the system:
- achieves minimum standards specific to the application;
  - is operating to an acceptable performance level;
  - remains fit for purpose.

### Definition of a critical system

- 4.7 Ventilation systems serving the following are considered critical:
- operating suites of any type including rooms used for interventional procedures and their recovery areas;
  - airborne isolation facility;
  - critical care units, neonatal and special care baby units;
  - invasive treatment, endoscopy and bronchoscopy rooms;
  - containment level 3 laboratory;
  - pharmacy aseptic suite;

- inspection, assembly and packing (IAP) room in a decontamination unit;
- MRI, CAT and other types of emerging imaging technologies that require particularly stable environmental conditions to remain within calibration;
- any system classified as an LEV system under the COSHH Regulations;
- any other system that clearly meets the definition that “a loss of service from such a system would seriously degrade the ability of the premises to deliver optimal healthcare”.

**Note:** If any doubt exists as to whether a system falls within this definition, the VSG should be consulted regarding the risk to patient safety and business continuity.

### Annual verification

4.8 The annual verification is intended to establish that:

- the system is still required;
- the AHU conforms to the minimum standard (see Chapter 3);
- the fire containment has not been breached;
- the general condition of the ventilation system is adequate;
- the fabric of the area served is suitable for the function;
- the system performance is adequate with respect to the functional requirement – this will require:
  - the measurement of all system supply and extract airflow rates;
  - the calculation of room air-change rates if applicable;
  - the measurement of room differential pressures if applicable;
  - the measurement of room noise levels;
  - temperature, humidity and any application-specific air velocity measurements;
  - a check of the control functions;
  - microbiological air-quality sampling if required;
  - any other application-specific tests or measurements as required.

4.9 An assessment should then be made by the AP(V) as to whether the system overall is fit for purpose and operating in a satisfactory manner. If any doubt exists, the AE(V) and/or VSG should be consulted.

### Fabric of the area served

4.10 The building elements in the room or rooms served by a critical ventilation system should also be suitable for the function. As an example, in a suite of rooms comprising an operating theatre complex, the following elements should be checked:

- the ceiling should be complete and free from holes, gaps, cracks or obvious air leakage paths. All light fittings, access hatches and suspended fittings should be sealed to prevent uncontrolled air leakage. It is important to check for air-leakage



paths behind the cover shrouds where operating-lamp stems and medical- gas and monitor-suspension booms penetrate the ceiling;

- the walls and floors should be free from significant construction and finish defects;
- windows and their trickle vents should be sealed and locked shut;
- the doors should close completely, and the door closers should be correctly adjusted to hold them against the room pressure gradient;
- all service penetrations should be sealed to prevent uncontrolled airflow between rooms and service voids;
- steps should be taken as necessary to prevent portable equipment and stock items from obstructing low-level supply, transfer or extract airflow paths.

- 4.11 Failure to achieve a suitable standard will render even the most sophisticated ventilation system ineffective.
- 4.12 All fire and smoke dampers should be tested as part of the annual verification unless the local policy dictates otherwise.
- 4.13 Table 1 provides a model for the verification of critical ventilation systems.
- 4.14 LEV systems will be subject to an examination and test by a competent person at least every 14 months. An individual who holds an in-date P601 certificate will be considered competent.

### Critical healthcare ventilation systems – verification standards

**Note:** The following standards apply to the performance of all existing in- use ventilation systems. Performance standards for new or refurbished systems are given in Chapter 12 in Part A of this Scottish Health Technical Memorandum.

- 4.15 When measured at the annual verification the following air change rates should be achieved:
- a. the primary air supply to a conventionally ventilated operating theatre, UCV operating theatre or "lay up" preparation room, regardless of when it was built, should not result in fewer than 18 air changes per hour in the room;

**Note:** If the scrub is in effect a separate room that is open (no door) to the operating theatre and it has a low-level pressure stabiliser discharging onto a corridor or an active low-level extract at its far end, so that air has to travel through the scrub to leave the operating theatre, then the volume of the scrub will not be counted as being a part of the operating theatre room volume.

If the scrub is a trough on the wall or in an open bay within the operating theatre, the volume of space it occupies will be considered part of the operating theatre room volume for the purpose of calculating the operating-theatre air supply.

- b. the primary air supply to an operating suite anaesthetic room that is equipped with a N<sub>2</sub>O (nitrous oxide) terminal or in which an anaesthetic agent is delivered



to the respiratory tract of a patient using a carrier gas or an operating department recovery room should not result in fewer than 12 air changes per hour;

- c. the primary air supply to any other room that is fitted with a N<sub>2</sub>O (nitrous oxide) or N<sub>2</sub>O/O<sub>2</sub> (entonox) terminal or in which an anaesthetic agent is delivered to the respiratory tract of a patient using a carrier gas or in which the patient is subsequently recovered should not result in fewer than 8 air changes per hour. (Note that in these rooms the patient is generally only sedated rather than fully anaesthetised.)

- 4.16 Unless otherwise specified in paragraph 4.15 above, for all other applications the ventilation system should achieve not less than 80% of the design air-change rate given in Chapter 8 and Appendix 2 of Part A of this Scottish Health Technical Memorandum, or its original design parameters.

**Note:** It is to be expected that over the lifetime (typically 20 years) of a ventilation system its performance will gradually reduce due to wear in components, increasing friction due to internal surface degradation and ductwork and access door seals breaking down over time. However, any rapid change in performance should be thoroughly investigated as it is likely to be caused by a failure of a component or control software. Trend analysis of the annual verification results will highlight sudden changes in performance.

**Table 1: Operational management and routine verification process model**

Step	Question	Information/standard required	Comment
1	Is the system still required?	Why was it installed?	Is that function still required?
2	Does the AHU achieve the minimum standard?	Health and safety aspects Intake/discharge positions Inspection access Legionella control and drainage Fire and electrical safety Leaks, cleanliness and insulation Filtration	Inspect to ascertain compliance with minimum standards set out in Chapter 3 of Scottish Health Technical Memorandum 03-01 (Part B)
3	Is the air distribution system satisfactory?	Access Fire dampers Cleanliness Insulation Identification Room terminals Pressure stabilisers	Inspect to ascertain continued fitness for purpose
4	Does the measured system performance still accord with the design intent and achieve a minimum acceptable standard?	Design air velocities Design airflow rates Room air-change rates Pressure differentials Noise levels Air quality	Establish the design values Measure the system output to verify its performance
5	Does the control system function correctly?	Desired environmental conditions Control sequence logic Run; set-back; off philosophy	Establish the true "as used" requirement Inspect/test to verify performance
6	Having regard to the foregoing, is the system "fit		Yes or No!



Step	Question	Information/standard required	Comment
	for purpose" and will it only require routine maintenance in order to remain so until the next scheduled verification?		
7	What routine service and maintenance will be required for the system to remain fit for purpose and function correctly until the next scheduled verification?	Filter changes System cleaning Performance indication Performance monitoring Performance measurement	Decide inspection frequency and maintenance schedule

4.17 The pressure regime should achieve not less than 80% of the design value given in Chapter 8 and Appendix 2 of Part A of this Scottish Health Technical Memorandum, or its original design parameters; and the pressure gradient relationships with regard to surrounding areas should be maintained.

4.18 The sound levels given in Table 2 are maximum permissible levels and should not be exceeded. Measurements should be made using at least a Type 2 sound meter fitted with a muff. Its accuracy should be checked using a calibration sound source before use.

#### Vertical flow ultra-clean ventilated (UCV) operating theatres

4.19 The following additional measurements should be taken:

- the average air velocity at the 2 m level under the UCV canopy: it should achieve a minimum average of 0.38 m/s for a partial or no wall system and 0.3 m/s for a full wall system when all four walls are in place;
- the average air velocity at the 2 m level for each quadrant or actively ventilated section of the UCV canopy should not exceed  $\pm 6\%$  of the measured average velocity for the whole canopy at 2 m;
- the air velocity within the inner zone at the 1 m level: every reading should achieve a minimum velocity of 0.20 m/s.

4.20 The air velocity measurements are to be taken using the equipment, test grid and method set out in Chapter 12 in Part A of this Scottish Health Technical Memorandum.

**Note:** There is no requirement to carry out a filter scan or entrainment test at the annual verification unless the EPA filters or recirculating air fans are changed, or the system in some other significant way is disturbed or altered. Changing the filters in the AHU or the recirculating air filters in the UCV canopy does not constitute a significant disturbance to the UCV unit.

**Table 2: Maximum sound levels (service noise only) for existing systems**

Area	Room Overall noise level – dB(A)
Operating suite including prep, operating theatre, anaesthetic, scrub and utility. Interventional and diagnostic imaging suites – all rooms	50
UCV Operating theatre and adjacent open-plan areas only	55
Treatment rooms, Consulting rooms, Sleeping areas, Recovery rooms	35
Pharmacy aseptic suites – all rooms	45

Area	Room Overall noise level – dB(A)
Sanitary facilities	45
Industrial areas	50
Circulation areas	50

- 4.21 Should the UCV canopy fail to achieve a suitable standard, resulting in the need to disturb or replace the canopy EPA filters or its auxiliary fans, the unit should be revalidated using the procedure given in Chapter 12 in Part A of this Scottish Health Technical Memorandum.

#### Horizontal flow ultra-clean operating theatre terminals

- 4.22 The following additional measurements should be taken:

- a line of test positions should be marked on the floor 1 m in front of the face of the UCV terminal;
- a test position will be marked in the centre of the line. Additional test positions will be marked at 280 mm spacing along the line either side of the centre position, up to the full face width of the unit;
- the discharge velocity test at 1 m, 1.5 m and 2 m levels in front of the terminal are taken at each test position;
- the average velocity should be not less than 0.40 m/s.

- 4.23 The measurements are to be taken using the equipment and method set out in Chapter 12 of this Scottish Health Technical Memorandum.

**Note:** There is no requirement to carry out filter scanning at the annual verification unless the EPA filters or recirculating air fans are changed; or the system is in some other significant way disturbed or altered. Changing the filters in the AHU or recirculating air filters does not constitute a significant disturbance to the UCV terminal.

- 4.24 Should the horizontal UCV fail to achieve a suitable standard, resulting in the need to disturb or replace the canopy EPA filters or auxiliary fans, the unit should be revalidated using the procedure given above.

#### Containment level 3 laboratories

- 4.25 These areas should conform to the requirements of current information published by the Advisory Committee on Dangerous Pathogens and the Health and Safety Executive:

- 'The management, design and operation of microbiological containment laboratories'
- 'Biological agents: managing the risks in laboratories and healthcare premises'
- 'Biological agents: the principles, design and operation of Containment Level 4 facilities'

- 4.26 The Head of Department will be able to advise on any mandatory plant inspection and maintenance frequencies and particular control strategy. The performance measurement of a containment laboratory is normally contracted out to a specialist.



### Pharmacy aseptic suites

- 4.27 Pharmacy aseptic suites should conform to the requirements of the European guide to good manufacturing practice ([https://ec.europa.eu/health/documents/eudralex/vol-4\\_en](https://ec.europa.eu/health/documents/eudralex/vol-4_en)) and the requirements of the Medicine Inspectorate if a licensed manufacturing unit.
- 4.28 The Chief Pharmacist will be able to advise on any mandatory plant inspection, maintenance frequencies and particular control strategy. The performance measurement of the aseptic suite is normally contracted out to a specialist.

### Decontamination Unit – IAP

- 4.29 IAP rooms should conform to BS EN ISO 14644 Class 8, and any additional requirements for the processing of medical devices, as applicable (see also Scottish Health Planning Note 13 Parts 1, 2 or 3 [Central Decontamination Unit, Local Decontamination Unit, Endoscopy Decontamination Unit]).
- 4.30 The Head of Department will be able to advise on any mandatory plant inspection, maintenance frequencies and particular control strategy. The performance measurement of the IAP room is normally contracted out to a specialist.

### Local exhaust ventilation (LEV) systems

- 4.31 LEV systems should conform to the latest version of the Health and Safety Executive's guidance document HSG258 'Controlling airborne contaminants at work: a guide to local exhaust ventilation (LEV)'.
- 4.32 LEV systems must be examined and tested at least every 14 months by a competent person. The person must hold an in-date P601 certificate.
- 4.33 Each LEV system must be examined and its performance measured and/or visualised from the point of capture of the hazard to its point of discharge. A full report of findings and a clear statement as to whether the system does or does not achieve an acceptable standard must be provided by the inspector.

**Note:** Having an annual service contract for an item of equipment such as a safety cabinet does not necessarily fulfil the statutory requirement for an annual LEV examination. The annual LEV examination must test and quantify the performance of the complete system including the location of the item, its interaction with any room ventilation, its discharge arrangement and suitability of the discharge location.

### Critical system verification failure

- 4.34 Should a critical system be unable to achieve the standard set out above, it should not be returned to service and the duty manager who signed the system over for the annual verification will need to be informed immediately. Copies of the verification report stating the reason(s) for non-compliance should be sent to the head of the user department, nominated infection prevention and control person and the healthcare provider's AP(V) as soon as practicable.
- 4.35 If a critical system is refurbished in order to bring it to a suitable standard, it will be subject to the full validation procedure set out in Chapter 12 in Part A of this Scottish



Health Technical Memorandum or other application-specific guidance as appropriate before being taken back into use.

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## 5. Routine inspection and maintenance

### General

- 5.1 Inspection and maintenance activities should be risk-assessed to ensure that they do not create a hazard for those who undertake the work or for those who could be affected by it.
- 5.2 The degree and frequency of inspection and maintenance should relate to the function of the system, its location, its general condition and the consequence of failure.
- 5.3 Specimen inspection and maintenance checklists are given in the Appendices.

### Inspection and maintenance of critical systems

- 5.4 The loss of service of these systems would seriously degrade the ability of the premises to deliver optimal healthcare. In order to ensure reliable service provision, critical systems should be subject to a quarterly inspection and maintenance regime.
- 5.5 For many of these systems an equipment release or permit-to-work certificate will need to be completed to ensure that taking the ventilation system out of service does not compromise the activities of the user department. In any event, it will be necessary to liaise with the user department when switching the system off to carry out routine inspection and maintenance.

**Note:** A specimen equipment release certificate is given in Appendix 3.

### AHU routine inspection

- 5.6 All AHUs should be visually inspected at least every three months. The inspection should note the general condition of the unit in terms of:
- its external and internal condition;
  - pipework and electrical connections;
  - sensor and control elements;
  - the unit's continued ability to maintain the desired condition in the spaces that it serves.

**Note:** Where fitted, energy-recovery devices provide a significant portion of the heating requirement, and the size of the AHU heater-battery will have been reduced as a consequence. It is therefore essential to check that the energy-recovery device operates as intended.

## AHU drainage

- 5.7 AHU drainage systems comprise a drainage tray, glass trap, connecting pipework and an air gap. The system should be inspected to ensure that it is clean and operating correctly. The cleanliness of the drainage tray and colour of the water in the trap will give an indication of a fault condition (see Table 3).

## Filter changing

- 5.8 Dirty supply air filters may pose a general dust hazard when being changed.
- 5.9 Dirty extract and return air filters may pose an increased level of hazard. This will relate to the particular contamination within the air that they have filtered. Filters handling extract air from general areas are unlikely to present a significantly greater hazard than that posed by dirty supply air filters.
- 5.10 Care should be taken to protect staff from inhaling the dust. If there is a need to enter the duct when changing filters, a dust mask or respirator to BS EN 149 should be worn. Dirty filters should be carefully removed and placed in a bag or the box that contained the replacement filters. On completion of the work, the dirty filters should be removed from the plantroom and disposed of appropriately.

**Note:** Dirty general supply or extract filters are not classed as hazardous waste.

- 5.11 The duct in the area of the filter housing should be carefully vacuumed using a cleaner with a filtered exhaust before fitting the replacement filters. This will prevent particles (that is, those that are shed when the dirty filters are disturbed) being blown downstream into the system when it is switched on.
- 5.12 It is important to ensure that replacement filters are fitted in the correct orientation. Most panel filters are manufactured with a membrane or wire support mesh on their downstream side. Alternatively, they may be colour-coded. The manufacturer's instructions regarding fitting should be followed.
- 5.13 Bag filters should be fitted with the pockets vertical. Care should be taken to remove any transit tapes and to ensure that the individual pockets are separate and free to inflate.

**Note:** The preferred option is to replace bag filters with rigid assembly filter packs; however, whichever type is fitted, it is vital not to puncture or damage them during installation.

- 5.14 Whichever type of filters are fitted it is essential to ensure that air cannot bypass them.

## Changing extract filters containing hazardous substances

- 5.15 Filters handling extract air from an LEV system will present a hazard and should be subject to a safe system of work.



- 5.16 Filters used in an extract system for the containment of hazardous substances or organisms should incorporate design provision for their safe removal when so contaminated. This may be achieved by:
- coating the filter with a water-based paint to seal the hazardous substance onto the filter prior to removal;
  - a system to fumigate the filter to kill any organisms;
  - housing it in a "safe change" unit that permits the filter to be ejected into a bag and sealed without staff having to come into direct contact with it.

The method chosen should reflect the nature of the hazard.

- 5.17 Filters fitted to remove hazardous substances from extract air are classed as hazardous waste and should be handled and disposed of accordingly.

#### **Air terminals**

- 5.18 Sooty marks around supply terminals should be vacuumed or wiped clean. Excessive soot marks around supply diffusers indicate an inadequate filter or significant filter bypass.
- 5.19 Extract grilles need to be regularly cleaned to remove dust and bits of fluff. Low-level spring-retained extract grilles should be regularly pulled off so that they can be washed and the debris in the duct behind them vacuumed out.

#### **UCV canopies**

- 5.20 UCV canopies fitted with perforated plate-type diffusers should have them removed and both sides wiped clean at the quarterly inspection. Any canopy side screens should be wiped down on both sides to remove surface contamination and bone dust.
- 5.21 UCV canopies fitted with monofilament diffuser screens do not need to be removed as blood splatter does not easily penetrate. Any visible surface contamination should be carefully wiped off in accordance with the manufacturer's instructions. If the monofilament screen is cut, punctured or physically damaged it will need to be replaced, not repaired.
- 5.22 The return air grilles for all types of canopies will need to be regularly cleaned to remove lint and the return air filters replaced as necessary.

#### **Pressure stabilisers**

- 5.23 Plate and bar stabilisers need to have their screws tightened, pivots cleaned and adjusted, and the sorbo rubber stop inspected and replaced as necessary if they are to operate correctly and silently.
- 5.24 All types of pressure stabilisers to be checked for correct and silent operation and cleaned as necessary.



**Note:** Pressure stabilisers may need to be retrofitted with a stand-off baffle on their discharge side to preserve privacy or prevent discharge air causing draughts within an anaesthetic room or bedroom. A stand-off baffle will always be needed on the theatre side of the pressure stabiliser between a "lay-up" preparation room and a UCV theatre to prevent perturbation of the UCV canopy air pattern.

### Transfer grilles

- 5.25 Both sides of a transfer grille should be vacuumed to remove dust and fluff.

### Ventilation system cleaning

- 5.26 The intake section of a ventilation system should be vacuumed-out as necessary to remove visible particles.
- 5.27 AHUs should be vacuumed-out and wiped or washed down internally as necessary to remove obvious dust and dirt.
- 5.28 Drift eliminators (if fitted) should be removed, and cooling coils, humidifier units, energy-recovery devices and their drainage systems should be washed down with hot water annually to remove visible contamination. Using a hose connected to the DHW is the simplest way. Pressure washers should not be used as they will damage the battery fins or energy transfer matrix.
- 5.29 Supply air distribution ductwork conveys air that has been filtered. It will require internal cleaning only when it becomes contaminated with visible dirt. The frequency of cleaning will depend on the age of the system and grade of the AHU final filter but will typically be in excess of ten years. There is no requirement to clean supply ductwork annually. A rapid build-up of visible dirt within a supply duct is an indication of a failure of the filtration or its housing.
- 5.30 On completion of cleaning, the supply ductwork should not be "fogged" with chemicals. This treatment has no lasting biocidal effect and is responsible for initiating the breakdown of the galvanised coating of ductwork. This results in accelerated corrosion of the inside of the duct, with the products of corrosion being shed into the air stream. It will also significantly shorten service life.

**Note:** If after duct cleaning there are persistent problems with fungal spores being discharged from the supply terminals and there is no evidence of final filter bypass, air samples should be taken at the AHU intake, AHU discharge and at least one supply terminal in each branch of the system. This should pinpoint the actual source of the problem. The affected section should then be inspected and cleaned and finally fogged only if that proves to be necessary.

- 5.31 Extract air systems handle unfiltered air. They should be cleaned as frequently as necessary in order to maintain their operating efficiency. Room extract terminals, particularly those sited at low level in critical care areas, will need regular cleaning.

Table 3: Colour of water in glass trap

Colour of water	Probable cause and comment
Normal	Satisfactory
Green	Copper corrosion of pipework Possible leak in battery tubing
White	Aluminium corrosion of battery fins
Black	General dirt Filter faulty allowing air bypass Possible Aspergillus contamination System is overdue for a thorough clean Urgent action required
Brown/Red	Iron corrosion (rust) within the AHU which may indicate a specific Legionella hazard Immediate action required
Bubbly/slimy	Microbiological activity within the AHU which may indicate a specific Legionella or similar hazard Immediate action required
Dead wildlife	Failure of filtration – immediate action required

5.32 Following duct cleaning, all service hatches should be checked to ensure that they have been correctly replaced and do not leak.

5.33 Duct-cleaning equipment that uses rotating brushes or a vacuum unit can easily damage flexible sections of ductwork. On completion of cleaning, all flexible duct sections should be checked for rips and tears. The opportunity should be taken to reduce flexible ducts in length to the absolute minimum and replace any being used in lieu of bends with rigid duct sections. The straps that secure them to rigid duct sections and air terminals should also be checked to ensure that there is no air leakage.

**Note 1:** If the system has mixing or VAV boxes, the cleaning contractor should be alerted and use a method that avoids damaging any internal acoustic lining.

**Note 2:** Duct-mounted sensors and the elements of electric and fins of heating or cooling trimmer batteries can also be easily damaged during duct cleaning. Sensor probes may need to be temporarily removed and the battery elements protected during the process.

5.34 It is always necessary to re-balance the ventilation system following cleaning as balance dampers and registers will have been disturbed. The system will then need to be validated in accordance with Chapter 12 in Part A of this Scottish Health Technical Memorandum.

### Chilled beams – active and passive types

5.35 The efficiency of these units will rapidly decline if they become blocked with fluff/lint. They should be inspected every three months and cleaned as appropriate.



### Split and cassette air- conditioning units

- 5.36 These units incorporate internal recirculation air filters and a drainage system to remove condensate from the cooling coil. The systems should be inspected and cleaned every three months and the drainage system checked.

### Fan coil units

- 5.37 These units incorporate internal recirculation air filters and a drainage system to remove condensate from the cooling coil. The systems should be inspected and cleaned every three months and the drainage system checked.

### Portable room air- conditioning units

- 5.38 Portable units are sometimes kept in-store or hired-in to cope with temporary local situations giving rise to excessive temperatures. They typically incorporate internal recirculation air filters and a drainage system to remove condensate from the cooling coil. The VSG should be consulted before these types of unit are deployed.
- 5.39 The units should be inspected and thoroughly cleaned before being taken into use. Units that are to be used in areas containing immunocompromised patients will, unless new, need to be fully decontaminated before use.
- 5.40 All portable units should be inspected and cleaned every week that they remain in use.
- 5.41 Units that have been used in isolation rooms or areas containing infectious patients will need to be fumigated before being used in other locations, returned to store or to the supplier.
- 5.42 Units employing an internal water reservoir and wick to promote evaporative cooling are not to be used in healthcare premises.

### Self-contained mobile filter and/or ultraviolet (UV) light units

- 5.43 The VSG will be consulted before these types of unit are deployed. The efficacy of these units is directly related to their cleanliness. In this respect, the manufacturer's instructions regarding initial use, service and maintenance, lamp and filter replacement should be closely followed (see also paragraph 3.79).
- 5.44 Units that have been used in isolation rooms or areas containing infectious patients will need to be fumigated before being used in other locations, or returned to store.
- 5.45 Filters fitted to remove hazardous substances from the recirculated room air are classed as hazardous waste and should be handled and disposed of accordingly (see also Health Technical Memorandum 07-01 – 'Safe management of healthcare waste').

**Inspection and maintenance records**

- 5.46 Records of inspection and maintenance activities should be kept for at least five years (see paragraphs 1.31 and 1.44).

Interim



# Appendix 1 – Annual inspection of critical ventilation systems – AHU and plantroom equipment

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## Definition of terms used on survey form

### General condition

#### End of useful life

This should be clear from the condition of the AHU and its associated services and plant. The main indicators will be:

- extensive internal and/or external corrosion of the AHU casing;
- failure of filter housings to prevent air bypass;
- general corrosion of heater and cooling battery fins, attenuator surfaces etc;
- significant failure to meet minimum standards;
- associated plant services and control elements in a poor condition or not able to fulfil their purpose;
- AHU aged 20 years or more.

Action: Urgent replacement indicated.

#### Poor

Should be fairly apparent but would include an assessment of the degree of corrosion; cleanliness of coils and batteries; quality of filter mountings and their ability to prevent air bypass; fan and drive train condition; the control system elements' ability to fulfil their function; condition of the access doors and inspection covers. The age of the AHU is generally less important.

Action: Extensive refurbishment or programmed replacement indicated.

#### Average

Some faults but generally free of significant corrosion, clean internally and conforming to minimum standards.

Action: Faults capable of correction at next maintenance period.

#### Good

Conforming to the minimum standards, obviously cared for and subject to routine maintenance.

Action: Routine maintenance will preserve standard of the equipment.

**Compliance with minimum standards (questions 2 to 23, 32 and 33)****Poor**

More than three answers are negative.

Action: Management action required by estates/facilities department.

**Average**

No more than three answers are negative.

Action: Maintenance action required.

**Good**

No answers are negative, full compliance.

Action: None.

**Maintenance quality (questions 5, 12, 26 to 31 and 34 to 40)****Poor**

More than three answers are negative.

Action: Management action required by estates/facilities department.

**Average**

No more than three answers are negative.

Action: Maintenance action required.

**Good**

No answers are negative.

Action: None.

## Annual inspection of critical ventilation systems – AHU and plantroom equipment

Template A1 Annual inspection of critical ventilation systems – AHU and plantroom equipment

Hospital

Plantroom

Air handling unit  Age of unit

Area served by unit

Date of Survey  Name

General Condition: End of useful life  Poor  Average  Good

Compliance with minimum standards  
(Questions 2 to 23, 32 and 33) Poor  Average  Good

Maintenance Quality  
(Questions 5, 12 26 to 31, 34 to 40) Poor  Average  Good

No	Survey question	Yes	No	Comments
1	Plant running?			
2	Is the unit and its associated plant secure from unauthorised access?			
3	Is the unit safely accessible for inspection and maintenance?			
4	Is the air intake positioned to avoid short-circuiting with extract or foul air from other sources such as gas scavenging outlets?			
5	Are all inspection lights operating?			
6	Are motorised dampers fitted to the intake and discharge?			
7	For belt driven fans, is the drive visible without the need to remove covers?			
8	For plug and EC fans, is the fan visible through a viewing port?			
9	Is the cooling coil located on the discharge side of the fan?			
10	Is an energy-recovery system fitted? (state type)			
11	Are condensate drainage systems fitted to all energy recovery systems, cooling coils and humidifiers in accordance with Chapter 3 of Scottish Health Technical Memorandum 03-01, Part B?			



No	Survey question	Yes	No	Comments
12	Are drainage traps clean and filled with water? (see Table 3 in Scottish Health Technical Memorandum 03-01, Part B)			
13	Is the drain trap air break at least 15 mm?			
14	If a humidifier is fitted, state the type	-		
15	Is the humidifier capable of operation?			
16	Is there space to safely change the filters?			
17	Are there test holes in the principal ducts?			
18	Are the test holes capped?			
19	What is the general condition of the exterior of the AHU?	-		
20	Are the principal ducts lagged?			
21	What is the general condition of the associated control valves and pipework?	-		
22	Is the pipework adequately lagged?			
23	Is the system clearly labelled?			
24	Record prefilter differential pressure	-		
25	Record main filter differential pressure	-		
	Switch plant off. Fit padlock to isolator			
26	Did all motorised dampers close on plant shut-down?			
27	Is the vermin/insect screen clean?			
28	Is the intake section including the fog coil clean?			
29	Are the prefilters correctly fitted with no air bypass?			
30	Are all drive belts correctly aligned and tensioned?			
31	Is the cooling-coil matrix clean?			
32	Are all drip-trays fully accessible or capable of being removed for cleaning and have a fall to drain?			
33	Are the drainage trays stainless?			
34	Are the drainage trays clean?			
35	Is the internal base of the AHU free from any sign of ponding?			
36	Is the matrix clean for each heater-battery?			
37	Have the main filters been correctly fitted with no air bypass?			



No	Survey question	Yes	No	Comments
38	Is AHU and its associated main ductwork clean internally?			
	Energise plant			
39	Did unit restart satisfactorily?			
	Test automatic fan-motor change-over, if fitted			
40	Did automatic change-over operate satisfactorily?			

#### Additional comments

(For example: air leaks from access doors; control valves leaking or passing; general cleanliness of the area around the unit; or any other items of concern.)

Are there any issues of particular concern that would prevent the plant being taken back into use?

Competent Person/Authorised Person

.....

## Appendix 2 – Operating suite annual verification

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### Definition of terms used on survey form

#### Assessment of compliance with Health Building Note 10-01 and Scottish Health Technical Memorandum 03-01 (all questions relevant to the type of theatre)

##### **Poor**

Air-change rate is less than 18 per hour; room pressure differentials do not ensure a flow from clean to less clean areas; supply or extract air diffusers are not clean; pressure stabilisers not clean and/or not operating correctly; significant faults or failures of indicators on surgeon's panel; visible faults in the fabric of the suite; doors unable to close completely; general air of neglect.

Action: Urgent management action required.

##### **Average**

Air volumes and room pressure differentials approximate to the original design values; supply air diffusers clean but extracts visibly fouled, most pressure stabilisers clean and operating correctly; some of the indicators on the surgeons' panel not working; minor faults in the fabric and décor of the suite.

Action: Maintenance action required.

##### **Good**

Better than average.

Action: None.

#### Maintenance quality (all questions relevant to the type of theatre)

##### **Poor**

More than three answers are negative.

Action: Management action required by estates/facilities department.

##### **Average**

No more than three answers are negative.

Action: Maintenance action required.

##### **Good**

No answers are negative.

Action: None.

## Annual verification of theatre ventilation systems Theatre suite information

### Template A2 Annual verification of theatre ventilation systems Theatre suite information

Hospital

Theatre name/no  Type of Theatre

Date of survey  AHU

Location and ID Name

### Compliance with HBN/SHPN & SHTM

Poor  Average  Good

### Maintenance quality

Poor  Average  Good

No	Survey question	Yes	No	Comments
1	Has the annual verification of the AHU been carried out?			
2	Are windows hermetically sealed?			
3	Are the ceilings in the theatre and prep room complete and sealed?			
4	Is the fabric of the rooms within the suite free of any significant faults?			
5	Are room light fittings correctly sealed?			
6	Do all doors close completely and hold against the room pressure?			
7	Are the pressure stabilisers operating correctly and silently?			
8	Are all supply and extract air terminals and pressure stabilisers visibly clean?			
9	Measure and record the operating theatre temperature	-		
10	Does this accord with that displayed on the surgeon's panel?			
11	Measure and record the operating theatre relative humidity	-		
12	Does this accord with that displayed on the surgeon's panel?			
13	Measure and record the supply and extract air flow in the principal ducts	-		



No	Survey question	Yes	No	Comments
14	Measure and record the air flow at all supply and extract terminals	-		
15	Does the derived air-change rate achieve at least 18 ac/h in the Theatre, 12 ac/h in the Anaesthetic room and at least 80% of the design flow in all other rooms?			
16	For UCV units, also measure and record the air velocities within the canopy using the method set out in Chapter 12 of Scottish Health Technical Memorandum 03-01 (Part A)	-		
17	Do the air velocities achieve the standard appropriate for the type of canopy?			
18	Measure and record the room differential pressures	-		
19	Do the room differential pressures ensure a flow of air from the clean to the less clean areas?			
20	Measure and record the noise levels in the principal rooms of the suite	-		
21	Do the noise levels fall below the limits set out in Table 2 of Scottish Health Technical Memorandum 03-01, Part B?			
22	Check the operation of all ventilation control functions represented on the surgeon's panel.	-		
23	Do the indicators accurately represent the operational state of the ventilation system(s)?			
24	For UCV systems: Are the UCV and AHU interlocked to ensure that the AHU runs at full speed when the UCV is at full operating speed or at low speed? (See SHTM 03-01; Part B; Chapter 3; paragraph 3.90 Note.)			
25	With the UCV running at low speed, does the system maintain the standard of a conventional operating theatre?			
26	For all theatres: with the system running at set-back, does it maintain a flow of air from the clean to the less clean areas?			



Additional Comments

(For example: the general décor; are the suite and its ventilation systems suitable for their designated functions?)

Are there any issues of particular concern that would prevent the suite being taken back into use?

Competent Person/Authorised Person .....

Interim

## Appendix 3 – Equipment Release Certificate

### Template A3 Equipment Release Certificate

<b>Equipment release certificate</b>		
<b>Certificate No:</b>	<b>Job No:</b> .....	
<b>Issuing Dept:</b> .....	<b>Date &amp; time of issue:</b> .....	
<b>Issuing officer (print name):</b> .....		
<b>Issued to (print name and company):</b> .....		
<p>This certificate is issued for the purpose of carrying out the following task. The MAINTENANCE / SERVICE / REPAIR (delete as appropriate and attach job card to certificate) of the equipment specified below. It is valid for 48 hours.</p>		
<b>Location:</b> .....	<b>Equipment:</b> .....	<b>Serial No:</b> .....
	<b>Yes</b>	<b>No</b>
1	Is the task routine for this equipment?	
2	Are you a fully trained service engineer or have you carried out this task at least 3 times previously?	
3	Has one of the following authorised personnel (circle the name) given permission for the service to take place?  Authorised Person(s):	
<p>Note: If the answer to all of the above questions is YES, proceed to Step 4. If the answer to any of the above questions is NO, <b>do not proceed</b>. Return this Certificate to the Issuing officer and obtain a Permit to Work.</p>		
4	Obtain the signature of the person identified at Step 3 above. Name:..... Signature:..... Date:.....	
5	Isolate the equipment and carry out the task.	
6	Reinstate all services and test-run the equipment.	
7	On completion, the person doing the work to print name, and sign. Name:..... Signature:..... Date:.....	
8	Is the equipment serviceable? If YES, go to Step 9. If NO, isolate equipment and go to Step 10.	
9	Hand equipment back to the person identified in Step 4. Obtain signature. Name:..... Signature:..... Date:.....	
10	Return this certificate to the issuing authority. Receiving officer to sign. Name:..... Signature:..... Date:.....	
Note: The issuing authority to retain this certificate for 12 months		

## References

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### Acts and regulations

**Building Regulations 2010.** SI 2010 No 2214. <http://www.legislation.gov.uk/uksi/2010/2214/contents/made>

**Control of Substances Hazardous to Health Regulations 2002.** SI 2002 No 2677. <http://www.legislation.gov.uk/uksi/2002/2677/regulation/7/made>

**Health Act 2009.** HMSO, 2009.

<http://www.legislation.gov.uk/ukpga/2009/21/contents>

**Health and Safety at Work etc. Act 1974.**

HMSO, 1974.

<http://www.legislation.gov.uk/ukpga/1974/37/contents>

**Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2013.** SI 2013 No 1471.

<http://www.legislation.gov.uk/uksi/2013/1471/contents/made>

**Workplace (Health, Safety and Welfare) Regulations 1992.** SI 1992 No 3004. <http://www.legislation.gov.uk/uksi/1992/3004/contents/made>

### British Standards

**BS 1710.** Specification for identification of pipelines and services. British Standards Institution, 2014.

**BS EN 149:2001+A1.** Respiratory protective devices. Filtering half masks to protect against particles. Requirements, testing, marking. British Standards Institution, 2009.

**BS EN ISO 14644-1.** Cleanrooms and associated controlled environments. Classification of air cleanliness by particle concentration. British Standards Institution, 2015.

**BS EN ISO 14644-2.** Cleanrooms and associated controlled environments. Monitoring to provide evidence of cleanroom performance related to air cleanliness by particle concentration. British Standards Institution, 2015.

**BS EN ISO 14644-3.** Cleanrooms and associated controlled environments. Test methods. British Standards Institution, 2019.

**BS EN ISO 17141.** Cleanrooms and associated controlled environments. Bio contamination control. British Standards Institution, 2020.



## Health and Safety Executive guidance

Health and Safety Executive (2003). **Safe working and the prevention of infection in clinical laboratories and similar facilities.**

HSE Books, Sudbury. <https://www.hse.gov.uk/pubns/clinical-laboratories.pdf>

Health and Safety Executive (2008). **HSG258 Controlling airborne contaminants at work: a guide to local exhaust ventilation (LEV).**

HSE Books, Sudbury. <https://www.hse.gov.uk/pubns/books/hsg258.htm>

Health and Safety Executive (2013). **Approved Code of Practice and guidance on regulations. Legionnaires' disease: The control of Legionella bacteria in water systems (L8).** (4th edition). HSE Books, Sudbury. <https://www.hse.gov.uk/pubns/books/l8.htm>

Health and Safety Executive (2014). **HSG274 Legionnaires' disease – technical guidance. Part 2: The control of Legionella bacteria in hot and cold water systems.** HSE Books, Sudbury. <https://www.hse.gov.uk/pubns/books/hsg274.htm>

Health and Safety Executive (2014). **HSG274 Legionnaires' disease – technical guidance. Part 3: The control of Legionella bacteria in other risk systems.** HSE Books, Sudbury. <http://www.hse.gov.uk/pubns/priced/hsg274part3.pdf>

Department of Health (2015). **The Health and Social Care Act 2008 Code of Practice on the prevention and control of infections and related guidance.** <https://www.gov.uk/government/publications/the-health-and-social-care-act-2008-code-of-practice-on-the-prevention-and-control-of-infections-and-related-guidance>

Health and Safety Executive (2018). **HSG283 Managing infection risks when handling the deceased: guidance for the mortuary, post-mortem room and funeral premises, and during exhumation.** HSE Books, Sudbury. <https://www.hse.gov.uk/pubns/books/hsg283.htm>

Health and Safety Executive (2020). **EH40/2005 Workplace exposure limits: containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations 2002 (as amended).** HSE Books, Sudbury. <https://www.hse.gov.uk/pubns/books/eh40.htm>

## Scottish Health Technical Memoranda

Scottish Health Technical Memorandum 04-01. Safe water in healthcare premises.

Health Technical Memorandum 05-01. Managing healthcare fire safety. <https://www.gov.uk/government/publications/managing-healthcare-fire-safety>

Health Technical Memorandum 05-02. Fire safety in the design of healthcare premises. <https://www.gov.uk/government/publications/guidance-in-support-of-functional-provisions-for-healthcare-premises>



Health Technical Memorandum 05-03. Fire safety measures for health sector buildings. <https://www.gov.uk/government/publications/suite-of-guidance-on-fire-safety-throughout-healthcare-premises-parts-a-to-m>

Health Technical Memorandum 07-01. Safe management of healthcare waste. <https://www.gov.uk/government/publications/guidance-on-the-safe-management-of-healthcare-waste>

Scottish Health Technical Memorandum 08-01. Acoustics.

## Health Building Notes/ Scottish Health Planning Notes

Health Building Note 10-01. Facilities for surgery (forthcoming).

Health Building Note 26 – 'Facilities for surgical procedures' (2004) and Health Building Note 10-02 – 'Facilities for day surgery units' (2007) are currently under revision and will become Health Building Note 10-01 once updated.

Scottish Health Planning Note 13 (Parts 1, 2 & 3). Decontamination.

Health Building Note 26. Facilities for surgical procedures. <https://www.gov.uk/government/publications/facilities-guidance-for-surgical-procedures-in-acute-general-hospitals>

## Other publications

Advisory Committee on Dangerous Pathogens (2001). **The management, design and operation of microbiological containment laboratories.** <https://www.hse.gov.uk/biosafety/management-containment-labs.pdf>

Advisory Committee on Dangerous Pathogens (2005). **Biological agents: managing the risks in laboratories and healthcare premises.** [https://www.gla.ac.uk/media/Media\\_196331\\_smxx.pdf](https://www.gla.ac.uk/media/Media_196331_smxx.pdf)

Advisory Committee on Dangerous Pathogens (2009). **Biological agents: the principles, design and operation of Containment Level 4 facilities.** <https://www.hse.gov.uk/pubns/web09.pdf>

CIBSE. (2014). **Guide M: Maintenance engineering and management: a guide for designers, maintainers, building owners and operators, and facilities managers.**

CIBSE, London.

European Commission (2011). **EudraLex. Volume 4: Good manufacturing practice (GMP) guidelines.** (Partly revised in 2017.) [https://ec.europa.eu/health/documents/eudralex/vol-4\\_en](https://ec.europa.eu/health/documents/eudralex/vol-4_en)

Specialised Ventilation for Healthcare Society (2017). **SVHSoc.01 – Operating theatres: energy control strategies and the surgeon's panel.**

<https://svhsoc.com/wp-content/uploads/2019/03/operating-theatre-surgeons-panel-and-control-strategies-1.pdf>

Specialised Ventilation for Healthcare Society (2018). **SVHSoc.02 – Change in air filter test and classification standards.** <https://svhsoc.com/wp-content/uploads/2019/03/change-in-air-filter-classification-1.pdf>

Interim



22<sup>nd</sup> March 2018

REF: 180308.MT.SG Settlement Proposal

James Crombie  
Deputy Chief Executive  
&  
Susan Goldsmith  
Finance Director  
NHS Lothian Health Board  
Waverly Gate  
2-4 Waterloo Place  
Edinburgh  
EH1 3EG

**By Email and Post**

Dear James & Susan,

**Re-Provision of RHSC & DCN at Little France, Edinburgh.**

**Settlement Proposal**

**WITHOUT PREJUDICE**

In our letter dated Tuesday 21 March 2018, we requested that NHS Lothian (the "Board") did not begin any Court proceedings prior to IHS Lothian Ltd ("IHSL") and Multiplex providing an update to a commercial settlement. We remain convinced that this is still the most appropriate approach to successfully deliver the facility and an updated proposal is enclosed within this letter. In addition, we believe it is important to re-emphasise that in order for a settlement approach to progress successfully in practise and for the contract to be successfully delivered over the next 25 years, all parties need to work together as a partnership, from site level up. The need for change in this regard was clearly evident during the mediation sessions and given the mixed progress in this regard since the mediation process, we remain convinced that the successful delivery of the facility is not simply down to a commercial or contractual agreement being reached.

It remains our view that any Court proceedings will be vigorously defended by Multiplex, resulting in a long drawn out and expensive process, which depending upon the determination may not provide the Board with the facilities they require. IHSL consider that a settlement agreement can deliver a facility to the Board's technical requirements, at the earliest opportunity and at the most efficient cost to the project. Opposite a legal dispute, a settlement agreement presents the opportunity to focus the parties' efforts on clarifying technical requirements and agreeing a pragmatic solution, programming and facilitating our respective completion activities to achieve the earliest 'patient go live date'; and ensuring we retain as much money within the project to support the required works. You will also be very aware that in addition to these aspects, proceeding to court at this stage will

also lay out the challenges being faced into a public forum that could cause reputational damage to all parties, as well as the project itself.

In order to progress the items outlined in this letter, IHSL request an urgent meeting – given the deadlines set-out in the Multiplex’s proposal- with members of the NHSL Board to review and consider the attached settlement agreement draft proposal from Multiplex, as an alternative to the current Board position. We recognise that a commercial agreement that underpins these proposals will also need to be agreed as part of these discussions and IHSL recognise that they, along with Multiplex and the Board need to contribute.

With regards to how a settlement agreement might look, it needs to be understood that in order for this to deliver the intended outcome all parties need to work together. Multiplex have already agreed to complete the Without Prejudice Works at their own considerable expense, however we also believe that further works that are currently disputed works, or post Practical Completion Works can benefit from starting as soon as possible to achieve the earliest patient ‘go-live’ date. Included in these works are the post completion NHS Works, the four bedded room ventilation and the MRI quench pipes. The attached proposal from Multiplex explains how the Without Prejudice Works and post completion NHS Works can be completed simultaneously, in tandem with resolving the four bedded ventilation. Please note that there are items where final agreement as to what is required has not been reached, and these will need to be agreed before a final programme can be produced.

One of the key items that needs to be addressed is the technical requirements of the four bedded ventilation to the satisfaction of the Board. The attached paper outlines three ventilation options, each with a capital cost and a timeline to completion. We ask that the Board considers these options. The attached timeline is based on Option 1. It is recognised that were a different solution to be agreed (either in relation to Option 2 and 3) then the overall programme and costs will change to reflect the work required for each of those options.

At the mediation sessions in Edinburgh a number of items were agreed and actions have continued to be progressed. We note that some of these items appear to have stalled. The attached ‘Mediation Progress Report’ dated 21<sup>st</sup> March 2018 provides the current position. At our meeting with lenders on the 16<sup>th</sup> March 2018, the Board advised their frustration with respect to progress achieved on the Without Prejudice Works, highlighting the Single Bedroom Ventilation Change and Cable Calculations as examples. The Multiplex Proposal provides a narrative and timeline with respect to these two items, and refutes the Board’s allegation Multiplex are not delivering upon their commitments. The actual events surrounding the agreement of the ‘Single Bed Ventilation Change’ unfortunately does not convey the joint endeavour, ‘speedy RDD’ process or collaborative working we had collectively hoped for.

The quench pipe is an item that was not included in the mediation sessions, but now appears on the list as it is an item on the Board’s critical path, where a more optimal solution involving Multiplex facilitation is considered beneficial to the project. The quench pipes are an NHSL responsibility, to be delivered under a separate turnkey contract. We understand that early in the construction programme Multiplex made an offer to “help” install the quench pipe alongside the installation of other mechanical services, but this offer was not adopted by NHSL possibly because the MRI equipment had not been selected/procured (and hence technical parameters were unknown). At this stage of the construction programme installation of such equipment infrastructure is not possible without causing significant disruption, abortive work and delay to completion, which would be for the account of the Board. An alternative to the Board’s turnkey contractor undertaking all of the associated works related to the quench pipe installation would be for Multiplex to facilitate and



coordinate these works, to ensure the works are delivered effectively, and minimise costs and programme delays to the Board.

The overall advantage of a settlement agreement should not just be quantified in terms of price and time, but also the overall product. The opportunity to have Multiplex facilitate and coordinate MRI Quench pipe works would have the benefit of removing the risk of Multiplex's warranties being voided. It would also clear the path for Multiplex to carry out Board changes that are currently scheduled to be undertaken post completion. Without agreement, Multiplex could not be contractually compelled to carry out changes post completion, meaning other contractors would need to be engaged. If other NHSL Sub-contractors are brought into to do certain works, warranties could be invalidated and responsibility for defects to affected areas of the building may become an unnecessary area of dispute between the Board and IHSL.

We understand that in order to make a settlement work, there will have to be compromises on both parties, but we believe that it is the most sensible option for all parties involved.

IHSL directors are available for a meeting week commencing the 26 March 2018, and we look forward to your response.

As you will appreciate this letter is 'without prejudice' and privileged, and may not be referred to in Court or other formal forum.

Yours faithfully



Wallace Weir  
Project Co Representative  
For and behalf of IHS Lothian Limited

Enclosures:

Multiplex Letter dated 22 March 2018, together with four attachments.





SCOTTISH HOSPITALS INQUIRY

**Bundle 13 – Miscellaneous - Volume 5**

A47206723