

SCOTTISH HOSPITALS INQUIRY

Hearing commencing 26 February 2024 Bundle 6 – Documentation relating to the IOM report

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From: Inverarity, Donald
Sent: 10 May 2019 15:51
To: Laurenson, Ian; Johannessen, Ingolfur; Cameron, Fiona; Guthrie, Lindsay; Sutherland, SarahJane; Kalima, Pota; Khatamzas, Elham
Subject: FW: Theatre Validation

Importance: High
Sensitivity: Confidential

For information. I'm keen that you aware of this as I don't think I solely represent NHS Lothian with regards to the potential "risk" associated with this situation.

Thanks
Donald

From: Inverarity, Donald
Sent: 10 May 2019 15:47
To: Henderson, Ronnie
Cc: Currie, Brian; Curley, George; McMahon, Alex
Subject: RE: Theatre Validation

Hi Ronnie,

The Multiplex document doesn't indicate what size the theatres are, what the air pressures are in the theatre areas (anaesthetic room, prep area, theatre etc) or what number of air changes per hour are achieved and neither does it mention what, if any, microbiological assessment of air quality has been performed (that box is blank so I'm presuming none has been performed). Although you are being assured that it "conforms" it isn't explicitly stated what standard it "conforms" to –presumably SHTM 03-01 ?

The statement:

"The theatre suite ventilation system has been commissioned and validated in accordance with the required regulations and has achieved the required standard."

might be factually correct but there is nothing to back it up and it tells us absolutely nothing about how the theatre performs at baseline. It is essentially asking us to taking everything on trust that its all okay. That makes me a little uncomfortable in the current political climate of scrutiny. Does it achieve the required standard with a wide safety margin or did it barely achieve it empty without any operations in progress?

At validation the report should tell us at baseline how it actually "performs" so that if there are problems in the future we have some baseline parameters of air pressures and air changes per hour to compare it against.

I see that "all test documentation is located on Zutec." I don't know what Zutec is or whether anyone in NHS Lothian has access to that information so essentially I can't provide any assurance to myself or NHS Lothian by assessing it myself. But in my role as infection control doctor I shouldn't need to go to source documents and extract that information to interrogate and interpret it myself, it should be clearly and explicitly included in the validation report.

Section 8.64 of SHTM 03-01 says:

Ventilation system commissioning/validation report

8.64 Following commissioning and/or validation a full report detailing the findings should be produced. The system will only be acceptable to the client if at the time of validation it is considered fit for purpose and will only require routine maintenance in order to remain so for its projected life.

Personally I don't think we are being provided with a "full report" detailing the validation findings and there is not enough detail for me to know if the theatre is," fit for purpose and will only require routine maintenance in order to remain so for its projected life." I don't think the Validation checklist provided fulfils point 8.64 of SHTM 03-01

whereas the validation reports we were issued when the SJH theatres were commissioned did and were very easy to read and be assured by.

I'm happy to be over-ruled but, for me, I'm not assured by this checklist that theatre 30 is fit for purpose because the information I would be looking for to allow me to have that assurance is not provided and not accessible by me. I'm happy to hear other views.

Thanks.

All the best.

Donald

From: Henderson, Ronnie
Sent: 10 May 2019 14:49
To: Inverarity, Donald
Cc: Currie, Brian; Curley, George
Subject: Theatre Validation

Hi Donald,

Multiplex have provided us with their validation report for Theatre 30 as an example of what they intend to provide for each individual theatre. You will note it differs from the example you sent from St Johns although there is a declaration that it conforms. I can confirm that these have been reviewed and signed off by the independent tester which provides us with reassurance of compliance. If however you have any doubts or concerns, happy to discuss with a view to appointing someone from outwith the project to give an additional layer of assurance if required.

Regards

Ronnie

Ronnie Henderson
Commissioning Manager Hard FM
RHSC & DCN - Little France
NHS Lothian

[Redacted]

[Redacted]

From: Little, Kerryann
Sent: 13 May 2019 08:46
To: Gillies, Tracey
Subject: RE: Theatre Validation

Thank you Tracey

From: Gillies, Tracey
Sent: 11 May 2019 13:40
To: Inverarity, Donald; Curley, George; Henderson, Ronnie; Currie, Brian
Cc: Little, Kerryann
Subject: RE: Theatre Validation

Answering for Alex as he is on leave

I think all your points are valid Donald, and it should not be difficult to close the gap between what has been presented and the standard it is being measured against if this is all presentational.

Surely it just needs a list of what we need to know to be completed.

It may well be that the IT had access to a document management system that allowed them to see the evidence but you are right, in the current climate and potentially in future, saying signed off by IT will not be sufficient
Tracey

Executive Medical Director
NHS Lothian

[Redacted]

From: Little, Kerryann **On Behalf Of** McMahon, Alex
Sent: 10 May 2019 15:51
To: Gillies, Tracey
Subject: FW: Theatre Validation

Hi Tracey

Copying to you in Alex absence – Can you help with this please?

Thanks
Kal

Kerryann Little
PA to Professor Alex McMahon
Executive Director, Nursing, Midwifery and AHPs
Executive Lead for REAS and Prison Healthcare

[Redacted]

From: Inverarity, Donald [Redacted]
Sent: 10 May 2019 15:47
To: Henderson, Ronnie [Redacted]
Cc: Currie, Brian [Redacted]; Curley, George [Redacted]

McMahon, Alex

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Regards

Ronnie

Ronnie Henderson
Commissioning Manager Hard FM
RHSC & DCN - Little France
NHS Lothian

[Redacted]

[Redacted]

From: Henderson, Ronnie
Sent: 13 May 2019 14:26
To: Inverarity, Donald
Cc: Currie, Brian; Curley, George; McMahon, Alex; Gillies, Tracey
Subject: RE: Theatre Validation

Hi Donald,

As you know through our previous discussions it is neither our desire nor intention to provide something you are not 100% happy to accept as a suitable record or report. It is true to say that all the relevant information is available on the project data management system 'Zutec', I will ask our AE (ventilation) to review and independently validate and to provide the type of report you expect. For completeness, I do think it would be beneficial for yourself to view the kind of records held on the Zutec system and I would be happy to demonstrate this say during a one hour session.

Regards

Ronnie

Ronnie Henderson
Commissioning Manager Hard FM
RHSC & DCN - Little France
NHS Lothian

[Redacted]

[Redacted]

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Regards

Ronnie

Ronnie Henderson
Commissioning Manager Hard FM
RHSC & DCN - Little France
NHS Lothian





Record of General Risk Assessment

Name of Assessor(s): Posts Held:	Janice Mackenzie, Clinical Director Dorothy Hanley, RHSC Commissioning Lead Fiona Halcrow, Project Manager	Date of Original Assessment:	05/07/17. Reviewed 29/1/18
Manager Responsible:	Janice MacKenzie		
Department:	RHSC & DCN Reprovision Project		
Subject of Assessment: Consider Task or Environment.			
<p>Bedroom Ventilation design in 4 bedded rooms does not meet the recommendations of SHTM 03-01, as the current design has the 4 bedded rooms as being positive pressure.</p> <p>To allow cohorting of patients with the same air-borne infections these rooms require to be balanced or negative pressure.</p> <p>The Board have previously accepted that there is no need for cohorting of patients within DCN as they can operationally manage this due to the number of single rooms and types of patients and the need for cohorting of infectious patients would be extremely rare.</p> <p>Whilst the Board can rationalise the number of 4 bedded rooms where the ventilation needs to change within RHCYP it should be noted that this does reduce overall flexibility and future-proofing. A further review was undertaken with the Children's CMT in January 2018 of the initial risk assessment completed in July 2017 to ascertain what 4 bedded rooms would be essential. Given the different patient groups related to specific wards, separate risk assessments have been undertaken (see attached). Individual risk assessments have identified that the need for cohorting of patients is only an issue for the Children's Service. Risk assessment highlights that it is essential to change the ventilation in 7 of the 4 bedded rooms within RHCYP. It would be desirable to change the ventilation in 6 of the 4 bedded rooms within RHCYP. No change to 7 of the 4 bedded rooms in RHCYP and DCN</p> <p>The risk assessments have been discussed with the Children's CMT and Infection Control & Prevention who have confirmed that not having the ability to cohort patients is not acceptable from a patient safety perspective. A summary of risk for each area is provided after Section 3.</p>			
Step 1: What are the Hazards?			
<p>Overall Risks:-</p> <ul style="list-style-type: none"> • The inability to cohort patients with air-borne infections in a clinically safe environment • Clinical risk to isolating babies and children under two years of age with airway compromise i.e RSV • Need for increased staffing requirements due to the observation and interventions required in this patient group if nursed in single rooms • Reduction in overall flexibility and future proofing would be limited if change of use of a ward/s was required • Reputational risk as one of the key drivers, as outlined in the FBC, is to provide improved modern facilities that overcome the challenges currently faced within the existing facilities that cannot be adapted to provide the best services possible. <p>See separate risk assessments for inpatient ward/s as the risk rating for each ward/s is different dependent upon the patient group and clinical risk</p>			
Step 2: Who might be harmed and how?			
See separate risk assessments for specific ward/s			
Step 3: What are you already doing? (Existing Precautions)			
<p>Generic Precautions</p> <ul style="list-style-type: none"> • Isolation rooms have positive pressure lobby which acts as an air curtain and also have a hepa-filter to prevent the transfer of air-borne infection from the corridor into the room or the room into the corridor. • All single rooms have balanced or slightly negative pressure. • Increase in the number of single and isolation rooms (See separate risk assessment for the number of isolation and single rooms by ward) from 30% to 62%. • Ability to flex beds between adjacent wards giving greater flexibility • Within RHCYP wards there will be technology to remotely monitor patient oxygen saturation levels and heart rate 			

Summary of Risk by Ward/s (Essential to have ventilation changed)

Ward/s	Proposed Action	Risk Rating If No Change	Risk Rating if Change Implemented
RHCYP - PARU	All three 4bedded rooms (A2- 028, 046 & 054)	15	4
RHCYP – Medical Inpts	All two 4bedded rooms(C1.1-018 & 046)	10	3
RHCYP – Critical Care	One 4 bedded room low acuity HDU (B1-	9	3

Summary of Risk by Ward/s (Desirable to have ventilation changed)

RHCYP – Critical Care	4 bedded room intensive care (1-B1-009)	8	2
RHCYP – Surgical Long Stay Ward	All two 4 bedded rooms (C1.2-023 & 026)	6	2
RHCYP - Neurosciences	All two 4 bedded rooms (C1.3-011 & 013)	6	2
RHCYP – Medical Day Case Unit	One 3 bedded room (D9-022)	6	2

Summary of Risk by Ward/s (No change to ventilation)

RHCYP – Surgical Short Stay Ward	No change to ventilation in the two 4 bedded rooms	1	
RHCYP – Critical Care	No change to high acuity 4 bedded room (B1-031)	1	
RHCYP – Haematology Oncology Day Care	No change to ventilation in the two multi-bed day care areas	1	
DCN – Acute Care Ward	No change to ventilation in the two 4 bedded rooms	1	

Step 4: Action Plan

What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
<p>Clear Guidance in the Building Users Guide as to what 4 bedded rooms can be used to cohort patients with air-borne infections</p> <p>See separate risk assessments for specific actions by ward/s</p>	Jane Campbell	March 2018	

Step 5: Review Table

Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)
08/02/19	Janice Mackenzie	Consideration of IT feedback and ongoing discussions with IHSL	Approved by CMT 29/1/18

Record of General Risk Assessment

Name of Assessor(s): Posts Held:	Janice Mackenzie Dorothy Hanley Peter Campbell	Date of Original Assessment:	05/07/17
Manager Responsible:	Peter Campbell, Deputy Associate Nurse Director – Children's Services		
Department:	RHSC & DCN Reprovision Project - RHCYP PARU (A2)		
Subject of Assessment: Consider Task or Environment.			
Ability to cohort patients within PARU			
Step 1: What are the Hazards?			
Significant clinical risk to isolating babies and children under two years of age with airway compromise, some of whom may have co-morbidities where isolation in single room carries additional clinical risk.			
If PARU has no cohort areas the hazards are:-			
<ul style="list-style-type: none"> • There is a risk that the 6 shelled beds would require to be opened and additional staffing resource would be required • Additional staffing would be required to safely care for these patients in single rooms due to the level of observation and intervention required. This has not been accounted for in the agreed workforce plan. • Reduction in the overall capacity within RHCYP as more single rooms would be required to be used to board patients potentially resulting on the cancellation of elective patients. • Reliance on remote patient monitoring for oxygen saturation and heart rate to ensure patient safety is increased 			
The Children's CMT have confirmed that all three of the 4 bedded rooms to have negative/balanced pressure			
Step 2: Who might be harmed and how?			
Patients: -			
<ul style="list-style-type: none"> • Boarding of patients into other specialities is a recognised clinical risk. • Patients from whom cohorting may be safest clinical option despite the availability of a single room e.g a child under two years of age with respiratory infection plus co-morbidity (cardiac or neurological) who because of their complex underlying condition need constant observation. 			
Step 3: What are you already doing? (Existing Precautions)			
PARU has 34 beds:-			
<ul style="list-style-type: none"> • 3 x 4 bedded rooms • 1 x isolation room • 21 x single rooms 			
Increased number of beds in single rooms and 4 bedded rooms as opposed to 6 bedded rooms (in existing hospital).			
Procuring a remote monitoring system for oxygen saturation and heart rate to alert staff to a potential deterioration in patient's condition			

Level of Risk with no cohort area

15

Level of Risk with cohort area

4

Step 4: Action Plan			
What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
Careful selection of patients for boarding	Nursing & Medical Teams	Ongoing	
Use of remote technology to assist with monitoring of patients in single rooms	Nurse in Charge & Consultant	Ongoing	
Clear guidance in the Building Users Guide regarding cohorting of patients with air-borne infections	Jane Campbell	March 2018	

Step 5: Review Table			
Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)
08/02/19	Janice Mackenzie	Consideration of IT feedback and ongoing discussions with IHSL	Approved by CMT 29/1/18
A46286724			

Record of General Risk Assessment

Name of Assessor(s): Posts Held:	Janice Mackenzie Dorothy Hanley Peter Campbell	Date of Original Assessment:	05/07/17
Manager Responsible:	Peter Campbell, Deputy Associate Nurse Director		
Department:	RHSC & DCN Reprovision Project – RHCYP Medical Inpatients (C1.1)		
Subject of Assessment: Consider Task or Environment.			
Ability to cohort patients within Medical Inpatients			
Step 1: What are the Hazards?			
<p>Despite the fact it is planned that PARU will take all of the acute general admissions, reliance on a cohort area within this ward is only marginally reduced, particularly in times of peak activity when PARU would be unable to accommodate all of the RSV patients.</p> <p>The Children's CMT have confirmed that all three of the 4 bedded rooms to have negative/balanced pressure</p>			
Step 2: Who might be harmed and how?			
Patients from whom cohorting may be safest clinical option despite the availability of a single room e.g a child under two years of age with respiratory infection plus co-morbidity (cardiac or neurological).			
Step 3: What are you already doing? (Existing Precautions)			
Increased number of single and isolation rooms within medical inpatients:- <ul style="list-style-type: none"> • 2 x 4 bedded bays • 4 x Isolation Rooms • 11 x single rooms <p>Procuring a remote monitoring system for oxygen saturation and heart rate to alert staff to a potential deterioration in patient's condition</p>			

Level of Risk if no change made

10

Level of Risk with Cohort Areas

3

Step 4: Action Plan			
What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
Careful selection of patients for boarding	Nursing & Medical Teams	Ongoing	
Use of remote technology to assist with monitoring of patients in single rooms	Nurse in Charge & Consultant	Ongoing	
Clear guidance in the Building Users Guide regarding cohorting of patients with air-borne infections	Jane Campbell	March 2018	

Step 5: Review Table			
Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)
08/02/19	Janice Mackenzie	Consideration of IT feedback and ongoing discussions with IHSL	Approved by CMT 29/1/18

Record of General Risk Assessment

Name of Assessor(s): Posts Held:	Janice Mackenzie Dorothy Hanley Fiona Halcrow	Date of Original Assessment:	05/07/17
Manager Responsible:	Peter Campbell, Deputy Associate Nurse Director – Children's Services		
Department:	RHSC & DCN Reprovision Project – RHCYP Critical Care (B1)		
Subject of Assessment: Consider Task or Environment.			
Ability to cohort patients within Critical Care Unit			
Step 1: What are the Hazards?			
Clinical risk is still relatively high if no cohort area available and therefore operationally to retain the ability to cohort within B1-063 (low acuity HDU) and B1-065 (surgical neonates) is essential and it would be clinically and operationally desirable for B1-009 (intensive care).			
The Children's CMT have confirmed that all three of the 4 bedded rooms to have negative/balanced pressure			
Step 2: Who might be harmed and how?			
Patients through spread of infection.			
Step 3: What are you already doing? (Existing Precautions)			
Critical Care (B1) – 24 beds <ul style="list-style-type: none"> • 1 x 4 bedded rooms (low acuity) • 2 x 4 bedded bays (intensive care & high acuity) • 1 x 3 bedded room (surgical neonates) • 4 x isolation rooms • 5 x single rooms <p>The increased number of single rooms and a higher nurse to patient ratio within the Critical Care Unit will help mitigate the risk of nursing patients in single rooms</p>			

Level of Risk if no cohort area

9

Level of Risk if cohort retained

3

Step 4: Action Plan			
What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
In the Building Users Guide need to state that two 4 bedded rooms (ITU & high acuity high dependency) and one three bedded room (surgical neonates) cannot be used to cohort patients with air-borne infections	Jane Campbell	March 2018	
Careful placement of patients within the designated areas	Senior Nurse in Charge & Consultant	Ongoing	

Step 5: Review Table			
Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)
08/02/19	Janice Mackenzie	Consideration of IT feedback and ongoing discussions with IHSL	Approved by CMT 29/1/18

Name of Assessor(s): Posts Held:	Janice Mackenzie Dorothy Hanley Fiona Halcrow	Date of Original Assessment:	05/07/17
Manager Responsible:	Peter Campbell, Deputy Associate Nurse Director – Children’s Services		
Department:	RHSC & DCN Reprovision Project – RHCYP – Surgical Wards (C1.2 & C1.8)		
Subject of Assessment: Consider Task or Environment.			
Ability to cohort patients with air-borne infections within the Surgical Wards			
Step 1: What are the Hazards?			
<ul style="list-style-type: none"> It would be clinically and operationally desirable for the 2x 4 bedded rooms in Surgical Long Stay (C1.2-023 & 026) to provide future proofing and flexibility Clinical risk is low as increased number of single rooms within Medical wards reduces the need to board patients into the surgical wards from the medical wards Compromise possible in not altering ventilation in the 4 bedded rooms in Surgical Short Stay but reduces flexibility and future proofing 			
Step 2: Who might be harmed and how?			
Patients through spread of infection. Potential cancellation of elective surgical cases as staff group will be required to deliver 1:1 care who potentially could be cared for within a cohort area			
Step 3: What are you already doing? (Existing Precautions)			
<p>There are two surgical wards:-</p> <p>Surgical Short Stay has 14 beds:-</p> <ul style="list-style-type: none"> 2 x 4 bedded rooms 6 x single rooms <p>Surgical Long Stay has 15 beds:-</p> <ul style="list-style-type: none"> 2 x 4 bedded rooms 7 x single rooms <p>Increased number of beds within PARU and medical inpatients to reduce the need to board patients</p>			

Level of Risk if no cohort area in either ward

6

Level of Risk if cohort retained in Surgical Long Stay

2

Step 4: Action Plan			
What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
In the Building Users Guide need to state that these 4 bedded rooms cannot be used to cohort patients with air-borne infections	Jane Campbell	March 2018	

Step 5: Review Table			
Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)
08/02/19	Janice Mackenzie	Consideration of IT feedback and ongoing discussions with IHSL	Approved by CMT 29/1/18

Record of General Risk Assessment

Name of Assessor(s): Posts Held:	Janice Mackenzie Dorothy Hanley Peter Campbell	Date of Original Assessment:	05/07/17
Manager Responsible:	Peter Campbell, Deputy Associate Nurse Director – Children's Services		
Department:	RHSC & DCN Reprovision Project – RHCYP – Neurosciences (C1.3)		
Subject of Assessment: Consider Task or Environment.			
Ability to cohort patients within Neurosciences Ward			
Step 1: What are the Hazards?			
<ul style="list-style-type: none"> It would be clinically and operationally desirable for the 2x 4 bedded rooms to provide future proofing and flexibility Clinical risk is low as increased number of single rooms within Medical wards reduces the need to board patients into the neuroscience ward from the medical wards 			
Step 2: Who might be harmed and how?			
Patients through spread of infection. Potential cancellation of elective cases as staff group will be required to deliver 1:1 care who potentially could be cared for within a cohort area			
Step 3: What are you already doing? (Existing Precautions)			
The Neurosciences Ward has 12 beds <ul style="list-style-type: none"> 2 x 4 bedded rooms 1 x isolation room 3 x single rooms <p>Increased number of single rooms including one isolation room within this ward to allow the ward to care for neurosciences patients with an infection within the ward and not board in other wards which is the case in the existing hospital.</p>			

Level of Risk if no cohort area

6

Level of Risk if cohort retained

2

Step 4: Action Plan			
What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
In the Building Users Guide need to state that these 4 bedded rooms cannot be used to cohort patients with air-borne infections	Jane Campbell	Mach 2018	

Step 5: Review Table			
Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)
08/02/19	Janice Mackenzie	Consideration of IT feedback and ongoing discussions with IHSL	Approved by CMT 29/1/18

Name of Assessor(s): Posts Held:	Janice Mackenzie Dorothy Hanley Peter Campbell	Date of Original Assessment:	05/07/17
Manager Responsible:	Peter Campbell, Deputy Associate Nurse Director – Children's Services		
Department:	RHSC & DCN Reprovision Project – RHCYP – Medical Day Case Unit (D9)		
Subject of Assessment: Consider Task or Environment.			
Ability to cohort patients within Medical Day Case Unit			
Step 1: What are the Hazards?			
<ul style="list-style-type: none"> It would be clinically and operationally desirable for the 3 multi-bedded room to provide future proofing and flexibility Clinical risk is low as increased capacity and number of single rooms within Medical wards reduces the need to have to open the MDCU for medical inpatients 			
Step 2: Who might be harmed and how?			
Patients through spread of infection. Potential cancellation of elective surgical cases as staff group will be required to deliver 1:1 care who potentially could be cared for within a cohort area			
Step 3: What are you already doing? (Existing Precautions)			
The Medical Day Case Unit has:- <ul style="list-style-type: none"> 1x3 bedded room (less sqm per space than an inpatient ward) 2 x single rooms Increased capacity within the medical wards and single rooms and isolation rooms within these wards			

Level of Risk if no cohort area

6

Level of Risk if cohort retained

2

Step 4: Action Plan			
What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
In the Building Users Guide need to state that these 4 bedded rooms cannot be used to cohort patients with air-borne infections	Jane Campbell	Mach 2018	

Step 5: Review Table			
Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)
08/02/19	Janice Mackenzie	Consideration of IT feedback and ongoing discussions with IHSL	Approved by CMT 29/1/18

Record of General Risk Assessment

Name of Assessor(s): Posts Held:	Janice Mackenzie Dorothy Hanley Peter Campbell	Date of Original Assessment:	05/07/17
Manager Responsible:	Peter Campbell, Deputy Associate Nurse Director – Children’s Services		
Department:	RHSC & DCN Reprovision Project – RHCYP Haematology/Oncology Ward (C1.4)		
Subject of Assessment: Consider Task or Environment.			
Patient pathway for day care patients with a known infection			
Step 1: What are the Hazards?			
This is a combined inpatient and day care facility, however the design separates these two areas. Operationally the clinical team have already agreed a compromise where patients with infections coming to day care would be dealt with in the consulting room within day care or the inpatient facility. The Board have previously accepted that they can operationally manage these areas without a change in ventilation to the 2 day care rooms.			
Step 2: Who might be harmed and how?			
N/A			
Step 3: What are you already doing? (Existing Precautions)			
Haematology/Oncology Ward has 17 inpatient beds and 9 day care beds/trolleys:- <ul style="list-style-type: none"> 5 x isolation rooms 12 x single rooms 1 x 6 bedded day care room 1 x 3 bedded day care room <p>Operational policy has been agreed for the management of day care patients with an infection</p>			

Level of Risk

1

Step 4: Action Plan			
What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
In the Building Users Guide need to state the type of pressure in the Day Care areas	Jane Campbell	March 2018	
Written patient pathway and operational policy for the management of day care patients with an infection	Charge Nurse & Lead Consultant	March 2018	

Step 5: Review Table			
Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)

Record of General Risk Assessment

Name of Assessor(s): Posts Held:	Janice Mackenzie Dorothy Hanley Fiona Halcrow	Date of Original Assessment:	05/07/17
Manager Responsible:	Hester Niven, Clinical Nurse Manager DCN		
Department:	RHSC & DCN Reprovision Project – DCN Wards		
Subject of Assessment: Consider Task or Environment.			
Ability to cohort patients with air-borne infections within DCN wards			
Step 1: What are the Hazards?			
The Board have previously accepted that they can operationally manage these wards due to the number of single rooms and types of patients and the need for cohorting of infectious patients would be extremely rare			
Step 2: Who might be harmed and how?			
N/A			
Step 3: What are you already doing? (Existing Precautions)			
<p>DCN has three wards:-</p> <p>DCN Acute Care (L1) – 24 beds</p> <ul style="list-style-type: none"> • 2 x 4 bedded rooms • 1 x isolation room • 15 x single rooms <p>DCN Inpatients Wards (L2) – 43 beds</p> <ul style="list-style-type: none"> • 2 x isolation room • 41 x single rooms <p>Significant increase in the number of single rooms as compared to existing facility</p>			

Level of Risk

1

Step 4: Action Plan			
What further action is necessary?	Action By Whom	Action by when (dd/mm/yy)	Action completed. (dd/mm/yy)
In the Building Users Guide need to state that these 4 bedded rooms cannot be used to cohort patients with air-borne infections	Jane Campbell	March 2018	

Step 5: Review Table			
Date (dd/mm/yy)	Reviewer	Reasons for review	Approved/Not Approved by (dd/mm/yy)

NOTES	
Meeting Title:	RHCYP + DCN Programme Board
Date/Time:	13 May 2019 / 14.30 – 16.30
Location:	MacKinlay Room, RHSC&DCN Project Office, Little France Crescent
Present:	As per attendance list : Iain Graham (Chair)(IG); Brian Currie (BC); George Curley (GC); Callum Gordon (CG), Stuart Davidson (SD), Janice MacKenzie (JMck), Ronnie Henderson (RH), Angela Timoney (AT), Judith Mackay (JMck), Lynsey Cullen (LC), Edward Doyle (ED), Michael Pearson (MP), Fiona Mitchell (FM), Sorrel Cosens (SC), Ann Fitzpatrick (AF), Dawn Carmichael (DC), Mairi Macrae (MMc), Donna Stevenson (DS), Cathy Richards (CR), Janis Butler (JB).
Item	Action
1. Introductions / Apologies	
Jim Crombie; Susan Goldsmith; Nick Bradbury; Alison Hynd; Chris Stirling.	
2. Previous Action Notes from 06 February 2019	
Note of the previous meeting was accepted.	
3. Project Dashboard / Post Handover Activities (paper enclosed)	
<p>Actual completion was 22nd February 2019.</p> <p>Confirm migration of services will be 5th to 15th July 2019.</p> <p>ED RHCYP will open on 9th July 2019 at 08.00hrs, when the existing department will close.</p> <p>Familiarisation is ongoing until 14th June. 3 tours per day, 15 staff per tour.</p> <p>IHSL are unable to complete Hospital Square works and they won't be complete by July 2019. This does present a Health and Safety risk, but there is a contingency plan available and in development.</p> <p>Angiography and Fluoroscopy works are back on schedule.</p> <p>Work to disband the Commissioning Team is progressing.</p> <p>Void Detection work is progressing.</p> <p>Heater Battery work is ahead of schedule.</p> <p>Drainage solution is progressing.</p> <p>BYES/MPX interface is challenging.</p> <p>Doors and security access are an ongoing issue and require to be resolved prior to hospital being operational.</p> <p>Lifts are an issue – BYES are being proactive with an emphasis on resolving.</p> <p>MPX are still undertaking water management and no date yet for this to be handed over to BYES.</p> <p>There are currently 2000 snags on the system.</p> <p>Deliveries are ongoing.</p>	

	<p><u>Technical Items</u></p> <p>Access pass system is not working fully and needs to be rectified before hospital operational</p> <p>Resilience with boilers still to be resolved – a recent gas leak resulted in boilers being off and were unable to be run on oil.</p> <p>Heat stations were experiencing excessive temperatures – calorifiers were being reinsulated and ventilation may be an issue.</p> <p>GC asked regarding pending changes in water management. BC confirmed relevant guidance has been shared with IHSL and that there was a meeting with NHSL Infection and Prevention Control Team on 5th May. Confirmed issues with water quality were minimal and that ventilation is on the residual risk register.</p> <p>A third part external audit has been undertaken by Callidus and the Final Report was awaited. BC stated there were outstanding actions for IHSL and further information sought in connection with water management. DS requested a copy of the Calidus Report once received.</p>	
<p>4.</p>	<p>Residual Risks and Risk Register (<i>risk registers enclosed</i>)</p> <p>Residual risk register is in development.</p> <p>Commissioning Team had reviewed and de-risked the project risk register with most risks closed or downgraded.</p> <p>Sumps mitigated by additional works.</p> <p>Potential moulds and fungi associated with the water pipe rupture in June 18 were unique to this project and as per register. Process for monitoring is ongoing.</p> <p>Movement joints – Infection Control comments had highlighted and reinforced workmanship issues which were outstanding/to be finished.</p> <p>Automated gates on the service yard due to space restrictions were still considered a risk.</p> <p>Access hatches – balance to mitigate the number present within clinical areas.</p> <p>Fusion welded pipes above MRI suites were considered suitable mitigation measures.</p> <p>Access to fire/smoke dampers – BYES were reviewing all maintenance requirements as a first pass prior to occupation in order to mitigate risks.</p> <p>Helipad odours – not yet known until the first test flight (being arranged imminently).</p> <p>Fluoroscopy risk is reduced.</p> <p>Performance remains a risk until the building is operational.</p> <p>Confirmation required from CAMHS as to whether On Call issue is now resolved. Gwyneth Bruce to confirm.</p>	<p>GB</p>
<p>5.</p>	<p>Commissioning + Migration Update</p> <p>Weekly Lookahead meetings being held with MPX, BYES and IHSL to review progress of works being undertaken</p> <p>Building induction continues until 14th June 2019.</p> <p>Local familiarisation will happen from 17th June to 3rd July 2019 although we are where appropriate giving early access to areas and this is being well received by staff.</p>	

	<p>There is a detailed move plan for during the migration period. Migration plan is agreed with the Scottish Ambulance Service. A paramedic vehicle will be outside RHSC ED once it is closed for 24 hours.</p> <p>Security, Porters and Domestics are in RHCYP&DCN. Equipment is being delivered. Catering staff are being recruited. Decluttering of RHSC & DCN continues.</p>	
6.	<p>Sciennes Road Decommissioning G4S appointed to secure the building with additional CCTV and HERAS Fence surrounding. CG Proposed Harrow Green to empty RHSC once NHSL Decommissioning Sweep concluded. Meeting endorsed. Removal of Stained Glass Windows in RHSC discussed. Meeting endorsed costs to be met from decommissioning. Risk regarding SEPA and radiological commissioning: 13 weeks from receipt of information to revocation of licence. Decommissioning team were looking at mitigations for the removal of radioactive wastes.</p>	
7.	<p>RHCYP Service Update Feedback from Family Council & Young Persons visit was very positive.</p>	
8.	<p>DCN Service Update Nothing specific to highlight.</p>	
9.	<p>CAMHS Service Update CAMHS are Decluttering. South Edinburgh transferring to Lauriston 14th June 2019.</p>	
10.	<p>Finance Update</p>	
11.	<p>Contract Management Update SD highlighted the paper. High level concerns were focussed on the large number of Building related 'defects' which were being reported through the Helpdesk. Typically this included issues regarding lifts, fire doors and hydro-boil taps. This was having a detrimental effect on the FM Service provider. The volume of changes was an issue for IHSL and performance was sadly lacking in this area. At this stage of transition it was likely that this level of change requests were foreseeable and IHSL should be staffed accordingly. SD highlighted the issue over resourcing of the Contract Management role moving forward and that SD was unsupported and therefore in periods of illness or annual leave who would staff and liaise with IHSL to ensure business contingency from the Boards perspective. SD stated that as yet the FM Service Provider was not fully staffed with circa 6 posts to fill. Alternative provision from within the BYES company</p>	

	<p>was providing short term coverage of contracted positions however this was not considered a long term solution.</p> <p>SD indicated the formal Monthly Contract Review meeting was being held tomorrow (14th May 2019).</p>	
12.	<p>Travel Plan Update SD summarised the paper. The Travel Plan was a focus, campus-wide, on how users travel to and from the site with an emphasis towards reducing the number of journeys taken by private car.</p> <p>SD noted the initial focus for the Travel Plan was driven by a Planning Condition however the solution to an effective approach was to tackle the issue campus wide. This led to a collaborative approach through the engagement and coordination with the Edinburgh BioQuarter partners, namely the City of Edinburgh Council, Scottish Enterprise, the University of Edinburgh and NHS Lothian.</p> <p>SD noted the ongoing challenges and resources necessary to tackle and resolve this issue. It was considered beyond the capacity of this Programme Board as the effects would be impacting on the entire campus and that this issue needed to be taken to the Executive.</p>	
13.	<p>Communications Update Awareness campaign starts running next Monday (20th May 2019) and runs till 21st July. Leaflet is printed and for distribution by Royal Mail to all households in Lothian. Digital toolkit for schools, pharmacies, GPs, Dentists, and all Scottish Health Boards is complete. Advertising Radio Forth and buses. Farewell Service at RHSC on 23rd June 2019. Official opening may be October 2019.</p>	
14.	<p>Any Other Business BC: Next meeting 5th August. Consider if any are required thereafter.</p>	
15.	<p>Next Meeting 5th August at 2pm</p>	

From: Haig, Karen
Sent: 09 May 2019 10:21
To: Morrison Alan (SCOTTISH GOVERNMENT HEALTH & SOCIAL CARE DIRECTORATE); [REDACTED] Alison Mitchell; alison [REDACTED]; Bradbury Nick (NHS Lothian); BUTLER, Janis (STATE HOSPITALS BOARD FOR SCOTLAND); Carmichael Dawn (NHS Lothian); POTTER, Carol (NHS Fife); Conroy, Michael; [REDACTED] CROMBIE, James (NHS Lothian); Cullen, Lynsey; [REDACTED] Currie Brian (NHS Lothian); Denholm, David; [REDACTED]; Doyle, Edward; Duncan-Rusk, Adam; EGAN, Martin (NHS Lothian); Fitzpatrick, Ann X; [REDACTED] Hanley, Dorothy; Hopton Jane (NHS Lothian); Hynd, Alison; MACKAY, Judith (NHS Lothian); Mackenzie, Janice; McCrae, Mairi; Mitchell, Fiona (Director); Pearson, Michael; Rankin, Sharon; Richards Cathy (NHS Lothian); Stirling, Chris; Timoney Angela (NHS Lothian)
Cc: Bruce, Gwyneth; Burnside Karen (NHS Lothian); Campbell, Jane Y; [REDACTED] Flett, Emma; Grieve Lynn (NHS Lothian); Hill Shirley C (NHS Lothian); McKinnon, Jenny; MCNULTY, Debi (NHS Lothian); Muir Michaela (NHS Lothian); Notman, Carol; Shah Mashoodha (NHS Lothian); MCBAIN, Shelley (NHS Fife); Stacey, Ian; [REDACTED] Wright, Linda A
Subject: RHSC & DCN Programme Board Meeting, Monday 13 May 2019 - Papers
Attachments: 080519 RHCYP DCN Residual Risks.xlsx; Risk Register for PB 080519.xlsx; RHSC & DCN Dashboard Update 13 May 2019.doc; EbQ Travel Plan 2017 (DRAFT_Client Issue).pdf; RHSC & DCN Programme Board Papers May 13th 2019.pdf

Dear All

Please find the attached papers for Monday's meeting as below:-

RHSC & DCN Programme Board Meeting
Monday 13 May 2019, 14:30 – 16:30
Mackinlay Meeting Room, RHCYP Little France

Regards

Karen Haig
Project Administrator
RHCYP & DCN, - Little France
NHS Lothian





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RHCYP + DCN
 Residual Risks post Hospital "Live" Date
 Source - 81 technical items / compromise list / Project Co Change list / Emerging Issues
 08-May-19

Title	Category of Issue	Status	Compromise / Risk	Impact Scored	Score Pre Mitigation			Mitigation Measures Undertaken	Score Post Mitigation			Future Mitigation (requires appropriate design reviews to confirm feasibility)
					Likelihood	Consequence / Impact	Score		Likelihood	Consequence / Impact	Score	
1 Ventilation contamination	Patient Safety risk	Pest control / vermin have been identified in plant spaces.	Whilst mitigation measures have been provided by Project Co, there remains a risk that ventilation contamination is still present.	Patient safety	5	5	25	Plant rooms cleaned by IHSL (Bouygues) and further pest control measures deployed by IHSL (Bouygues). Reviewed by Infection Prevention & Control and Microbiology.	1	5	5	
2 Water contamination	Patient Safety risk	Project Co provided samples that included failed TVC, Legionella and Pseudomonas. Disinfection has been undertaken on parts of the system, and re-testing has taken place, however some samples are still failing, particularly around the zip taps.	Whilst mitigation measures have been provided by Project Co, there remains a risk that water contamination is still present.	Patient safety	5	5	25	Disinfection and full re-testing of the water supply completed satisfactorily as at 2 May 2019. MPX remain responsible for water management at time of writing (2 May 2019).	1	5	5	
3 Cable Calculations	Patient safety risk / Operational	The Board are struggling to understand how compliance has been demonstrated with the following regulations; • BS7671 regulation 512.1.5 requires that "Every item of equipment shall be selected and erected so that it will neither cause harmful effects to other equipment nor impair the supply during normal service including switching operations. Switchgear, protective devices, accessories and other types of equipment shall not be connected to conductors intended to operate at a temperature exceeding 70 °C at the equipment in normal service, unless the equipment manufacturer has confirmed that the equipment is suitable for such conditions". • BS 7671 regulation; 523.1 (note b) requires that "Where a conductor operates at a temperature exceeding 70 °C, it shall be ascertained that the equipment connected to the conductor is suitable for the resulting temperature at the connection". • BS 7671 90 "cable tables e.g. Table 4E4, state that "Where it is intended to connect the cables in this table to equipment or accessories designed to operate at a temperature lower than the maximum operating temperature of the cable, the cables should be rated at the maximum operating temperature of the equipment or accessory (see Regulation 512.1.5)." The Board have however accepted Project Co installation.	Residual risk as follows; •No intrinsically safe way of limiting the cable temperatures to 70Deg C •The potential for nuisance and uncontrolled tripping due to thermal effects •The patient safety as a result of nuisance tripping •The negative impact on equipment within the system that are not designed to operate above 70Deg C •Future fault finding would be difficult trying to establish why the circuit is tripping when the load is less than the trip setting	Operational restrictions as additional equipment installed through time.	5	5	25	IHSL, MPX, Wallace Whittle and DSSR have assured the Board the system is intrinsically safe to the satisfaction of the Independent Tester.	3	3	9	IHSL could address the Boards comments.
4 Basement sump	Risk of pump failure resulting in lack of sanitary appliances in clinical areas, and flooding in the basement.	Project Co have provided a non-compliant design, however have provided mitigation measures as set out in the Settlement Agreement.	Whilst mitigation measures have been provided by Project Co, there remains a risk that all the pumps will fail, and the risk realised.	Operational impact as follows; - Potential unavailability of the kitchen / basement. - Clinical areas on all floors subject to water usage restrictions resulting in increased workload for staff.	5	5	25	Through the settlement agreement, Project Co provided mitigation measures. The Board impact / continuity plans are now in place.	1	5	5	Complete re-design of the basement sump including the provision of storage and diverting above ground flows away from the basement. This would involve major construction works that would involve breaking of the basement slab.
5 PARU garden sump issues	Risk of pump failure resulting in lack of sanitary appliances in clinical areas, and flooding in the PARU gardens or PARU department.	Project Co have provided a non-compliant design, however have provided mitigation measures as set out in the Settlement Agreement.	Whilst mitigation measures have been provided by Project Co, there remains a risk that all the pumps will fail, and the risk realised.	Operational impact as follows; - Potential unavailability of the PARU gardens or PARU department. - Clinical areas on all floors subject to water usage restrictions resulting in increased workload for staff.	5	5	25	Through the settlement agreement, Project Co provided mitigation measures, including a vac tanker if required. The Board impact / continuity plans are now in place.	2	5	10	Complete re-design of the PARU gardens sump including the provision of storage and diverting above ground flows away from the basement. This would involve major construction works that would involve breaking of the basement slab.
6 Moulds + Fungus	Operational	Hot water supply pipe failed (crimped joint - poor workmanship) and flooded level 1, Ground Floor and the basement of the Facility. Similar event could re-occur.	There is the possible microbiological risk if any damp building materials have not been removed as they are predisposed to growing moulds and fungus over future months which could be a risk to patients susceptible to infection	Potential infection control increase to patients due to exposure to mould (Aspergillus)	5	5	25	Following an infection control walkround and review of the remedial strategy and SBAR completed, Project Co have removed damaged plasterboard, replaced flooring, replaced damaged fixtures and fittings affected etc.	1	5	5	Project Co to survey with a gamma camera all joints to establish whether connections are appropriate. Add in additional flow monitors (active monitoring), in order that should the event re-occur, it would be identified immediately. Monitor with moisture / damp meters.
7 Water Pipe Joint Failure event re-occurring	Operational	Hot water supply pipe failed (crimped joint - poor workmanship) and flooded level 1, Ground Floor and the basement of the Facility. Similar event could re-occur.	There is the possible microbiological risk if any damp building materials have not been removed as they are predisposed to growing moulds and fungus over future months which could be a risk to patients susceptible to infection	Leakage re-occurring.	5	5	25	Project Co surveyed with a gamma camera a sample of joints to establish whether connections are appropriate. During the operational phase, the hospital will be occupied and therefore any water damage would be identified earlier than during the construction phase.	1	5	5	Project Co to survey with a gamma camera all joints to establish whether connections are appropriate. Add in additional flow monitors (active monitoring).
8 HV distribution	Patient safety risk - life critical - potential complete loss of power to the Facility.	Project Co have amended the design as part of the settlement agreement.	The Board has compromised on the Financial Close Design. The final design is not as robust as that proposed at Financial Close.	The loss of power from SFERS turning off one of the sub stations during the fighting of a fire resulting in a reliance on the UPS backup power to critical systems only (circa 1hr)	5	5	25	The design of the intake substation has been re designed by Project Co to reduce the risk of complete loss of power to the Facility. The proposed gas suppression system mitigates the risk of complete loss of power to the facility, albeit there is a small risk that in the event of a major fire, the fire brigade may still require complete shut down of the substations, however in this scenario, the critical systems in the hospital would be backed up by the UPS for 1 hour.	1	5	5	Re-design /construct the HV cable routing back to the Financial Close design.
9 Movement Joints	Clinical Impact - non compliance with the BCR's.	Project Co Change - Project Co has designed the movement joint through the key exclusion zones identified in the BCR's.	There are movement joints which has been placed in clinical areas rather than non clinical areas. This is resulting in an increased operational and infection control risk for all areas where movement joint has been incorrectly located (i.e. within a clinical area). The affected rooms will likely be unavailable more often and will require more intensive cleaning regime, this additional cleaning regime will be undertaken by NHS Lothian.	Increased maintenance by Project Co (BYES) and cleaning by NHS Lothian in critical clinical areas.	5	4	20	Following review with NHS Lothian Project Team including Infection Control and BYES, Project Co used MJ specification (C/S Allway DGTR-400) to mitigate infection control impact in clinical areas.	3	3	9	There are no current practical further mitigation measures, the Hospital would have to be re-built to solve the issue.

Title	Category of Issue	Status	Compromise / Risk	Impact Scored	Likelihood	Consequence / Impact	Score	Mitigation Measures Undertaken	Likelihood	Consequence / Impact	Score	Future Mitigation (requires appropriate design reviews to confirm feasibility)	
10	Basement sump	H&S risk of odours spreading in basement area including main kitchen	Project Co's foul drainage design in the basement locates the pump within the corridor outside the kitchen area. This has the potential to create uncomfortable odours in an area where food is being prepared and a frequent thoroughfare to those using the basement.	Maintenance of the pump will close off this section of the corridor and affect FM activities. On a more general note staff will potentially have to work in an uncomfortable odour that again affects the overall atmosphere of the basement working environment.	Operational impact as follows; - Potential unavailability of the kitchen / basement. - Restrictions on use of corridor during maintenance. - Increased pest control activities during maintenance. - Possible noise issues on ground floor when the pump is discharging.	5	4	20	Project Co developed a ventilation strategy proposal that allows for a temporary enclosure around the chamber to be constructed, and odour/charcoal filter to resolve odours when the chamber is being maintained. Project Co also to include methodology for the opening of the sump.	3	3	9	The basement sump and drainage beneath the basement slab would have to be moved. This would involve major construction works that would involve breaking of the basement slab.
11	Service Yard gate	Operational Impact	Project Co have attempted to resolve design issues, however fundamentally compromised design.	Project Co have provided an automatic gates solution, when the Boards preference was for a manual gate and automatic barrier solution. Loss of vehicle control in to the service yard when gates are slow moving to open for a vehicle exit. Entering vehicles will not stop at intercom. Vehicles will try to rush slow moving gates. Pedestrian safety. Highly likely that pedestrians will look to enter or exit the yard when gates are moving slowly to open or closed position. Personnel gate will not be used. Temporary management workaround required to manually operate gates to maintain operations and security.	Operational restrictions, particularly when the gates are out of service.	5	4	20	The type of automatic gate has been reviewed with all stakeholders.	3	3	9	Project Co to hold adequate spares for fast repair of gate. Gate to be manually operated during downtime to reduce restrictions. Board impact / continuity plan to be devised for delivery to a separate point (DCN entrance or RIE service yard).
12	25% spare capacity	Cost - future change.	Project Co Change	The extract systems for 4 bed ventilation will have reduced spare capacity to a minimum of 10%. The electrical cable trays are currently close to full, and therefore may restrict spare capacity. The Board has therefore compromised on future flexibility and potential to expand infrastructure.		5	3	15	Project Co have provided spare capacity reports to identify the reductions in spare capacity and assist in future planning of modifications.	4	3	12	There are no current practical further construction mitigation measures, increasing the spare capacity at this stage would require significant re-design of the Facility.
13	Quench Pipe Routes	Risk to future installation of	Whilst the Board believe the solution to be non-compliant a compromise solution has been installed.	The quench pipe routes do not follow an optimal route and are not dedicated routes, this has resulted in additional bends in one of the quench pipes, with an increase in pipe size required at each bend. The routes have been compromised by additional services in the routes, noting MPX clarified these services relate to the MRI room in question only. Future replacement / installation will require removal of other services, and therefore the Board will incur additional cost of £120k when replacement is required (anticipated to be no more than once every 7 years).	Increased replacement costs.	5	3	15	BIM model updated to record the as installed set up. This will enable future contractors a visual understanding of the issues. In addition, the route for shelled room quench pipe has been protected. Please also refer to the Settlement Agreement - all costs are Project Co's.	1	1	1	The services would have to be removed from the quench pipe route to provide clear unobstructed access.
14	Access hatches	Infection Control and potent	Project Co designed the services directly above the clinical areas (theatres).	As per guidance, there should be no hatches in theatres, however due to the location of services, some hatches remain in the theatre suite. There is therefore an infection control risk as access hatches in theatres.	Additional theatre cleans and air sampling required, therefore possible increased theatre downtime.	3	5	15	Project Co have amended the design to reduce the number of access hatches.	1	3	3	Redesign the M&E services to remove the non essential services from above the theatres.
15	Location of MRI Chillers	Financial and Operational	Project Co's original design had chillers located outside the red line boundary without legal rights to do so.	The pipe run has increased from 5m to approx. 100m, making it more expensive to install and replace and requiring larger capacity chillers. It will also have an effect on the operation of the chillers by adding extra strain on the system due to the pipework's length, also requiring an additional resilience chiller.	Increased replacement costs.	5	3	15	Project Co have rationalised the route to make it the shortest possible given the required location of the chillers.	5	3	15	There are no current practical further construction mitigation measures, re-designing the Radiology Department to allow the chillers to be closer to the Radiology Department, and thus have shorter chiller runs would involve major construction works.
16	Temperature Control Valves	Operational	Project Co Change - Project Co have not provided electronically actuated valves to individual radiant panels that allows BMS control of temperature.	Loss of centralised control via the BMS.	Potential increase in energy cost. Risk that patients may leave heating on and open the windows.	5	3	15	Project Co have provided additional sensors in the rooms to monitor the temperature.	5	2	10	Additional training for staff to manage the control of temperature. Re-design the temperature control in the bedrooms.
17	Drainage above IPS rooms / above IPS panels	Risk to critical equipment	Project Co have amended the design.	Water services have been located above critical electrical equipment. Project Co has mitigated these scenarios by providing fusion welded pipes, pipework with no joints, or pipework being re-routed. The Board has therefore compromised on good practice to accommodate these services with the residual risk being floor penetrations above electrical services, and therefore a risk of electrical faults causing the system to trip.	Clinical - potential loss of power to critical equipment.	3	4	12	Project Co have mitigated these scenarios by providing fusion welded pipes, pipework with no joints, or pipework being re-routed.	2	4	8	There are no current practical further construction mitigation measures, re-designing the drainage system would involve significant construction work.
18	Routing of services through clinical areas.	NA	Project Co Change	Risk is operational due to services serving one clinical area requiring to be accessed/isolated in another clinical area thus affecting both locations or more.	Increased maintenance and therefore possible unavailability in clinical areas.	3	4	12	Mitigation is PCo to provide schedule/drawings of locations where this is an issue.	3	4	12	Final mitigation would be to ensure all clinical spaces are serviced from corridors/circulation spaces.
19	Removal of Sprinklers	Operational	Project Co have removed the sprinklers from the Pod and Atrium to allow the proposed ATD design within the Pod to be accommodated.	Maximum allowable fire load strategy implemented in the POD restricting the future usage of the public space. Therefore, the Board is compromised in terms of flexible use of the space due to restrictions on the fire load, for example limitations on the type and size of furniture.	Operational restrictions	5	2	10	None	5	2	10	Amend operational procedures and remove all ATD structures from POD.
20	Entrance Matting	Operational and Financial	Project Co did not provide entrance matting at all doors to external areas however, it is not possible to change the floor slab to incorporate recessed floor mats in all areas.	The Board is having to provide some mats as group 3, and also additional associated cleaning costs.	Revenue cost for the Board	5	2	10	None	5	2	10	Re-design the flooring at the affected external doors to include recessed floor necessitating modifying structural concrete slab(s).
21	Waste Area in Service Yard	Operational and Financial	Project Co has designed the area in the service yard too small to allow the full facility to use standard clinical bins because of storage space in the service yard	The Board has had to change their operational policy for bins that are now smaller, will need emptied more frequently and will need to tip smaller bins into larger. This meant that the Board needed to buy both a bin tipper and bin washer	Operational restrictions	5	2	10	Amend operational procedures.	1	1	1	Re-design / construct the service yard.
22	Access to fire dampers	Operational	Project Co has located fire dampers in a position obstructed by services making them difficult to access.	Due to the location of some fire dampers the access will take considerable amount of time to re-set following annual drop tests or in the event of actual alarm.	Operational restrictions	3	3	9	Inform BYES in order appropriate planning / resources are allocated.	3	3	9	Re-design /construct the fire dampers.
23	Odours from helipad entering RIE and RHSC clinical areas including theatres.	Operational	Project Co had not assessed the effect of helicopter engine emissions during the design of the helipad.	There is a risk the emissions will cause staff to stop activities (particular in Theatres0 which impact the operation of the RHCYP + DCN facility, and the RIE.	Clinical Impact	2	4	8	Project Co have produced a report on the issue.	2	4	8	Re-design / construct the air intakes with additional filters/ new motors. Space restrictions likely to inhibit.
24	Gas supply to bedhead trunking	Clinical Impact	Board have accepted Project Co installation.	The gas on the bedhead trunking are not in the preferred clinical order, or as per drawings reviewed through RDD process. In a proportion of single bedrooms and 4 bedded bays the gasses and suction outlets will not be on the door side so there will not be uniformity in layout and the oxygen outlets will not always be the first outlet nearest to the door. Ward clinical staff will need to be aware of this and this will be picked up as part of their local familiarisation.	Minor clinical workaround - possible increased time to get to the correct side of the bed and apply gases to patients.	2	2	4	Amend operational procedures.	1	1	1	Re-design / construct the bedhead trunking.

Table 2 - Likelihood Definitions

Descriptor	Rare	Unlikely	Possible	Likely	Almost Certain
1	Probability Can't believe this event would happen	Not expected to happen, but definite potential	May occur occasionally, has happened before	Strong possibility that this could occur - likely to	This is expected to occur frequently / in most

Title	Category of Issue	Status	Compromise / Risk	Impact Scored	Likelihood	Consequence / Impact	Score	Mitigation Measures Undertaken	Likelihood	Consequence / Impact	Score	Future Mitigation (requires appropriate design reviews to confirm feasibility)
event would happen – will only happen in exceptional circumstances.	but definite potential exists – unlikely to occur.	happened before on occasions – reasonable chance of occurring.	could occur – likely to occur.									

Table 3 – Risk Matrix

Likelihood	Consequences / Impact				
	1	Negligible	Minor	Moderate	Major
Almost Certain	Medium 5	High 10	High 15	V High 20	V High 25
Likely	Medium 4	Medium 8	High 12	High 16	V High 20
Possible	Low 3	Medium 6	Medium 9	High 12	High 15
Unlikely	Low 2	Medium 4	Medium 6	Medium 8	High 10
Rare	Low 1	Low 2	Low 3	Medium 4	Medium 5

Items removed by Project Team.

7	Entrance road to Service Yard	Operation	Project Co are amending the design of the access control for the automatic gate.	Queuing vehicles behind a large vehicle waiting to access the yard. Slow moving gates will increase the likelihood of this event.	Operational restrictions – possible blue light route compromise.	5	4	20	Project Co are amending the design of the access control for the automatic gate.	5	4	20	There are no current practical further construction mitigation measures, the service yard would have to increase in size. NHSL to ensure operationally that no vehicles stop on the blue light route.	NHS operational risk
11	Basement Transformer Replacement	Operation	Project Co have located Transformers in the basement which makes it difficult for them to be moved as they can't be taken out via the lifts due to size and weight restrictions.	This closes the area in the ground floor and basement area in the energy centre. Therefore the Board will not be able to use this area while the replacement is undertaken. This time period is still to be confirmed. The other	Operational restrictions	5	3	15	Project Co would undertake the works out with normal operational hours.	5	1	5	There are no current practical further construction mitigation measures, re-designing the basement transformer design would involve significant construction works.	NHS operational inefficiency

12	Bedroom ventilation pressure regime and air change rate in rooms for neutropenic patients.	Haematology	Project Co Change	Every bedroom in haematology and Oncology should have been able to accommodate patients requiring isolation, however as designed and constructed, only 7 isolation rooms can accommodate the "at risk" patients.	Following discussions with clinical teams, low Clinical Impact Patients may be boarded in other wards with isolation rooms. Capacity restricted to 7 isolation rooms in haematology and oncology.	3	4	12	NHS required to operationally manage the department rather than asking Project Co to change the design.	3	4	12	There are no current practical further construction measures, re-designing the ventilation system would involve significant construction works.	Patient safety and NHS operational risk
15	Lack of non-IPS sockets in theatres.	Patient safety	Project Co have amended the design, however blue (IPS) sockets remain on the walls.	There should be no IPS sockets on the walls in Group 2 locations (theatres, ITU, Resus etc), however the Board has compromised and accepted a hybrid solution.	Clinical Risk - Potential confusion of correct sockets to use - possible electrical fault for critical clinical equipment.	4	3	12	Project Co have amended the design, however blue (IPS) sockets remain on the walls.	4	3	12	Additional training for staff.	Patient safety and NHS operational risk
16	No Lift to basement in Core 3	Operational	Project Co did not construct lift core 3 to accommodate a lift access to the basement.	The Board had to accept the lift within core 3 will not serve the basement however, this compromises the FM routes as it requires DCN beds to be brought down the RHSC lifts or the FM lift and reduces contingency.	Operational inconvenience.	5	2	10	None	5	2	10	Amend operational procedures.	NHS operational efficiency

18	Vents in Courtyards (Neuroscience)	Operation	Following FC, Project Co introduce vents in some of the courtyards	The Board has reduced useable space within the courtyard with the neuroscience courtyard being particularly impacted.	Operational restriction as reduced space in courtyard	5	2	10	The vents have been painted to minimise the aesthetic impact.	5	2	10	Re-design the ventilation system to remove the vents from the courtyard.	Reduction in patient experience
20	Reduced access to electrical panels	NA	Project Co are amending the design.	Unidentified/immovable locations may be difficult to maintain in the future.	Operational restriction as Prolonged maintenance due to difficult access/potential extended downtime.	5	2	10	MPX and the Independent Tester reviewed on site to the satisfaction of the IT. The Board understand that BYES were not included in the site visit.	5	2	10	Re-design the electrical panels.	NHS operational risk
23	Provision of shower trays and pumping.	Operation	Project Co Change	Step up into a shower tray, hence limits use of 2 rooms to patients without mobility issues.	Clinical Impact reduced functionality and availability of the 2 rooms.	5	2	10	None	5	2	10	Re-design / construct the showers / drainage.	NHS operational risk
26	4 bed ventilation.	Patient safety	Project Co have amended the design as part of the settlement agreement.	The Board has compromised on the air change rate requirements in the SHTM 03-01 (6 ac/hr requested in the SHTM, and only 4 ac/hr being provided) - There is therefore a potential reduction in the air quality, albeit well in	Potential reduced air quality.	5	1	5	None	5	1	5	Re-design / construct the 4 bed ventilation.	Reduction in patient experience

27	Single-Bedroom-Ventilation-air-changes-	Patient Co	Project Co Change	The Board has compromised on the air change rate requirements in the SHTM 03-01 (6 ac/hr requested in the SHTM, and only 4 ac/hr being provided) - There is therefore a potential reduction in the air quality, albeit well in-	Potential-reduced-air-quality-	5	1	5	None	5	1	5	Re-design /construct the single bed ventilation.	Reduction in patient experience and financial loss
28	New-Facility-constructed-at-different-level-to-the-existing-RLE-	Operation	Project Co Change - Project Co error in constructing the Facility.	Not best practise to have hospital corridors that are misaligned and have a slight incline-	Operational restrictions	5	1	5	None	5	1	5	Re-build hospital at the correct level.	
29	Trolley-Area-in-the-Lift-lobby-in-Energy-Centre-Ground-floor-	Operation	The size of the trolley area was reduced by Project Co, only allowing for 5 trollies (instead of 6)	The Board needs to change operational procedures to account for fewer trollies which will lead to inefficiencies-	Operational restrictions	5	1	5	Amend operational procedures.	5	1	5	Re-design /construct the trolley area.	NHS operational inefficiency
31	Height-reduction-in-basement-areas/service-yard-	Operation	The height within the service yard was meant to be no less than 2400mm, however, there are areas within the service yard and basement Project Co have constructed with a reduced height of 2100mm.	There will be restrictions with the movement and handling within the basement-	Operational restrictions	1	4	4	Amend operational procedures.	1	4	4	Re-design / construct the Energy Centre / basement area.	NHS operational risk

Item	Title	Category of Issue	Status	Current RAG status	Compromise / Risk				
1	Lighting in fire fighting stairwells	Risk to life of all occupants of the building.	Item Pending - Awaiting response from building control.		TBC - likely to become red				
3	No earth bonding in certain required areas.	Risk to all patients.	Project Co have amended the design, however further rooms have been identified.		TBC - anticipate all rooms will be resolved.				
11	Cable discrimination and cable calculations (electrical issue)	Risk to life of all occupants of the building. Risk of fire.	Item Pending - Awaiting response from project co.		TBC				
14	Smoke clearance in fire fighting stairwells	Risk to life of all occupants of the building.	Project Co have amended the design. Witnessing on site the installation is compliant awaited. Potentially none.		TBC - site demo required, potentially none.				
19	Helipad fire fighting system (Water Pressure)	N/A	Item pending - Awaiting certification from MPX.		TBC - Potentially none.				
20	Vegetation around air intakes in Neuroscience Courtyard	NA	Project Co have amended the design.		None				
23	Drainage joints in slabs	Operational impact	Project Co are reviewing with the IT.		Difficult (Increased cost and time) repair if problem did occur				
26	Ventilation in IPS	NA	TBC		TBC				
27	Hot and Cold water supply pipe configuration	NA	Project Co have amended the design.		None				
28	Windows/Partition in 1 B1-055	NA	TBC		TBC				
39	Outstanding Status C RDD	NA	TBC		TBC				
40	Remaining Permanent Infrastructure outside the red line boundary (CCTV etc)	NA	Project Co to submit an SA to the Board to agree with Consort.						
50	Access and Maintenance Strategy	Operational / Completion issue.	Project Co are amending the A&M strategy.		TBC				
51	Lux levels in clean utilities	Clinical	Project Co are to review on site		TBC				
65	CAMHS/PICU Glazing/DCN Acute	Clinical impact / patient privacy.	Project Co are amending the design.		None				
68	Security for CAMHS courtyards	Clinical impact	Project Co are amending the design.		None				
70	ED Drugs store ventilation	Clinical Impact	Board Change		None				
72	Heating pumps pressure	Operational impact	Item pending outcome of commissioning tests.		TBC				
73	Fridge Spaces	Operational impact	Item pending		TBC				
75	Row of work benches too close together - D6 first floor	Operational impact	Item pending		TBC				
79	Pendants	Clinical impact	Item pending.		None				
80	Handheld devices	Operational	Ongoing, risk to NHS to provide more security resource.		TBC				
25	Level and position of smoke detectors	NA	Project Co have amended the design.		Site survey required to clarify / move smoke detectors to the correct positions.				
#REF!	Service Yard gate access width		Access to the gate is not wide enough for two vehicles to pass at the same time		Management of the service yard would need to be closely monitored to prevent vehicles clashing while entering and exiting the service yard		0	0	0

Project Co Change №	Title	
014	LTHW Pipework	
017	Helipad Height Reduction	covered by emissions
020	Zone A Level 4 Plantrooms	
022	Link Building	covered
023	Gas Meter Housing	
024	Entrance Matting	
025	BREEAM Certification	
026	Temperature Control / Monitoring	
027	Movement Joints	
028	Node Rooms - basement	
029	Curtain Tracks	
030	Carpark E	
032	MRI	
033	Ceilings	
034	Service Yard	
035	Radiology WC Room omission	
036	Overpanels to Doors	
037	Standing Seam Roof	
038	Warning Lights	
039	Helipad - Certification	
040	Skirting Change	
041	Bed Lift Core 3	covered
042	provision of gas store to level four	
043	provision of shower trays and pumping	covered
044	Fire strategy	covered
045	Tactile sensors to antilig sanitary spaces	
046	OUT094 Connections	covered
047	Audiology Acoustic tests	
048	SHPN 40 Intercom / Isolation Suite Functionality	
049	As Built Energy Model	
050	Neutropenic	covered
052	FCU traps	
054	Non-installation of barriers and associated gear for Actual Completion	
055	High Level Drainage	covered
056	Node Rooms Cooling	covered
057	ATD Programme	
058	Single Bed Ventilation	covered
059	Group 2 Socket change	covered
060	helipad	covered
061	isolation room	
062	seasonal commissioning - potentially roll in to 049	
063	Cable Calculations	
064	Ceiling Heights	covered
065	Ceilings in IPS rooms	covered

Item	Req	Category of Issue	Issue	Current/Proposed Status	Compliance / Risk	Notes	Priority	Impact
2	Non Fire Rated IPS / LPS labbing	Risk to patients in critical clinical areas, theatres etc locations	Project Co have amended the design.		None			
6	Bedhead involving earth bonding issues	Patient safety risk.	Project Co have amended the design.		None			
12	Lack of lamping proof flush floor outlets in CAMS	Risk to life of patients and staff	Project Co have amended the design.		None			
17	Door Clearance	Infection Control	Project Co have amended the design.		None			
18	Revised air issues	Risk	Project Co Change - nothing the change is proposed by the Board		None			
21	'Do not use' labels removed from Patient Care Outlets before commissioning	NA			None			
22	Isolation Room supply ventilation relative to new building	NA			None			
24	Fire safety compliance	Fire Risk	Project Co are reviewing with the architect		None			
29	Missing height for raised floor	NA	Project Co have amended the design.		None			
30	Isolation Protection	NA	Project Co have amended to control design.		None			
31	both landscaping planning	NA	Project Co have amended the design.		None			
34	Wrong termination fitted in service ducts	NA	Project Co have amended the design.		None			
35	No evidence of IP circuit function compliance	NA	Project Co have amended the design.		None			
36	Fire resistance of radiology door frame	NA	Project Co have amended the design.		None			
37	LPS output switchboard not connected	NA	Project Co have amended the design.		None			
38	Corridor service door	NA	Project Co have amended the design.		None			
41	Isolation Commissioning	NA	Project Co Change		None			
43	Engineering Access	NA	Controlled to other ventilation system		None			
44	Mezzanine lift	NA			None			
45	Unidentified Circuits	NA			None			
46	Fire alarm sound	NA			None			
47	IPS units earthed termination - 1 & 2 - 04 - IPS Boxes	NA			None			
48	IPS units receiving non-medical equipment	NA			None			
49	Isolation ducts	NA			None			
54	Fire detection	NA	Project Co are amending the design.		None			
57	Big noise driven in clinical	NA	Project Co are amending the design.		None			
58	Custom rack and ceiling not visible	NA	Project Co are amending the design.		None			
59	Wrong room identification	NA	1 room only (radiology - G-010)		None			
59	Isolated Service Units	Operational	Board agreed to close the issue		None			
58	Lighting in Service area	Operational	Lack of uniformity of lighting safety risk		None			
59	Lighting in G-020-024	Operational	Project Co are amending the design		None			
60	3-T2 G28 CP - River door missing	Operational	Project Co are amending the design.		None			
61	Provision of 300s CCTV Coverage	Operational	Project Co are amending the design.		None			
62	Heard classification and fire compliance (MRI) units	Clinical impact	Project Co are amending the design.		None			
66	Design Note 5 - void	Operational impact	Project Co are amending the Fire Strategy.		None			
68	Isolation in 14	Operational impact	Closed - no issue found on site		None			
68	Isolation in 14	Operational impact	Project Co are amending the design		None			
77	Group 2 outlet sockets	Clinical impact	Project Co Change		None			
78	Penetration to isolation	Operational impact	Project Co Change		None			
78	Penetration to isolation	Operational impact	Project Co Change		None			
79	Service Unit installation	Operational	NA		None			
80	Service Unit installation	Operational	NA		None			
81	Isolate rooms located in separate parts of the building	Non compliance with BS 8153	NA		None			
1	Isolation in Single Bedrooms	Operational	Duplicate of item 13 above		None - covered above			
2	Isolation in Single Bedrooms	Operational	Duplicate of item 4 above		None - covered above			
3	Isolation in Single Bedrooms	Operational	Duplicate of item 43 above		None - covered above			
4	Isolation in Single Bedrooms	Operational	Duplicate of item 71 above		See item 71 above			
ME01	Turning circle in Service Unit	Operational	Due to the size of the service unit and the additional requirement for a bin washer and trolley, delivery services do not have a full turning circle to change direction and may require an appropriate delivery vehicle		Designed solution not available, service unit to be tightly managed with software for travel deliveries to be processed and capture systems installed and available			
21	Find Pump at Isolation Door in the Basement	Operational	Duplicate of item 23 above		Duplicate of item 23 above			
ME01	Isolation in Single Bedrooms	Operational	Project Co's original parent bed design did not allow enough circulation space to get to the patient on the other side of the bed to clean and make up the bed		The Parent bed may be too small for some patients and therefore they may not be able to clean comfortably inside the bed			
ME01	Isolation in Single Bedrooms	Operational	The Board are finding a lot of instances where items have been constructed / fitted in the wrong space. For example: 1. BMS control (BMS001) and Cluster sockets (DU7020) are not where they are illustrated on the drawings. 2. Cupboard in the wrong place in Sphere 3. Substrate in the wrong place in Sphere		The Board considered that some mistakes could be accommodated with some having no impact and others requiring slight changes to operational procedures.			
ME01	Isolation in Single Bedrooms	Operational and Financial	Project Co agreed revised working times with the Council so deliveries can only be made during the day and between 08:00 and 18:00		The Board are having to review operational procedures.			
74	Bedhead involving in IPN & C2N bedrooms and bedded bays	Operational	As part of the RCP process we had discussion with Mercury that the 'frontal' side of the gasses and suction outlets would always be nearest to the door side which would ensure a consistent approach across the facility. However this has not been consistently followed in all areas which means that there are instances where the material and suction outlet holder are now not in the correct location. All of the bedhead involving has been manufactured and many have already been installed as it is not possible to return this at this point in time		In a proportion of single bedrooms and 4 bedded bays the gasses and suction outlets will not be on the door side so there will not be uniformity in layout and the oxygen outlets will not always be the first outlet nearest to the door. Ward clinical staff will need to be aware of this and this will be picked up as part of their local familiarisation.	DUPLICATE 11 OF 11		
22	Isolation room for settings	Operational	Project Co changed the setting grid and the specification and installation of same without consultation with Board after original specification has been reviewed an RCP		Board presented with a full account when rooms presented for review. The compromise is an aesthetic issue.			
16	Isolation room for settings	NA	Isolation		NA			
16	Isolation room for settings	NA	Isolation		NA			
32	Corridor ceiling grids	Operational and Infection Control Risk	Project Co Change		Operational and Infection Control Risk			
4	Theatre Canopy	Clinical	Project Co did not provide air handling within the design for the canopy leading to an increase in the size of the canopy from what was reviewed by the Board during RCP process.		Increased use of canopy in two of the BSC theatres has resulted in a change of location of surgical pendant meaning they are further from operating table, impacting on how theatre teams will work. The Board have also had to compromise the location of the operating pendant in other theatres and the associated control room. BSCs			
5	CAMS intensive nursing suite external area	Operational	Project Co's courtyard design drawings did not illustrate the covered section of the courtyard		The intensive nursing suite external area in CAMS is (unintentionally) covered, and therefore unsuitable for use by patients without redesign as there is no part of the courtyard open to sky - The Board and Project Co have now reached a compromise			
ME01	Removal of BSC (G-02-026)	Operational	Project Co are having to increase the size of one of the switch cupboards.		To optimise patient safety and operational functionality the Board have agreed for the BSC (G-02-026) to be removed to accommodate the resuscitation trolley (G-02-054). There will be a new arrangement for both the resuscitation and linen bay (G-02-055)			
ME01	Gasus Lines in OMRB	Operational	Project Co did not consider the Gasus lines in the original design of the room and are currently not contained within the OMRB room		1. The Board will have to change procedures within the area below and above the MRI to 'controlled access'. BSES will need to implement a procedure for this to ensure safety of their staff. 2. It reduces the size of the theatre adjacent to the MRI machine. 3. Currently unknown if the area and room redesign will work.			
71	IPN Bedroom	Operational	The solution could not be implemented in original position		Within the floor column above a wash hand basin and associated equipment was removed. Multi moved			
21	IPN Bedroom	Operational	The lift within the facility are too small to allow installation and replacement of Anger Equipment		The procedure will cost more and will introduce restriction in the area			
70	Car parks signs	Operational	Project Co have not provided disabled parking signs at the end of each individual parking area as required under BS6841(2009)		Agreed best practice and not consistent across Campus site.			
11	Single room and ensuite room door details	Operational	Door hangings resulted in clashes in a small number of single rooms with ensuite room door details		When both leaf of the door are required to be open the door will be more cumbersome for staff to use.			

High Probability / Low Risk

Need Detail and Action

RHSC/DCN Project Risk Register: Extract 8th May 2019

ID	Title	Description	Controls in place	Adequacy of controls	Notes	Risk level (current)	Rating (current)	Risk level (Target)	Risk Owner	Handler	Date Opened	Opened
3857	Performance of Project Co & Supply Chain (Hard FM).	Project Co. fail to meet Service Level Specification (Post Completion).	Standard form payment mechanism to hold Project Co. to account is agreed. Contracts Manager in post to monitor and measure performance.	Satisfactory; controls adequately designed to manage risk and working as intended	[07/05/2019 12:42:38 Callum Gordon] Reviewed with risk handler. Risk is maintained at current level until outcome of post completion works is known. [21/01/2019 09:23:31 Callum Gordon] Updated by Project Director: Risk remains high as performance is currently uncertain. New BYES Management Structure. Vacancies, performance is currently untested. [20/11/2017 15:41:20 Callum Gordon] Revised by Stuart Davidson [14/02/2017 10:42:35 Callum Gordon] Increasing evidence of potential non-compliance during room reviews [19/11/2015 10:46:53 Darren Dryburgh] Regular meetings with Project Co. attended by senior members of the re-provision team including Project Director and Contracts Manager.	High		16 Low	Currie, Brian	Davidson, Stuart	05/11/2015	07/05/2019
4707	Delay in Installation of Air Conditioning to Equipment Room	Delay in installation of air conditioning to equipment rooms will delay completion of Fluoroscopy and Neuroangiography rooms. This will impact on the capability to deliver this service when the hospital opens	Issue is on agendas of meetings with IHSL, MPX and BYES. Preparation works started 7th May 2019. FES start 8th May and MPX have confirmed that works will be completed by the 17th May allowing turnkey works and applications to be completed prior to migration.	Uncertain; impact of controls not known at this time and more work required to identify current situation	[07/05/2019 12:45:46 Callum Gordon] Risk level reduced to possible. Consequence remains major. [30/04/2019 11:15:22 Callum Gordon] Service currently at DCN at WGH. Cannot be retained there subsequent to transfer to DCN at Little France	High		12 Low	Currie, Brian	Evans, Mr Stephen	30/04/2019	07/05/2019
4141	Staff Parking	May impact on recruitment, retention and well being of staff. Permits available are highly unlikely to meet demand (scoping exercise completed 2016). 2 out of 7 staff who apply would be eligible and receive. uncertainty on allocation of parking permits is a cause for concern for staff.	The system of allocation for car parking permits within Car Parks has been reviewed (as has happened pan-Lothian) Criteria and process agreed in partnership Pan Lothian. Travel Plan is going through Governance Approval Process: Includes alternative modes of transport including bus and cycle etc. Increased cycle provision. Public transport links to the Edinburgh bioQuarter including Park and Ride at Shawfair. Annual review of permits against criteria. Line Manager must authorise.	Adequate but partially effective; control is properly designed but not being implemented properly	[07/05/2019 12:56:41 Callum Gordon] Staff are now being informed of the outcome of applications but as yet not all staff have heard. There are some concerns about staff who work in both the hospital and community setting not getting a permit and the impact this will have on their ability to deliver services. [21/01/2019 09:38:24 Callum Gordon] Risk reviewed: RIE Parking Group have analysed, implications to be shared with services at end Jan 2019. Contingencies to be considered by services thereafter. [28/06/2018 10:59:25 Callum Gordon] Controls updated. Risk remains high. [30/11/2017 11:24:35 Callum Gordon] Controls updated post November 2017 Programme Board [03/03/2017 13:01:44 Callum Gordon] Staff groups have also expressed concern that different criteria will be applied to existing RIE permit holders vs those transferring to the site, despite assurances that a single criteria will be applied.	Medium		9 Medium	Crombie, Jim	Curley, George	03/03/2017	07/05/2019
4174	On Call Cover for CAMHS Inpatient Services	When CAMHS transfers to Little France from REH it is unlikely the REH Junior Doctor Rota can support the service cross site. This support also involves medical, nursing and other staff in the event of an incident. Support to the wards is also currently provided by the Nurse in Charge for the REH. This support will be lost when the service moves. Whilst discussions are ongoing with the senior staff involved and options are being explored for full cover with progress being made in Nursing, and for on call Junior doctor cover for CAMHS inpatient services, particularly for out of hours, proposed arrangements have yet to be signed off by Services.	Ongoing discussion led by Associate Medical Director for Mental Health, Clinical Director for CAMHS, Associate Medical Director for Womens & Childrens. There has been full analysis to quantify and allow understanding of the issues. Discussion paper completed and shared with Programme Board. Children's Services Chief Nurse has completed work on the proposed plan for nursing, to report to Programme Board. Several different strands have been agreed and updated or are still in discussion. For Junior Doctors an agreed way forward has been reached with cover being provided by JD rotas for East and Mid.	Satisfactory; controls adequately designed to manage risk and working as intended	[31/01/2019 10:04:37 Callum Gordon] Propose this risk is closed on this register. Progress being made within services and is an operational risk. [09/07/2018 12:39:17 Callum Gordon] Updated with input from CAMHS Commissioning Manager [20/03/2018 11:47:12 Callum Gordon] 20/03/2018 Updated with input from Head of Commissioning [26/02/2018 11:51:01 Callum Gordon] Updated with input from Head of Commissioning. [08/01/2018 12:25:17 Callum Gordon] Controls updated in discussion with CAMHS Commissioning Manager. For review subsequent to January Programme Board.	Medium		9 Low	Montgomery, Tim	Lefevre, Dr Peter	16/05/2017	31/01/2019
4410	Possible loss, damage or theft of equipment during shared early access period	NHS Lothian do control of the building or the numerous contractors on site during this period and security is provided by a third party. There is the potential for a higher risk loss, damage and theft than there would be if the NHS controlled the building and contractual work was concluded	Third party security in place. Equipping will not take place until the building is cleaned Expensive equipment secured in rooms locked and controlled by NHS. MPX will have permit access system in place. Deliveries will be managed and controlled	Satisfactory; controls adequately designed to manage risk and working as intended	[07/05/2019 12:58:55 Callum Gordon] Only a small amount of damage or theft to date [31/01/2019 11:42:49 Callum Gordon] Reviewed by commissioning team remains a risk at level identified. [16/11/2018 10:43:38 Callum Gordon] Risk reviewed with handler: risk reduced through cancellation of deliveries pending greater certainty in programme. Is also offset by offsite storage, albeit this has costs. Risk requires monitoring. [28/06/2018 12:54:14 Callum Gordon] Risk opened	Medium		9 Medium	Currie, Brian	MacKenzie, Janice	28/06/2018	07/05/2019

ID	Title	Description	Controls in place	Adequacy of controls	Notes	Risk level (current)	Rating (current)	Risk level (Target)	Risk Owner	Handler	Date Opened	Opened
3842	Failure of Commissioning Plan	Failure to co-ordinate and manage build commissioning activities (including equipment transfer and installation and staff orientation) resulting in adverse incidents and risk to safety. Programme delay and costs incurred. Uncertainty regarding programme and handover date makes this a critical risk.	Regular monitoring of joint commissioning plan and key activities. Weekly look ahead meetings and daily huddles to monitor progress.	Satisfactory; controls adequately designed to manage risk and working as intended	[07/05/2019 12:51:23 Callum Gordon] Handler updated controls. [31/01/2019 10:42:48 Callum Gordon] Risk reviewed in Commissioning Team. New handler identified. [16/11/2018 10:45:39 Callum Gordon] Reviewed with handler: Ongoing reprogramming based on latest dates released from MPX or Project Co. This remains a risk as Commissioning Team do not formally have a plan from MPX/Project Co. [14/02/2017 10:44:52 Callum Gordon] Project and Finance Directors reporting to March Programme Board	Medium		8 Low	Currie, Brian	MacKenzie, Janice	05/11/2015	07/05/2019
3834	Health and Safety	Injury on Little France campus associated with Hospital Square Works, equipment delivery or migration, to any party, impacting on programme, costs and / or reputation.	Links to Little France H&S Group established. Appointment of Construction and Design Management Coordinator. H&S capability is a major consideration in selection of Project Co. Preferred bidder joins site H&S group. Relevant policies and procedures for Construction (MPX), FM (BYES) and NHS Lothian in place.	Satisfactory; controls adequately designed to manage risk and working as intended	[31/01/2019 10:24:50 Callum Gordon] Register updated to reflect areas of risk. [19/11/2015 11:39:04 Darren Dryburgh] Brookfield have robust health and safety governance in place and security and banks people operating on RIE site and into construction site. Nevertheless any injury on RIE campus would be owned by Consort and / or NHSL with reputational risk to all.	Medium		8 Medium	Currie, Brian	Alderson, Stephen	04/11/2015	31/01/2019
3835	Scheduling of group 2B deliveries	Delay to commissioning and Commencing service due to failure to meet programme to procure / install / commission NHSL equipment. Need to programme delivery in time for patient occupancy.	Review Post Programme to Live Date. Health Facilities Scotland is providing technical resources to support equipment procurement. Equipment Steering Group meeting monthly. Tie in with IHSL / Multiplex re scheduling with HFS programme	Satisfactory; controls adequately designed to manage risk and working as intended	[07/05/2019 12:35:44 Callum Gordon] Risk reviewed with HFS Manager and reduced [21/01/2019 09:51:03 Callum Gordon] Risk reviewed. Suppliers being contacted to confirm they can meet programme timescales. [16/11/2018 10:41:09 Callum Gordon] Reviewed with Risk Owner: Scheduling of 2b deliveries is being revised. Delay in handover has reduced the risk of scanners not being installed for patient occupancy. Delay has necessitated cancellation of other Turnkey activities by Massimo, Stortz, Jones AV and e Health sub contractors. [28/06/2018 11:06:30 Callum Gordon] Risk level increased due to potential impact of delay to Turnkey Programme as a result of remedial works for water damage caused by burst pipe. [15/05/2018 09:15:56 Callum Gordon] Risk level reduced. [15/05/2018 09:09:38 Callum Gordon] Controls updated by Project Director. [22/11/2017 10:01:40 Callum Gordon] Reviewed and updated with Handler and Owner	Medium		6 Low	Currie, Brian	Hanley, Dorothy	04/11/2015	21/01/2019
3850	Reputational Risk: Parking Management	Failure to inform users of changes to traffic management arrangements resulting in confusion, complaints, adverse incidents and bad publicity. Completion of process for Proximity Parking is outstanding and a specific source of risk.	NHSL Site Co-ordinator / Logistics Manager appointed and Little France Campus Working Group with all partners established. Review of traffic management across the whole site for each phase. Communication plan to ensure public and staff are aware of changes.	Satisfactory; controls adequately designed to manage risk and working as intended	[31/01/2019 11:25:07 Callum Gordon] Risk reviewed and updated, specific to process for proximity parking being outstanding. [05/01/2018 08:52:00 Callum Gordon] Handler changed to Lynsey Cullen	Medium		6 Low	Currie, Brian	Cullen, Lynsey	05/11/2015	31/01/2019
4265	Impact of concurrent capital projects on RHCYP & DCN Reprovision: Medical Physics, HFS, Medical gases	Concurrence of several major capital projects leading to pressure on supporting services eg e Medical Physics, HFS, Medical Gases	Key link individuals from these functions aligned to the project team. Regular Equipment Steering Board Meetings. Risk recognised.	Satisfactory; controls adequately designed to manage risk and working as intended	[31/01/2019 11:32:11 Callum Gordon] Ongoing review. Currently concurrence is not an issue [15/05/2018 09:13:19 Callum Gordon] Controls reviewed by Programme Director risk level reduced.	Medium		6 Low	Currie, Brian	MacKenzie, Janice	08/12/2017	31/01/2019
4409	Preparation for Handover from Project to Service Management Teams and readiness for "go live".	Operational Teams in addition to normal responsibilities need to take ownership of RHCYP & DCN.	Development of Interface Groups with responsibility from Project to Service Teams (Clinical and non-Clinical). Senior Operational Management Group convened and meeting monthly. All party Interface Meeting ready to be passed to Facilities to lead. Coss Service/Site Resilience exercises planned and scheduled	Satisfactory; controls adequately designed to manage risk and working as intended	[31/01/2019 11:53:37 Callum Gordon] Reviewed Remains a risk [28/06/2018 11:29:46 Callum Gordon] Risk opened	Medium		4 Low	Mitchell, Fiona	Tipper, Tobias	28/06/2018	31/01/2019
3811	Site Traffic	Site traffic associated with Hospital Square Works, Deliveries and migration results in congestion on Little France site, impeding live hospital services and construction progress.	NHSL Site Co-ordinator / Logistics Manager appointed and Little France Campus Working Group with all partners established. Traffic management across the whole site under LFCWG, attended by Project Co.	Satisfactory; controls adequately designed to manage risk and working as intended	[31/01/2019 11:46:04 Callum Gordon] Measures in place to date have not impeded operation of RIE. For monitoring during Commissioning Period and Hospital Square Works [18/09/2015 15:46:17 Darren Dryburgh] Date opened reflects the date the risk was transferred from Risk Register to Datix.	Medium		4 Low	Currie, Brian	Alderson, Stephen	18/09/2015	31/01/2019

ID	Title	Description	Controls in place	Adequacy of controls	Notes	Risk level (current)	Rating (current)	Risk level (Target)	Risk Owner	Handler	Date Opened	Opened
3934	Affordability of FM Services	<p>The gap between the provision of existing FM Services and their provision in the new build is significant. Changes are associated with design, including larger areas and legislation.</p> <p>The change to catering establishment is not yet signed off and potentially impacts on service provision on opening.</p>	<p>Ongoing review and revision of service provision and costs.</p> <p>Submissions for resource made to comply with Service Improvement (Helipad), established elements of design (Clinical and architectural), current regulations and legislation.</p> <p>Benchmarking exercise undertaken against FM provision across Scotland using HFS Data.</p> <p>Establishment for services is agreed with the exception of non patient catering. This establishment is not yet signed off</p>	<p>Inadequate; control is not designed to manage the risk and further controls & measures required to manage the risk</p>	<p>[04/02/2019 13:37:59 Callum Gordon] Agreed informally, Formal Sign Off awaited. Required to enable recruitment to commence.</p> <p>[21/01/2019 10:02:05 Callum Gordon] Sign off of establishment is outstanding. Required to enable recruitment to commence.</p> <p>[14/11/2018 09:22:54 Callum Gordon] Reviewed with Handler: Meeting arranged for 23rd November with Finance and Service to agree the establishment requirement for the new catering model.</p> <p>[03/05/2018 13:50:27 Callum Gordon] Paper is written and agreed that there is funding for non-patient catering (weekend hours) for one year.</p> <p>[30/11/2017 11:31:02 Callum Gordon] Risk discussed November 2017 Programme board and view was that the risk is moderate in relation to other affordability risks.</p> <p>[20/11/2017 14:26:34 Callum Gordon] All establishment resolved except non patient catering.</p> <p>[10/07/2017 12:32:13 Callum Gordon] Porter Domestic, Security and Materials Management establishments are now resolved. Non patient catering and Contract management are outstanding. A paper is in preparation proposing a funded pilot for non</p>	Medium		4 Low	Aitken, Robert	Campbell, Jane	09/03/2016	21/01/2019
3854	Equipment Delays	<p>Potential impact on equipment costs due to building delay.</p>	<p>Early warning via programme meetings</p> <p>Deliveries being rescheduled to align with programme.</p> <p>Monitored by accountable Commissioning Manager</p>	<p>Satisfactory; controls adequately designed to manage risk and working as intended</p>	<p>[07/05/2019 12:54:25 Callum Gordon] 98% of equipment now ordered. Daily deliveries occurring on site with items being placed in identified rooms wherever possible. Construction activities occasionally prevent this.</p> <p>[31/01/2019 11:07:32 Callum Gordon] Reviewed with handler: additional costs being incurred due to cancellation of previously paced orders. Handler now Ashley Hull</p> <p>[16/11/2018 10:50:10 Callum Gordon] Reviewed with handler: additional costs being incurred due to cancellation of previously paced orders.</p> <p>[15/05/2018 09:11:46 Callum Gordon] Controls revised by Project Director</p> <p>[22/11/2017 09:11:14 Callum Gordon] Reviewed and updated by owner and handler</p> <p>[27/02/2017 10:51:01 Callum Gordon] Controls updated</p>	Low		3 Low	MacKenzie, Janice	McLennan, Neil	05/11/2015	31/01/2019

RHSC + DCN - Little France Programme Board Report 13 May 2019



Executive Summary 13 May 2019

	Progress	Blockage	Clarification	Next
Time 	Actual Completion achieved on 22 nd Feb, 2019. Migration of services confirmed 5 th – 15 th July 2019. First patients arrive 9 th July. Sciennes Road De Commissioning agreed. Staff Familiarisations complete mid June.	IHSL unable to undertake Hospital Square Works.	Angio / Fluoroscopy works complete by 17 th May	Achieve successful migration and hospital live status. Confirm alternative procurement of Hospital Square. De mobilisation of Project Team
Cost 	Settlement Agreement payments being made by NHSL.		Domestic IHSL issue of Bouygues/MPX interface and commercial dispute.	Board invoice for credits to be raised and issued to IHSL
Quality 	Post completion works ahead of programme after slow start. Access Control, CCTV and Intruder Alarm functionality finally achieved. Water Management to be handed over to Bouygues from MPX. MPX employing new contractors to complete works. Bouygues team restructured and much improved.	Area handback to NHSL behind programme. Snags not cleared within prescribed contract timescale (now added to helpdesk). Project Team resources depleted through retirement and long term sickness.	Reliability of Lifts Operation of secure pass doors. Resilience of Boilers (Oil feed) Heat Station Temperatures IHSL reporting. Minutes of Infection Control Committee meeting to inform response and re assurance.	Snags Outstanding Works Post Completion Works Defects E+F to confirm if additional water management required. Contracts Manager role and support structure to be confirmed. Callidus H+S and FM Report Outcome of HFS Audit. Audit Scotland audit underway Infection Control mtg 5 th June.



Design

- Multiplex are continuing to address the issues highlighted in the joint room reviews which mainly related to poor finish and decoration.
- All of the keys has now been handed over to NHSL
- The fit out of the ECHC shop and Ronald McDonald House is complete
- TCT fit out has commenced in Lochranza Ward
- HAI Scribe Stage 4 are in the process of being completed/
- A final review of the internal signage has been completed and we are awaiting for the last signs to be installed

Commissioning

- Command Centre is up and running and is co-ordinating all of the site activities
- The Project Team are working with MPX to co-ordinate activities to minimise the impact of the MPX works on deliveries and setting up of areas
- Induction sessions have been delivered on local sites
- Familiarisation Tours are in progress and will finish on the 14th June
- Resilience Exercise undertaken to test the Command & Control Centre
- Staff rotas are being finalised for the migration period

Equipment

HFS Procured Equipment – To Date 98% of equipment orders by orders by value have been placed (£21.8M inc VAT). There are a small number of outstanding items. Some companies would not accept us placing orders as they have a very short lead time and in some cases are unable to hold stock/orders for us.

There have been a small number of items lost but they are not of high value and require to be reordered. There has also been pressure due to the unavailability of rooms ready to accept deliveries and this has made it difficult for storage of such items.

A maintenance contract list is being drawn up for all equipment that requires contracts.

Commercial & Legal

- Signed and endorsed SA1 documents awaited from IHSL and their legal agents
- IHSL unable to undertake SA2 (Hospital Square Works)
- SA3 Boundary Change with Consort and their lenders

RIE Health, Safety & Logistics

Health & Safety:

- Pedestrian safety remains a concern with long standing issues still to be resolved in key business areas. Risk of incident remains very high.
- Hospital Square final works package still to be finalised and agreed. Traffic risk will increase during construction works.

Logistics:

- Reduction in large vehicle numbers on site and remains well managed.
- PCI blue light route or bus service routes remain clear of issues while key resources are in place.
- Contractor Traffic Management Plans generally working well respecting blue light routes and NHSL core requirements.
- RHCYP deliveries management remains a safety concern and currently sits at Red Risk status. Increased deliveries schedule will further increase risk if not closely managed.

Stakeholder Management and Communication

- Booking and ordering of various elements of Awareness Campaign are underway.
- Open day events have been agreed to take place on 25th and 27th June.
- Royal Opening is not confirmed but Royal availability and dates in October 2019 are being explored.
- Support for decommissioning has been outlined and further information on the decommissioning plans has been requested.
- Support for all three CAMHS moves is being explored.

eHealth, Health Records and Telecommunications

Infrastructure

Main Network & WiFi complete
 Progressing IT Security for the systems coming into the new build.
 Planning installations of new systems with suppliers and departments.
 Port schedule collation is ongoing, and patching started.

Telecommunications

Telephone numbers finalised & distributed
 Deployment of Telephone devices/system starting on 13th May
 Setup of new bleep system starts on the 13th May and completed that week(excluding switch over)

Health Records

Library move starting W/B 13th May

IT Equipment / Desktop

Desktop staff no on site, preparing for phone deployment and starting to deploy new equipment.

System Administration

TRAK team started and focused on the move date for environment build.

Facilities Management

Soft FM

- Security team operating on site
- Access control set up and ID badges being produced
- Materials Management ward top up, joint programme with clinical services for set up in progress
- Recruitment continues with posts available in Domestic and Catering
- Domestic team working around the building, with DSRs set up
- Vending for confectionery, including healthy options, hot and cold drinks available
- Porters assisting with deliveries
- Service yard equipment, tipper and compactors operating, bin washer scheduled for commissioning end of May

Art & Therapeutic Design

ATD

- Installations in the Pod are nearing completion
- One of the ATD projects is about displaying memories from the old sites in a series of display cabinets located throughout the building and these have now all been installed
- Graphics in Radiology rooms have been agreed and it is anticipated these will be installed in the next 4 weeks
- The testing and commissioning of the patient entertainment infrastructure is still outstanding, however Bostons are now setting this up on site.

Charities

- Teenage Cancer Trust Unit fit out has commenced and will be completed this month
- ECHC Shop fit out is completed
- Ronald McDonald House fit out is completed
- Services and Facilities Agreement with RMH Charities should be signed this month

**TRAVEL WELL
EDINBURGH BIOQUARTER TRAVEL PLAN**



REVISION 1.0
AUGUST 2017

SWECO UK LIMITED

Change List

VER.	DATE	CHANGE CONCERNS	REVIEWED	APPROVED
1.0	July 2017	Internal Draft	CF	-
1.0	September 2017	Client Issue	LM	NH

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Appendices

Appendix A	Historic Mode Share Data
Appendix B	2017 Edinburgh bioQuarter Travel Survey Report
Appendix C	Mode Share Target Development

1 Introduction

Edinburgh bioQuarter (EbQ) is Edinburgh's leading bioscience community collocating the Royal Infirmary Edinburgh, University of Edinburgh medical research and teaching facilities, and commercial bioscience companies on one campus. Its partners, in delivering the EbQ masterplan, consist of:

- NHS Lothian (NHSL)
- University of Edinburgh (UoE);
- Scottish Enterprise (SE); and
- City of Edinburgh Council (CEC).

This document is an overarching Travel Plan (TP) for the whole EbQ site and builds upon travel planning work undertaken for existing and committed development, taking cognisance of associated planning obligations.

This TP is intended to be a stand-alone document that will evolve with EbQ. It will remain live, providing a framework and mechanism to encourage sustainable travel patterns; monitor travel behaviour; and identify appropriate transportation measures.

1.1 Context

1.1.1 Development

The site includes the following:

Existing

- Royal Infirmary of Edinburgh (RIE);
- Queen's Medical Research Institute (QMRI);
- Anne Rowling Regenerative Neurology Clinic (ARRN);
- Chancellor's Building, a UoE teaching facility;
- Building Nine, an incubator hub for rapidly growing companies in Scotland's Life Sciences Sector; and
- Scottish Centre for Regenerative Medicine (SCRM).

Committed

- Phases 1–3, referred to as the EbQ Masterplan Lands, of the EbQ have consent (137,470sqm); and
- The relocation of the Royal Hospital for Sick Children (RHSC) and Department of Clinical Neuroscience (DCN) is currently under construction on lands formerly occupied by car park B, and is due for occupation spring / summer 2018.

Future

- Southern expansion land.

Figure 1.1 below provides a plan of the bioQuarter in its current form with the committed development location highlighted at point H.



Figure 1.1: Edinburgh bioQuarter Layout

1.1.2 Planning Obligations

The planning obligations and Section 75 (s75) Agreement associated with the 2004 planning permission for the EbQ Masterplan established a number of transportation requirements to be fulfilled as part of the implementation of the development proposals. These included the need to prepare a TP in association with the proposals, and to meet the following requirements:

- Target of 56% or less car driver trips to EbQ;
- Safeguarding of public transport route from the east to EbQ;
- Safeguarding of tram route along Little France Drive;
- Internal circulation;
- Distribution, phasing management of car parking provision;
- Footpaths, cycle routes, and cycle parking; and
- Real time information.

Furthermore, the first EbQ TP, established in 2005, was required to address the following:

- Travel to and from the development which was the subject of the application;
- Contain agreed mode share targets for travel to and from the development; and
- Include the written agreement of the NHSL RIE authorities to the objectives contained in the TP.

The planning obligations and Section 75 (s75) agreement have been discharged.

1.1.3 Travel Planning

The site's first TP was prepared for the EbQ Masterplan Lands and the relevant condition was discharged by CEC in 2006. A later TP was prepared in 2009 for the EbQ as a whole, of which this document is an update.

Respective EbQ partners have also undertaken travel planning work, with NHSL and UoE having existing TPs in place. The NHSL TP covers the existing Royal Infirmary Edinburgh at EbQ, and as such a number of measures to encourage sustainable travel patterns exist. These include:

- Charging for parking;
- On-site cycle parking provision;
- On-site bus penetration;
- Marketing information on sustainable travel; and
- Real-time information within the main reception area.

The UoE also undertakes travel planning activities for its facilities throughout the Edinburgh area, including at the EbQ site, and has implemented the following measures at EbQ:

- Car park management through a permit allocation system;
- Pool car initiatives;
- Car sharing scheme; and
- Provisions to encourage walking and cycling.

1.2 Travel Plan Scope

This TP has been developed to ensure that there is clear choice for travel to EbQ, taking cognisance of the 2005 and 2009 EbQ TPs; the existing initiatives implemented by NHSL and the UoE; and the planning obligations outlined at **Section 1.1.2**. It also takes into account the future development(s) of the southern expansion land, for which planning consent is still to be sought. On completion, the southern expansion land development(s) along with the existing and committed developments will be considered as the overall EbQ site.

This TP is set out as follows:

- **Chapter 2** describes the existing initiatives and facilities at EbQ and reviews the existing local transport context;
- **Chapter 3** summarises the baseline travel behaviour of staff, visitors, and patients at the NHSL's RIE, the UoE teaching and research buildings and occupiers of Building Nine as existing EbQ occupiers;
- **Chapter 4** identifies the aims, objectives, and targets of this TP;
- **Chapter 5** outlines the TP Strategy to be adopted;
- **Chapter 6** states the TP measures to be implemented at the EbQ site; and
- **Chapter 7** establishes the commitment to the continual monitoring and reviewing of travel behaviour to the EbQ.

The measures and mode share targets outlined in this document have been informed by multi-modal transport analysis and modelling undertaken specifically for the EbQ Transport Study (2012), Mini-Masterplan Transport Strategy (2016) and Micro-Simulation Modelling Report (2017).

2 Existing Initiatives and Travel Provision

2.1 Context

EbQ generates a significant level of travel demand, which is currently associated with the existing NHSL RIE, UoE facilities, and Building Nine. A range of options are available for travel to the area and historic travel surveys have indicated a real willingness to travel to the site by sustainable travel modes; high walk, cycle, and public transport mode shares have been observed. The outcomes of the 2017 Travel Survey will be reviewed in **Chapter 3**.

The provision of sustainable travel choices is currently supported by a parking management regime which includes parking charges, permit allocation, and strict enforcement. Effective parking management is a key tool in developing and maintaining a sustainable travel culture.

EbQ is located in close proximity to the strategic road network, linked to the A720 City Bypass by the A7 Old Dalkeith Road. The A7 corridor suffers from congestion at peak times, with Cameron Toll at the northern end and Sheriffhall at the southern end of the corridor providing particular constraints. While local and national transport policy seeks to reduce reliance on car travel, it remains a key travel mode which needs to be catered for.

This chapter provides an assessment of options and infrastructure available for travel to EbQ. The assessment considers all relevant travel modes and provides details of current and future infrastructure and service provision.

2.2 NHS Lothian Royal Infirmary of Edinburgh

NHSL have implemented a number of measures and initiatives to encourage sustainable travel to and from the NHSL RIE as follows:

- Public transport information at the main desk area;
- Bus hub provided on site;
- Charging for parking;
- Membership of the Tripshare car sharing scheme;
- Formation of a Bicycle User Group (BUG);
- Bus and train annual season ticket loans can be purchased by staff;
- Covered cycle parking at the rear of the building;
- Cycle to Work scheme which provides a salary sacrifice for staff to purchase bikes and accessories up to £1,000 including VAT; and
- Real time public transport information screens.

These measures combine to influence observed travel behaviour, which is discussed in detail in **Chapter 3**.

2.3 University of Edinburgh

The UoE are very active in travel planning at all their locations throughout the Edinburgh area, including their facilities located at EbQ.

Measures and initiatives which have been implemented to date at EbQ include:

- UoE has direct control over 247 parking spaces at EbQ which are controlled by barriers. The University is also allocated 280 permits, the majority of which are for car park F of the NHSL RIE. Permits can be purchased at £250 per annum each and staff and students can apply via an online application system;
- An Enterprise Car Club space is provided in the QMRI car park for use by staff and students. Note the Enterprise Car Club car is available for public use also;
- Tripshare scheme is open to all staff at the University;
- Cycle to Work scheme (formerly known as Bicycles+);
- A Bicycle User Group (BUG) has been set up;
- Dr Bike maintenance sessions and free cycle training;
- Shower and changing facilities;
- Bus and train annual season ticket loans can be purchased by staff;
- Secure storage facilities for cycle parking; and
- Access to the University's transport and parking website (www.transport.ed.ac.uk).

2.4 Edinburgh bioQuarter Masterplan

The 2005 TP associated with the EbQ Masterplan and the site's expansion proposes the following measures:

- Wayfinding signage throughout EbQ to assist pedestrian and cyclists;
- Secure onsite cycle parking provision;
- Showering and changing facilities in each building; and
- Sign up to a car sharing scheme.

The TP goes on to suggest further measures to be considered for implementation as follows:

- Encouragement of:

- i. Flexible working practices including teleworking and flexible working arrangements (e.g. flexi-time system/ compressed working week);
 - ii. Interest free loans and discounts for season tickets / bicycles;
 - iii. Attendance at any area Transport Forums, either individually or within the remit of the bioQuarter Transport Coordinator;
 - iv. A system of advance booking for visitor parking requirements; and
 - v. Reviews of company car policy with a view to reducing car dependency.
- Provision of:
 - vi. Notice boards (kept up to date) in the building entrances providing information on car share, public transport, taxis, air services, cycling and walking, season tickets, bicycle loans, and other initiatives; and
 - vii. An annual site TP meeting involving attendance by all occupants.

The above measures will be considered within this overarching TP and be recommended for implementation where appropriate.

2.5 Walking and Cycling

Provision is good within the site, with shared foot/cycle paths of a generous width throughout and efficient links to the external network. Zebra crossings are also provided within the site, promoting safe crossing opportunities where pedestrian and cycle desire lines meet vehicle routes. Links to the external network are also provided.

The heavily trafficked A7 Old Dalkeith Road presents an obvious barrier for those walking and cycling to the site, however this is overcome through provision of various controlled crossing facilities in the vicinity of EbQ. There are several pedestrian and cycle access opportunities along the A7 Old Dalkeith Road, with a further link provided from the Craigmillar area.

A signal controlled junction has been constructed which currently provides access to Building Nine from Old Dalkeith Road and will provide vehicle access to the EbQ Masterplan lands as it develops. The junction provides controlled crossing facilities to cater for those wishing to cross the site access and Old Dalkeith Road. It is expected that the new junction planned for access to the Southern Expansion Land, located to the south, will be of a similar standard and will incorporate adequate controlled crossing provision for all users.

For travelling to the site by cycle specifically, cycle lanes are provided in both directions along the majority of Old Dalkeith Road between Cameron Toll and Ferniehill Road. There are few locations where parking is permitted however a parking and loading restriction is present along the majority of the route. Junctions in the vicinity of EbQ are provided with advanced cycle stop lines to promote safe cycle passage. Cycle lane provision on the

corridor between Ferniehill Road and Sheriffhall Roundabout is intermittent. A 2017 Active Travel Study is ongoing investigating the options for an off-road Active Travel route between Cameron Toll and EbQ.

National Cycle Route (NCR) 1 which runs from the city centre into residential areas in the east of the city and beyond into East Lothian is within a very short cycle (approx. 5 mins) of Craigmillar Castle Road, providing cycle access to EbQ from a large number of origins.

The existing off road shared use route from Craigmillar Castle Road accesses EbQ to the north of the QMRI building. The route is lit and has a tarmac surface.

Furthermore, cycle parking facilities associated with the UoE are of a good quality but are obviously oversubscribed. Those associated with the NHSL RIE are located at the rear of the building and are covered but not secure. In general, these facilities are at capacity, with significant widespread ad-hoc cycling parking activity occurring. This is positive in that the lack of facilities does not discourage cycling activity, but it is likely that the provision of further covered and secure facilities at more prominent and appropriate locations could encourage an even higher cycle mode share.

The area currently occupied by the NHSL RIE and UoE facilities is separated from the remainder of EbQ by Little France Drive. The ongoing build out of the EbQ Masterplan lands and the development of a surface car park to the south of Little France Drive will in the short-term result in this route beginning to carry an increasing level of traffic. Given the synergy between the existing and future occupiers of EbQ, it is expected that there will be a need for pedestrians and cyclists to frequently cross Little France Drive to conduct their business on a day-to-day basis. The UoE recognised this and a controlled crossing on Little France Drive, to the north east of the NHSL RIE rear car park access road and adjacent to the SCRM building, has been installed. As part of the EbQ Masterplan lands, other crossing facilities will be installed to facilitate movement across Little France Drive to the southwest, this could be located adjacent to what will become the NHS Eye Pavilion and one of the multi-storey car parks to be provided as part of the masterplan.

As EbQ expands to include the RHSC, DCN, and the masterplan lands, further facilities and routes will be needed to cater for pedestrians and cyclists. It is understood that the main entrance points for the RHSC and DCN will be adjacent to the current west entrance at the NHSL RIE building and that existing pedestrian/cycle facilities will be modified to accommodate the RHSC and DCN development.

Figure 2.1 shows the active travel routes which are present within EbQ currently and those which are to be constructed.

(PLAN TO BE INCLUDED WHEN APPROVED)

Figure 2.1: EbQ Active Travel Routes

The accessibility of the site on foot and by bike has been analysed, with walking catchments (up to 20 minutes) and cycling catchments (up to 30 minutes) displayed in **Figures 2.2** and **2.3** respectively. A review of both figures shows that there are several residential areas within a reasonable walk and cycle distance of EbQ. The walking catchment areas include significant portions of Danderhall, Gilmerton, Liberton, and Craigmillar. The 30 minute cycle catchment also covers a wide area including the City Centre, South Edinburgh, Musselburgh, Dalkeith and other parts of East Lothian, and Midlothian.

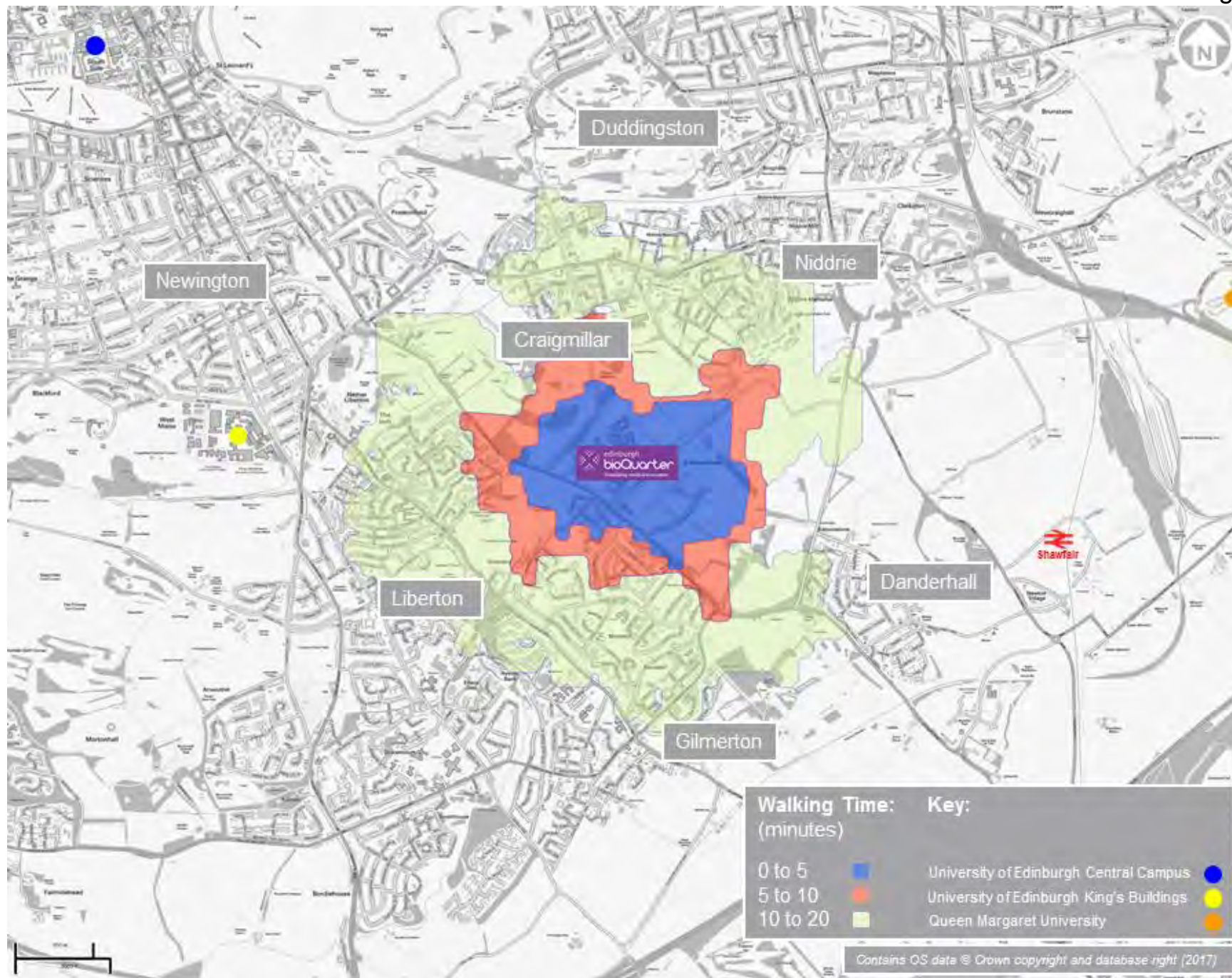


Figure 2.2: EbQ Walking Catchments

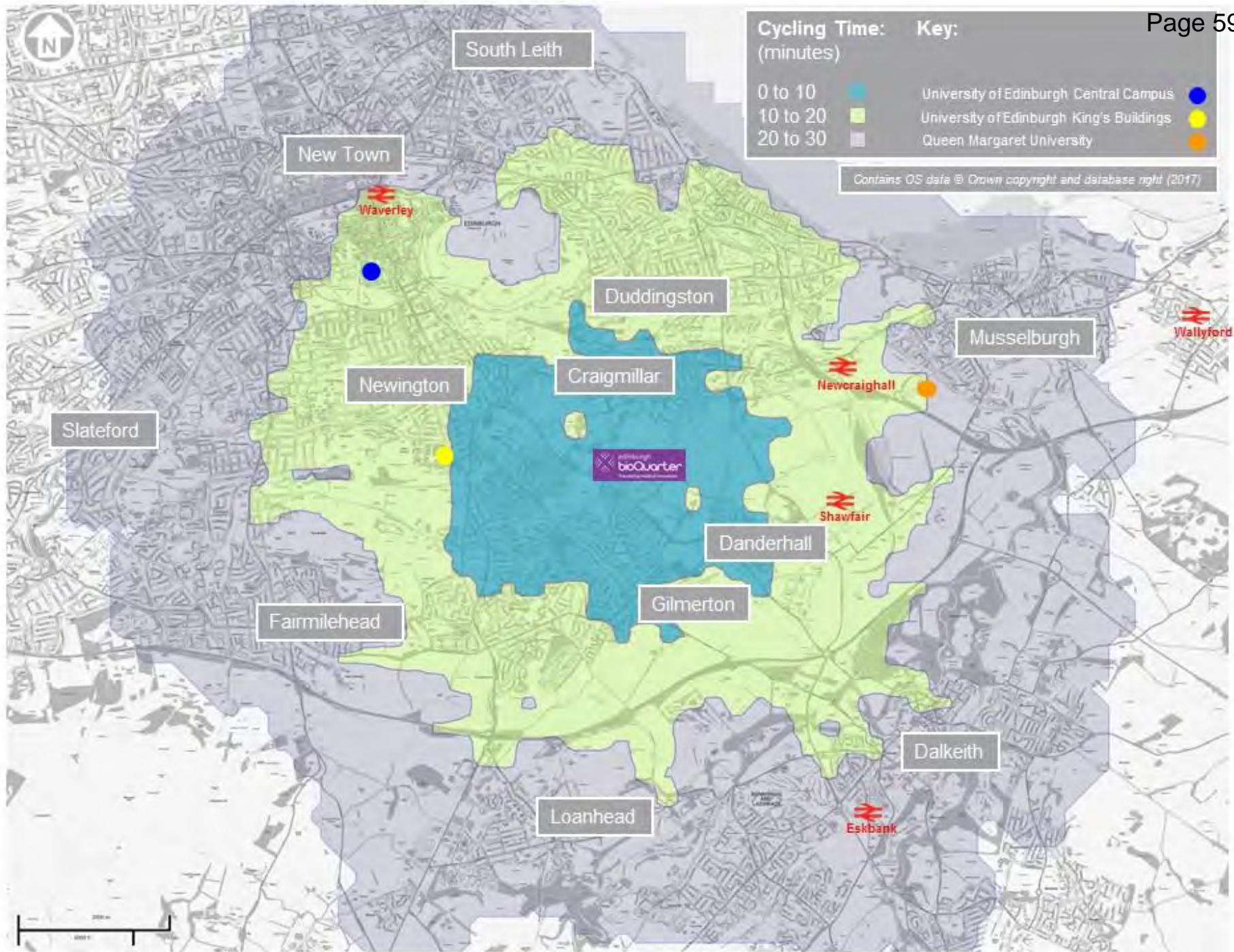


Figure 2.3: EbQ Cycling Catchments

2.6 Public Transport

2.6.1 Bus Provision

The EbQ is currently served by around 59 buses per hour (2-way flow) at peak times, with direct services to Midlothian and much of Edinburgh¹. Note the exact number of services and route will change as operators update timetables and routing. For those areas not served by direct services, there is opportunity to interchange in the city centre. The Sheriffhall Park and Ride site, south of EbQ and north of Sheriffhall Roundabout presents further opportunities to arrive at the site by bus.

Services include a mixture of through services and buses which specifically serve EbQ. Buses enter and leave the site using Little France Crescent and Little France Drive. The bus stops within EbQ are provided with shelters, seating facilities, up to date timetable information and flags displaying the buses which serve the stop, those outside the site on the A7 Old Dalkeith Road are provided with timetable information and flags.

Access to current public transport services is via a bus hub located to the south east of the main RIE building and shown in **Figure 2.3**. Excellent access to the hub is available for existing NHSL RIE and UoE bus users, with covered access through the main hospital mall available to reach the majority of facilities. A public transport hub in this location has presented an opportunity to create a multi-modal interchange with services using the committed public transport link which runs between Old Dalkeith Road and Craigmillar via Greendykes, a potential alignment for the South East Tram Line (SETL).

This transport hub is also convenient for much of the EbQ Masterplan lands and supports the development of a revised bus route network to serve the wider EbQ as build out progresses. The development of the hub, and consultation with bus operators, has ensured the high service quality continues and should maintain a high bus mode share moving forward.

Upon completion of the EbQ Masterplan lands there will be opportunity for buses to enter the site via Little France Road and to access the bus hub and Little France Drive via a new link connecting the two roads. The current bus route through the site and an indication of the new route option from Little France Road are shown in **Figure 2.4**.

¹ Correct as per Spring 2017 bus timetables



Figure 2.4: Routes to Bus Hub

2.6.2 Rail Provision

While not directly served by rail, EbQ is a relatively short bus journey (15-20 minutes) from the city's main rail station, Edinburgh Waverley. Edinburgh Waverley Rail Station provides rail services to both local and national destinations. Bus services from the City Centre and rail stations are frequent with around 24 buses per hour.

The nearest rail station to EbQ is Shawfair, on the Borders Railway Line between Edinburgh and Tweedbank. It is located approximately 3.5km to the east, however at the time of writing there are no direct buses linking the station to EbQ. Users need to walk around 15 minutes to link with bus services for ongoing travel. It is envisaged that bus service provision will increase as Shawfair and other developments in the area are delivered; dialogue with bus operators should continue in order to identify any future opportunities.

There is also opportunity to use the rail station at Newcraighall, located approximately 4km to the east. However there are no direct buses linking the station to EbQ at this time and users would require to walk around 45-50 minutes to link to bus services and the station. If bus services direct to EbQ were to be provided at Newcraighall there would also be the

opportunity for P&R as there is an existing 565 vehicle space P&R car park adjacent to the rail station.

The public transport catchments for EbQ can be seen in **Figure 2.5**. The catchment shows that a large area of the city, Midlothian, and East Lothian can be accessed within a 40 minute public transport journey.

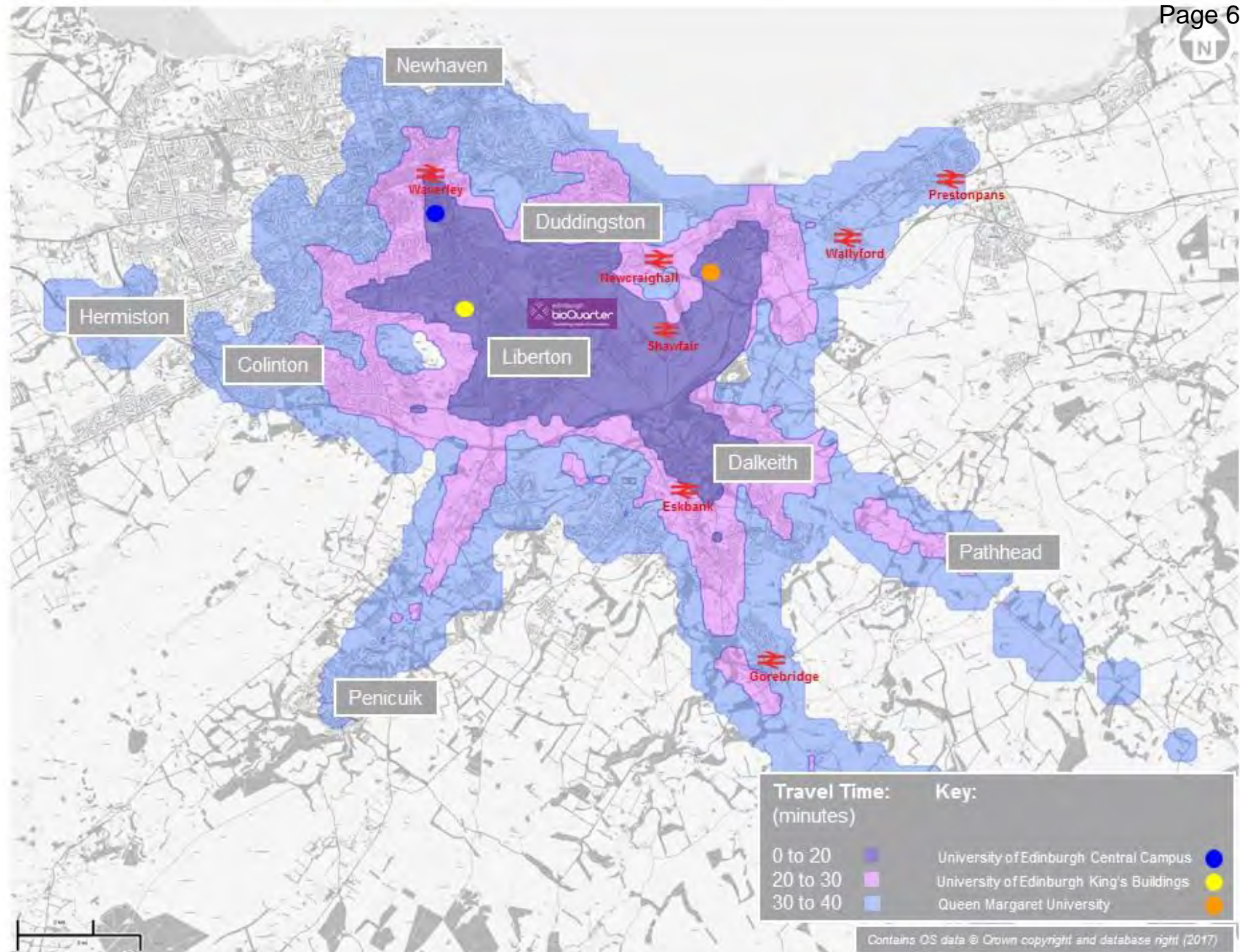


Figure 2.5: EbQ Public Transport Catchments

2.6.3 Committed Public Transport Link

Historically, there have been two land reservations within the EbQ Masterplan lands committed, through the planning process, to facilitate future public transport provision.

A strip of land adjacent to the eastern edge of the A7 Old Dalkeith Road has been identified as land which may be required to accommodate a major public transport intervention in the future (e.g. South East Tram Line) and is still in place to allow any future tram route to penetrate EbQ.

A corridor of land reservation was also identified to form part of a committed public transport link (PTL), linking the A7 Old Dalkeith Road with the Craigmillar area, providing a key link between two well served bus corridors on Niddrie Mains Road and the A7 Old Dalkeith Road. This route has been delivered and is currently used by buses, with the potential to form part of the SETL route in the future, creating a bus/ tram interchange at the new hub location. There is still however an area of Little France Drive which requires to be maintained to allow the tram to penetrate.

The PTL is also identified as an option for part of the route associated with the proposed Edinburgh Orbital Bus Route. The scheme is proposed by SEStran, the Regional Transport Partnership, and would see the introduction of a segregated (where possible) bus priority system running between a new park and ride at Millerhill to West Edinburgh. To date, a feasibility study/ STAG 1 and STAG 2 appraisal have been completed with recommendations made on the options to be investigated further.

2.6.4 Bus Access Strategy

A bus access strategy has been developed for EbQ, taking account of short, medium, and long-term development requirements; consultation with key stakeholders; committed schemes; and existing bus service provision.

To accommodate the RHSC and DCN developments, bus routes and infrastructure serving EbQ have recently been modified. A new transport interchange has been constructed at the eastern entrance to the RIE building with the bus route operating on Little France Drive. The transport interchange offers real time information displays showing real time bus arrival and departure times.

Discussions have taken place with the bus operator, Lothian Buses, City of Edinburgh Council, and Midlothian Council to seek their views on options for extending bus services through the Mini Masterplan area and to improve bus services serving EbQ. This meeting identified the need to provide bus stops on Little France Drive and that these should be lay-bys in form.

Lothian Buses will provide feedback on phased infrastructure requirements, following which further consultation will be required with other bus operators to confirm infrastructure suitability. New stops are to be provided on Little France Drive and the use of the new loop

road, once complete, and potential for new stops on Little France Road will be considered further at an appropriate time.

Lothian Buses have also undertaken to respond on service provision once information on the expected employee numbers and associated phasing has been provided by the EbQ partners. Once this is known, opportunities for links with new/ existing transport nodes (e.g. Shawfair railway station, Sheriffhall Park & Ride etc.) will be explored, along with links to existing, emerging, and planned residential areas. The role of the existing PTL will also be determined. Consultation on service provision will need to extend beyond Lothian Buses to other key operators, and to Midlothian Council who provide services and infrastructure relevant to travel to and from EbQ.

2.6.5 South East Tram Line (SETL)

The Edinburgh Tram opened in 2014 and currently runs from Edinburgh Airport to York Place in the city centre, with plans for completing the route north to Newhaven approved in 2015. Extensions to the tram network have previously been considered, including the SETL (formerly known as Tram Line 3) which could run from the city centre to Newcraighall Park & Ride via EbQ.

Previous designs show SETL, using the committed PTL, with a tram stop located in the vicinity of the public transport hub on the eastern side of the NHSL RIE building. The existing hub and implementation of the tram stop would provide an excellent opportunity to create a key public transport interchange in the heart of EbQ. Given the pressure on the surrounding road network, such a major public transport intervention would have the potential to encourage modal shift away from the private car.

SETL would provide an attractive and alternative option to the private car and has the potential to further encourage modal shift as, with the associated infrastructure requiring to consume road space, it would reduce available road capacity.

It is, however, recognised that some occupiers of EbQ will want and need to access the area by car. Advice from commercial advisors suggests that good access and parking for car users will be vital in ensuring the success of EbQ.

2.7 Road Network

The site is located on the A7 Old Dalkeith Road, a key strategic radial traffic corridor which links Edinburgh City Centre with the A720 City Bypass. As such, there is likely to be through traffic on the corridor which has no origin or destination along the route. The A720 City Bypass carries both local and strategic traffic, providing direct links between different areas of Edinburgh and links to Midlothian, the Borders, M8, M9, and the A1.

The main trip generator on the corridor at present is EbQ, with the site currently generating around 1,186 vehicles (2-way) in the morning peak and 1,049 vehicles (2-way) in the evening peak.

The A7 Old Dalkeith Road corridor is currently thought to be at, or approaching, traffic capacity with 2-way flows exceeding 1,600 vehicles in the morning peak and 1,400 in the evening peak in the vicinity of the EbQ. Cameron Toll roundabout and Sheriffhall roundabout form the northern and southern ends of the stretch of the corridor in the vicinity of EbQ. Both junctions are also currently under significant pressure from traffic demand, although alterations at Sheriffhall following the opening of the Dalkeith Bypass have seen an improvement in the operation of the junction over the last few years.

The Strategic Transport Projects Review (STPR) by Transport Scotland, published in 2008, outlines a plan for the next 20 years for Scotland's transport network with the aim of enabling sustainable economic growth. As part of this review, the A720 City Bypass has been identified to receive targeted road congestion/ environmental relief schemes. Furthermore, Sheriffhall Roundabout is specifically identified in the STPR for improvement. A Transport Scotland study, completed in 2013, proposed options for Sheriffhall, a number of which were progressed to a DMRB Stage 2 study completed in spring 2017. The study identified three viable options all of which propose grade separation, where the A720 City Bypass would no longer be at the same level as the local approach roads. The preferred option, a grade separated roundabout at Sheriffhall (as seen here <https://www.transport.gov.scot/media/35810/a720-sheriffhall-aerial-plan-option-b.jpg>), is to be taken forward for more detailed assessment in a DMRB Stage 3 study.

There is little scope to improve the operation of the junction at Cameron Toll. The junction currently operates as a signal controlled roundabout, catering for pedestrians, cyclists, buses, and traffic. Space around the junction is limited by residential properties and Cameron Toll Shopping Centre, there is also a large viaduct which traverses the roundabout. Cameron Toll is therefore likely to remain a constraint for traffic wishing to access the A7 from the north.

3 Baseline Data

3.1 Context

Understanding the baseline travel conditions of a site is integral to the successful development of a TP. Travel characteristics and travel trends, such as demand by mode of transport; journey origin and destination points; perceptions of travel; and where focussed improvements could be developed, can be used to inform the development of targets and measures within a TP.

At EbQ, travel data has been collected since 2004 via staff, patient, and visitor travel surveys at the NHSL RIE, and staff and student travel surveys at the UoE buildings. Moving forward, the baseline data extracted from travel surveys in the period from 2004 to 2017 is used to develop the aims, objectives and targets outlined in **Chapter 4**, and the subsequent measures presented in **Chapter 6**.

It is also important to consider existing travel characteristics in the context of the following:

- Indicative mode share targets set for the expansion of the EbQ Masterplan lands; and
- The 2020 mode share targets for all trips by Edinburgh residents, identified within the City of Edinburgh Council's (CEC) 2014 to 2019 Local Transport Strategy (LTS).

This chapter identifies the key findings of the 2016/2017 travel surveys, relevant to the development of the EbQ TP a full review of the historic travel data gathered by both NHSL RIE and UoE and a comparison to the 2016/2017 data is provided in **Appendix A** to assist in understanding the changes in travel behaviour to EbQ from 2004 onwards.

3.2 Travel Surveys

The 2016/17 Travel Surveys were carried out separately by UoE in late 2016 and then in early 2017 by NHSL to cover all staff onsite, with the exception of the UoE staff and students who had recently been surveyed by the University.

The results of the surveys are therefore shown separately for the 2016 and 2017 surveys initially and have then been combined to report on the current mode share for EbQ.

3.2.1 EbQ Travel Survey (excluding UoE Staff and Students)

The 2017 Travel Survey highlighted that, overall, 57.0% of staff; 59.1% of patients; and 60.7% of visitors travelled by car to EbQ. This gives a combined car mode share for journeys to EbQ of 58.3%. Also notable is the excellent public transport share of 29.2% found in 2017.

Further information regarding the mode share for all modes of transport is detailed in **Table 3.1** below.

Mode of Transport	Staff	Patients	Visitors	Combined
Car Driver	53.4%	41.1%	51.9%	50.9%
Car Passenger	3.6%	18.0%	8.9%	7.4%
Public Transport	28.7%	29.1%	30.6%	29.2%
Walk	2.9%	1.1%	3.1%	2.6%
Cycle	9.8%	1.1%	0.8%	6.1%
Other	1.6%	9.4%	4.8%	3.7%
Total	100%	100%	100%	100%

Table 3.1: EbQ (excluding UoE) 2017 Mode Share

In addition to the above baseline mode share information, the results of the 2017 EbQ Travel Survey highlight that:

- 74% of NHSL staff who said they came by car to the NHSL RIE park in the staff car park, 69% of Scottish Enterprise Staff park in a staff car park and 80% of all other staff park in the staff car park;
- 13% of NHSL staff and Scottish Enterprise staff who said they came by car to the NHSL RIE parked off site on-street with 7% of all other staff parking on-street;
- 9% of NHSL staff park at a Park & Ride, no Scottish Enterprise staff utilise the Park & Ride and only 2% of all other staff do;
- Increased bus frequency was ranked as the most important public transport improvement by respondents in both the 2017 and 2006 travel surveys; and
- In the 2017 and 2006 surveys, respondents considered reduced cost/ free parking and more parking supply to be very important to improving transport to the hospital.

The 2017 Travel Survey demonstrates a high level of sustainable travel already achieved to EbQ, which can be built upon through future improvements and proposals.

The full 2017 Edinburgh bioQuarter Travel Survey Report can be read in full in **Appendix B**.

3.2.2 UoE Travel Survey

Analysis of the 2016 UoE Travel Survey shows, overall, 28.7% of staff and students came to EbQ by car and a further 45.7% by public transport; 16.7% by bicycle; and 7.5% on foot. The full mode share results are presented in **Table 3.2** below.

Mode of Transport	Staff	Students	Combined
Car driver	35.0%	6.2%	26.9%
Car Passenger	2.3%	0.5%	1.8%
Bus	32.3%	47.0%	36.4%
Shuttle Bus	3.4%	12.6%	6.0%
Train	3.5%	2.7%	3.3%
Walk	7.0%	8.7%	7.5%
Cycle	15%	21.2%	16.7%
Other	1.5%	1.1%	1.4%

Total	100%	100%	100%
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Table 3.2: UoE 2016 Mode Share

An excellent sustainable mode share has been achieved for journeys to and from the UoE buildings at EbQ. In particular, car travel can be seen as a lesser mode share for both staff and students. In fact, if compared with the 2013 Travel Survey results detailed in Appendix A, a slight decrease in car travel has been achieved in the period between 2013 and 2016.

In addition to the baseline mode share information, the results of the 2016 UoE Travel Survey highlight that:

- The majority of staff and students (62.5%) travel to EbQ by public bus or bicycle. There is still however a portion of car trips, totalling 29%; and
- 24% of staff at EbQ could be encouraged to take public transport if the journey times were to be reduced. Furthermore, 21% would be encouraged if there was a direct service within walking distance from their home.

The current sustainable travel practice of the UoE buildings at EbQ is exemplary. The public transport and cycling mode share both exceed the LTS 2020 mode share targets, whilst the car mode share meets the 29% target for this mode of transport.

3.2.3 Combined EbQ Mode Share

The results of the 2016 and 2017 Travel Surveys for the UoE and EbQ can be combined, as seen in **Table 3.3** below, to provide an overall mode split for the EbQ site.

Note for the purposes of combining the mode share, UoE trips by shuttle bus and train have been classed as public transport trips.

Mode of Transport	EbQ Combined	UoE Combined	Combined EbQ
Car driver	50.9%	26.9%	46.3%
Car passenger	7.4%	1.8%	6.3%
Public Transport	29.2%	45.7%	32.4%
Walk	2.6%	7.5%	3.6%
Cycle	6.1%	16.7%	8.2%
Other (incl. Motorcycle)	3.7%	1.4%	3.3%
Total	100%	100%	100%

Table 3.3: Combined EbQ 2016/17 Mode Share

3.3 Local Transport Strategy Mode Share Targets

The CEC LTS, 2014 to 2019, identifies key mode share targets for 2020 for trips to work and for all trips made by Edinburgh residents. These targets are outlined in **Table 3.4** below.

Mode of Transport	Travel to Work	All Trips
Car	29%	31%
Public Transport	32%	21%
Walk	21%	36%

Cycle	15%	10%
Other (incl. Motorcycle)	2%	2%
Total	100%	100%

Table 3.4: CEC LTS 2020 Mode Share Targets

When compared to the above LTS targets, mode share data gathered in the 2017 EbQ Travel Survey and the 2016 UoE Travel Survey is highlighted to be close in range. For travel by public transport specifically, an excellent mode share of 29.2% for EbQ (excluding UoE) and 45.7% for the UoE was registered, resulting in a combined public transport mode share of 32.4% and meeting the 2014-19 LTS travel to work target of 32%.

The results of the travel surveys do go on to show that whilst the EbQ (excluding UoE) car mode share is higher than that specified for the 2014-19 target in the LTS, the UoE car mode share meets the target. However, when considering travel patterns to EbQ, it should be noted that the site is located on the periphery of Edinburgh and, therefore, a high proportion of trips are likely to be outside a walking distance. Furthermore, a number of trips to the site are made by patients who may not be able to travel to the RIE on foot or by bicycle.

The results of both the EbQ and UoE travel surveys demonstrate that an excellent sustainable travel culture has been created at the existing EbQ site and can be built upon through the development of measures for the overall EbQ area.

Bespoke mode share targets for each of the EbQ user groups have been developed **Chapter 4**.

3.4 Subsequent Travel Surveys

Subsequent Travel Surveys, covering all occupiers, will be undertaken at regular intervals and form part of the TP monitoring process.

As there will be a phased occupancy at EbQ, it is proposed that each of the larger occupiers (e.g. RHSC) undertake a Travel Survey within 6 months of opening. Continued EbQ surveys will be required and once all development has been completed and is operational, the surveys will synchronise.

The monitoring process is detailed in **Chapter 7**.

4 Aims, Objectives and Targets

4.1 Context

This TP is based around core aims, objectives, and targets which represent the aspirations of occupiers of the overall EbQ site to maintain and develop sustainable travel practice.

4.2 Aims

The key aims of this TP are to:

- Reduce the proportion of car driver trips to EbQ and ensure travel choice for staff, patients, and visitors to the area; and
- Increase the proportion of public transport, walking, and cycling trips to EbQ.

4.3 Objectives

The objectives of this TP, which must be achieved in order to fulfil the aims, are as follows:

- To continue to encourage high quality public transport links to EbQ, building upon the existing provision;
- To maximise the potential for permeability in all areas of EbQ;
- To maximise the advantage of the close proximity of neighbouring developments through joint initiatives aimed at encouraging transport alternatives to car trips made during the working day or removing the need to travel altogether for certain trip purposes;
- Business travel network;
- To prevent congestion on the local highway network and mitigate against overspill parking onto the surrounding roads;
- To protect the existing and future public transport network through safeguarding of key areas so as to improve accessibility to EbQ for all;
- To secure the commitment of future EbQ occupiers to the principles of the TP;
- To highlight the financial, health and environmental benefits associated with sustainable travel; and
- To improve the local air quality and reduce CO₂ emissions via increased sustainable travel including walking, cycling, public transport, and electric vehicle use.

4.4 Targets

4.5 Indicative Mode Share Targets

The mode share targets identified within the 2009 TP are summarised in **Table 4.1** below. These targets take account of the 2009 travel patterns to the NHSL RIE and UoE; the planning obligations for EbQ masterplan lands; and the results of the high level modelling work undertaken as part of the Transport Study for the overall EbQ.

Mode of Transport	Baseline***		2022 Target (EbQ total)
	NHSL RIE	UoE	
Car Driver	54.6%	23%	46%
Car Passenger	-	2%	2.7%
Public Transport*	33.5%	42%	37%
Walk	2.5%	3.9%	5%
Cycle	2.6%	18%	6%
Taxi	-	0%	1%
Other**	6.8%	11.1%	2.3%
Total	100%	100%	100%

Table 4.1: 2009 EbQ Travel Plan Targets

Incl. rail **Incl. motorcycle & shuttle bus *Baseline from NHSL RIE & UoE travel surveys*

The 2022 mode share targets, as set out in the 2009 TP, require to be refreshed given the progress that has been made between 2009 and 2016/17 with regard to increased cycling and walking mode shares.

In revisiting the targets the following will also be accounted for:

- Baseline figures from the EbQ travel surveys;
- A target of 56% or less car driver trips to EbQ (as per the original planning conditions);
- Existing transport links;
- Future transport improvements in the area;
- Previous transport studies undertaken; and
- On-site parking management.

Previous mode share targets, as shown in **Table 4.1**, have been presented as combined for EbQ. Given the level of travel data that is now available and to allow full implementation of this Travel Plan the mode share targets have now been disaggregated between the different sets of users at EbQ from this point forward to allow appropriate and targeted measures to be implemented for each user group.

The proposed mode share targets for the various EbQ user groups are highlighted in **Table 4.2- 4.6** below. These targets are provisional, are to be agreed with CEC, and are subject to change based upon the results of subsequent surveys.

The briefing note detailing how these targets have been developed can be seen in Appendix C.

Mode of Transport	2017 Mode Share	2018 Target	2019 Target	2020 Target	2021 Target	2022 Target
Car driver	53.4%	51.6%	48.3%	45.7%	43.7%	42.0%
Car passenger	3.6%	3.8%	3.9%	4.0%	4.3%	4.5%
Public Transport	28.7%	29.9%	32.1%	33.5%	34.1%	34.9%
Walk	2.9%	3.1%	3.3%	3.9%	4.8%	5.4%
Cycle	9.8%	10.1%	11.0%	11.5%	11.7%	11.9%
Other (incl. Motorcycle)	1.6%	1.5%	1.4%	1.4%	1.4%	1.3%
Total	100%	100%	100%	100%	100%	100%

Table 4.2: EbQ Staff (excluding UoE) Mode Share Targets, 2017 – 2022

Mode of Transport	2017 Mode Share	2018 Target	2019 Target	2020 Target	2021 Target	2022 Target
Car driver	41.1%	39.5%	38.3%	37.2%	36.1%	35.5%
Car passenger	18.0%	19.0%	20.0%	21.0%	22.0%	22.3%
Public Transport	29.1%	29.9%	30.1%	30.2%	30.3%	30.6%
Walk	1.1%	1.2%	1.3%	1.4%	1.5%	1.6%
Cycle	1.1%	1.2%	1.3%	1.4%	1.5%	1.6%
Other (incl. Motorcycle)	9.4%	9.2%	9.0%	8.8%	8.6%	8.4%
Total	100%	100%	100%	100%	100%	100%

Table 4.3: EbQ Patient Mode Share Targets, 2017 – 2022

Mode of Transport	2017 Mode Share	2018 Target	2019 Target	2020 Target	2021 Target	2022 Target
Car driver	51.9%	50.9%	48.8%	47.4%	45.8%	44.5%
Car passenger	8.9%	9.0%	9.3%	9.7%	10.2%	10.5%
Public Transport	30.6%	31.6%	32.9%	33.7%	34.4%	35.0%
Walk	3.1%	3.1%	3.3%	3.4%	3.7%	3.9%
Cycle	0.8%	0.9%	1.4%	1.6%	1.9%	2.2%
Other (incl. Motorcycle)	4.8%	4.5%	4.3%	4.2%	4.0%	3.9%
Total	100%	100%	100%	100%	100%	100%

Table 4.4: EbQ Visitor Mode Share Targets, 2017 – 2022

Mode of Transport	2017 Mode Share	2018 Target	2019 Target	2020 Target	2021 Target	2022 Target
Car driver	35.0%	33.5%	32.3%	31.2%	30.3%	29.5%
Car passenger	2.3%	2.6%	2.8%	3.0%	3.1%	3.3%
Public Transport	39.2%	39.9%	40.5%	41.1%	41.5%	41.9%
Walk	7.0%	7.3%	7.5%	7.7%	7.7%	8.0%
Cycle	15.0%	15.2%	15.5%	15.7%	15.9%	16.0%
Other (incl. Motorcycle)	1.5%	1.5%	1.4%	1.3%	1.3%	1.3%
Total	100%	100%	100%	100%	100%	100%

Table 4.5: University of Edinburgh Staff Mode Share Targets, 2017 – 2022

Mode of Transport	2017 Mode Share	2018 Target	2019 Target	2020 Target	2021 Target	2022 Target
Car driver	6.2%	5.7%	5.3%	4.9%	4.5%	4.0%
Car passenger	0.5%	0.7%	0.8%	0.9%	1.0%	1.0%
Public Transport	62.3%	62.5%	62.6%	62.7%	62.8%	63.0%
Walk	8.7%	8.8%	8.9%	9.0%	9.1%	9.3%
Cycle	21.2%	21.3%	21.4%	21.5%	21.6%	21.7%
Other (incl. Motorcycle)	1.1%	1.0%	1.0%	1.0%	1.0%	1.0%
Total	100%	100%	100%	100%	100%	100%

Table 4.6: University of Edinburgh Student Mode Share Targets, 2017 – 2022

5 Travel Plan Strategy

5.1 Context

The responsibility for the overarching TP will lie with the Travel Plan Coordinator (TPC), in association with the various partner organisations occupying the site.

5.2 Travel Plan Coordinator

The TPC for the EbQ TP is now in place and provides a focal point and a link between the various service providers; their staff; and external stakeholders such as bus operators and CEC. The duties of the TPC include:

- Responsibility for the overall management, development, and implementation of the TP;
- To oversee the marketing and consultation of the TP;
- To organise and run the TP Working Group;
- To act as a focal point for external stakeholders;
- To attend meetings as and when required with EbQ partners, stakeholders and CEC;
- To be aware of current and future legislation regarding transport opportunities and constraints;
- To seek funding opportunities to assist EbQ partners with the implementation of new measures; and
- To actively market and encourage transport alternatives to the private car for journeys to and from the EbQ.

5.3 Implementation

The proposed implementation strategy for the TP measures is graphically represented in **Figure 5.1**.

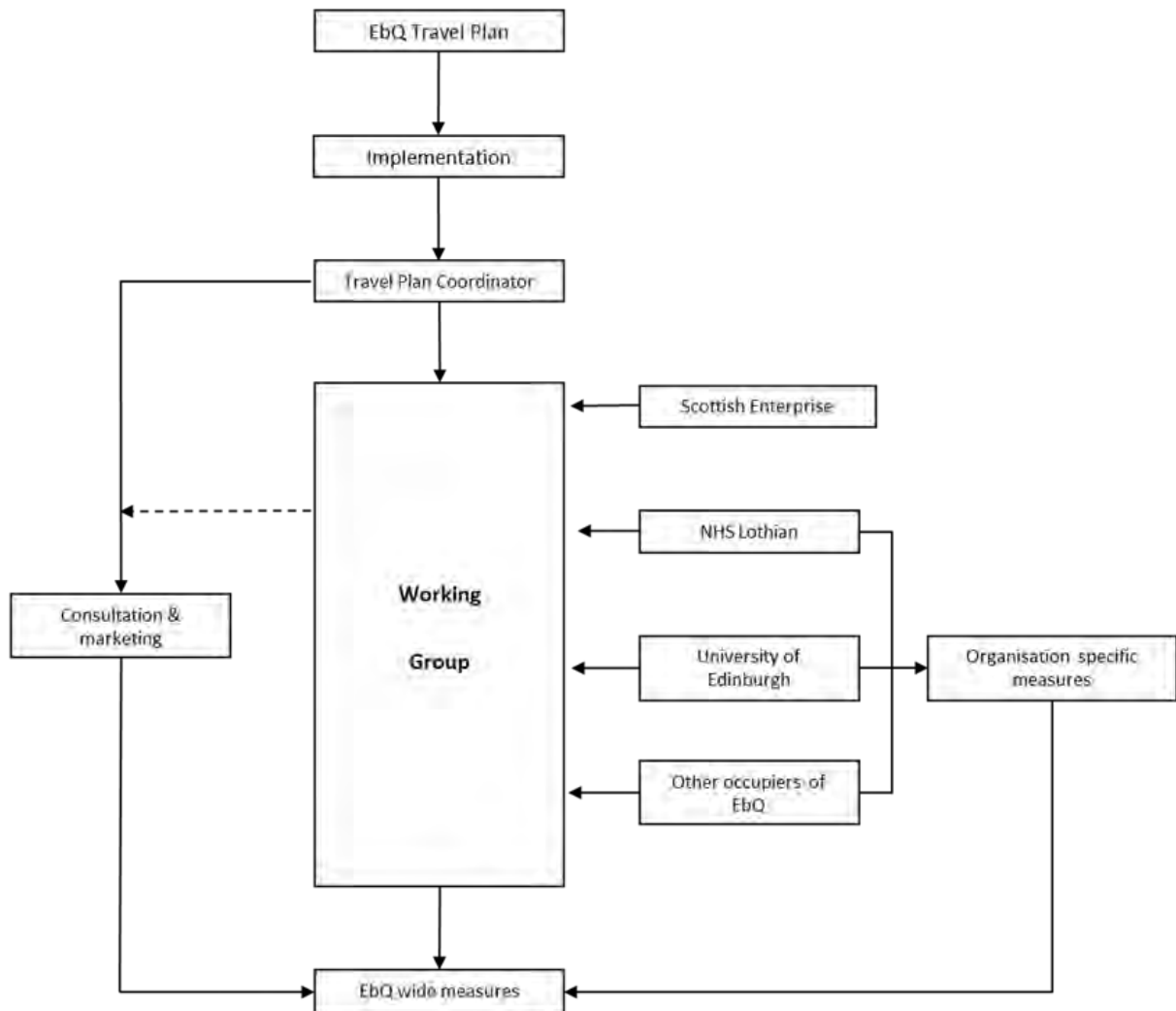


Figure 5.1: Responsibility for TP Implementation

As illustrated, the overall responsibility for the implementation of the TP lies with the TPC, who will report to the EbQ Working Group consisting of the main stakeholders associated with the EbQ site. There will be measures specific to each occupier which will require to be developed and implemented to coordinate with the overall aims and objectives of the overarching EbQ TP.

Consultation and marketing of the EbQ TP will be the overall responsibility of the TPC, however it will be the responsibility of the Working Group to disseminate information to each individual organisation.

5.4 Strategy

The strategy for the TP identifies the process for its development and implementation. This is essential to ensure that it:

- Develops the necessary resources to implement the plan;
- Engages relevant stakeholders; and
- Consults and educates all those who visit EbQ on travel options for getting to and from the site.

A proposed timeline for the development and implementation of the EbQ TP is summarised in **Table 5.1** below. It should be noted that the expansion of EbQ is planned in phases and, therefore, the TPC requires to take the same phased approach in the timing of the development of TP measures and the marketing of the overall TP.

Task	Action	Target Completion Date
1	Appointment of TPC	Completed Spring 2017
2	Set up Working Group responsible for the implementation of measures	Prior to build completion for RHSC/DCN
3	Consultation with stakeholders e.g. bus operators, Sustrans, CEC	Prior to build completion for RHSC/DCN and ongoing
4	Conduct further Travel Surveys	Within 6 months of occupation*
5	Setting of proposed modal shift targets	Completed Summer 2017
6	Agreement of modal shift targets with CEC	Prior to build completion for RHSC/DCN
7	Parking strategy (separate document)	At least 1 year prior to build completion
8	Implementation of physical measures	Prior to first occupation
9	Implementation of marketing and consultation measures	At least 6 months prior to build completion
10	Launch TP and measures	Prior to first occupation
11	Active participation in travel events	Ongoing
12	Annual Travel Surveys	Every year after baseline survey until full masterplan completion and then every 2 years

13	Review of progress towards targets	In combination with monitoring Travel Surveys
14	Full review of TP with CEC	2 years subsequent to launch of TP

Table 5.1: TP Strategy

** Applicable to each large occupier and to tie in with phased occupation of the site*

5.5 Marketing and Promotion

It was suggested, by a number of respondents to the 2017 EbQ Travel Survey, that for staff relocating from existing NHSL sites to EbQ journeys to work will become more difficult. Marketing and promotional measures will therefore play a critical role in ensuring all staff and visitors are fully aware of the travel options available to them, and in the success of the TP.

5.5.1 Travel Options Information

The dissemination of travel option information will be critical in maintaining a high sustainable mode share for those travelling to the EbQ, as the existing services at EbQ already achieve a high sustainable mode share, and in encouraging sustainable transport use amongst the staff relocating.

As the number of occupiers at EbQ is set to increase, it is important to ensure that all staff, patients, and visitors to the site are aware of the benefits and opportunities associated with the TP and of the travel choices available. There will be clear synergies between the travel requirements of each occupier, however in some instances the marketing will require to be independent to ensure organisation specific measures are highlighted.

The Working Group will develop a staff induction pack which will be given to all staff at EbQ. The pack will contain information on public transport service provision; walking and cycling routes; and the health, environmental and financial benefits of sustainable travel. Each organisation will also be required to provide specific information to their staff of any internal measures associated with sustainable travel, such as discounted public transport season tickets; cycle to work schemes; and/ or pool cars/ cycles or flexible working practices.

A travel information guide is currently being prepared for all staff, visitors and patients to the EbQ, and will be available online for all to access by winter 2017. The guide will provide information on accessing the site by public transport with routes; journey times; timetables; and cost, and will allow each occupier to insert any specific information, such as patient travel to the NHSL RIE.

5.5.2 Mobile Travel App

It is also recommended that the TPC investigates the development and implementation of an EbQ mobile application. The app would provide a simple, relevant, and centralised information point for EbQ for all users regardless of employer or reason for visit.

It is anticipated that any app developed would initially cover the following areas:

- Mapping function with current location and route planning within/ to/ from EbQ, including carbon information for journey alternatives;
- Timetables for public transport to/ from EbQ;
- The ability to sign up to and search for lift share options;
- EbQ news and links to the TP, parking policy and Cycle to Work schemes (where appropriate);
- Active travel routes;
- Feedback/ comments section;
- Notifications of any service changes/ incidents/ events etc.;
- Parking management;
- Future bike hire schemes; and
- Profile functionality for ease of continued use, setting of home location and saving timetables etc. for alerts when updates are provided.

An application for funding to develop the app was submitted to SEStran as part of their 2017 FAST Grant funding however this was unsuccessful this time and alternative sources of funding will be investigated.

5.5.3 Digital Screens/ Notice Boards

Where applicable, each organisation will provide a digital screen in visible locations such as communal staff areas and building reception areas. These digital screens will provide an additional focal point for the TP, providing up to date information on local public transport services, including real time bus information, and news on upcoming events. The digital screens may also advertise the health, financial, and environmental benefits of active travel. As a minimum, organisations should provide a notice board with hard copy information.

5.5.4 Signage

It is recognised that there will be a number of cross-site trips required throughout the working day. Clear and coherent signage is therefore integral to directing pedestrians and cyclists through the EbQ site to the external network including cycle routes, bus stops, and

other main travel generators. The signage will be implemented throughout the site at appropriate locations and forms part of the development proposals.

5.5.5 Intranet/ Internet

Travel information will be provided on a dedicated EbQ web page. This page will detail all public transport available in the area; walking and cycling information; car sharing opportunities; travel events; and will provide links to other relevant websites.

Each organisation will create a link from their own websites to this web page. Any additional organisation-specific information will be held on the individual websites such as car parking management.

The EbQ web page will provide contact details for the TPC and Working Group, and a section for questions, feedback, and suggestions.

5.5.6 Real Time Information

The NHSL RIE currently provides real time information for public transport services which enter the site. The TPC and Working Group will consider developing real-time information points at further key central locations.

The online BusTracker facility and bus tracker mobile phone applications will be promoted through the EbQ web page in association with improvements to public transport information.

5.5.7 Events and Campaigns

The occupiers of EbQ will be committed to taking part in events and campaigns, such as Bike Week, road shows during the European Mobility Week, travel choice events etc.

To date EbQ have already participated in two City of Edinburgh Council active travel challenges. One in spring 2017 which was specific to EbQ and only for staff at EbQ and a summer 2017 challenge which was Edinburgh wide. Sign up by EbQ staff to both challenges was positive and indicates a strong willingness from staff to participate in these types of events.

Prior to any future occupation at the EbQ, the TPC and Working Group will organise an initial introductory campaign to promote the launch of the TP and its measures.

6 Travel Plan Measures

6.1 Context

The measures detailed in this Chapter will be delivered together through a partnership approach between Scottish Enterprise, NHSL, and University of Edinburgh, and with the cooperation of other tenants and organisations based at EbQ.

6.2 Walking and Cycling

Walking and cycling are cheap, reliable, environmentally friendly modes of transport and can lead to healthier lifestyles.

Both modes have proven health benefits, in particular as a form of exercise enabling people to get fit. For example, cycling can yield much the same improvements in physical performance as specific fitness training programmes. Increasing activity levels lowers the risk of major diseases such as coronary heart disease, and mental health problems. Sustrans state that incorporating physical activity into the daily routine can help towards prevention and recovery from ill health.

Further benefits associated with walking and cycling include:

- Convenience and reliability, saving time through relieving traffic congestion;
- Financial savings; and
- Environmental benefits, including zero emissions of carbon dioxide.

There is a growing body of research from around the world which indicates that people who actively commute to work benefit their employer through:

- Reduced absenteeism;
- Lower turnover rates;
- Improved productivity and employee morale; and
- Lower health costs.

In accordance with the specific requirements of the Masterplan lands planning consent, new pedestrian and cycle routes will be provided ensuring permeability throughout the EbQ site and links to the external network. There will also be enhanced pedestrian provision on Little France Drive with new pedestrian crossing facilities to allow ease of pedestrian movement from across the entire site.

Each occupier will also provide:

- Showering, locker and changing facilities;
- Covered and secure cycle parking in close proximity to building entrances; and

- The opportunity to purchase a bicycle through a salary sacrifice scheme/ interest free loan scheme.

The provision of pool bicycles, to be provided at locations onsite and accessible to all, will also be investigated for use by all occupiers of EbQ. The bicycles would be stored in covered and secure cycle parking bays and could only be rented out/ accessed by staff. Equipment such as a helmet and lock would be provided in combination with the use of the pool bicycles. UoE already supply 2 electric pool bikes at EbQ located at the SCRM and QMRI buildings.

Pool bicycles can be used to travel short distances, such as between buildings at EbQ and to meetings as an alternative to single car occupancy travel. They will also be available for staff to use for commuting purposes.

Furthermore, personal alarms will be considered for those vulnerable staff travelling to work on foot or by bicycle, particularly if working late at night or early in the morning. A buddy scheme for pedestrians will be considered, for the same reasons of safety, and will be developed using principles similar to those of a car-sharing scheme.

Both NHSL and the UoE have separate bicycle user groups (BUGs). Discussions are ongoing to combine both groups to provide a single BUG for the EbQ. Once established, future occupiers of EbQ will require to join the EbQ BUG which will provide cyclists with information on available routes, training, and maintenance of their bicycles.

6.3 Public Transport

The most recent Travel Surveys at EbQ highlight that a relatively high proportion of staff, visitors, and patients use public transport to travel to EbQ. In order to build upon this encouraging statistic and to make public transport use more attractive, the following measures will be implemented:

- Real time information installed at central locations and key strategic location throughout EbQ;
- The promotion of the online BusTracker facility and the SEStran Bus Tracker mobile app through the EbQ travel web page;
- The development of key pedestrian links from all areas to the safeguarded public transport route and to existing bus stops on the A7 Old Dalkeith Road; and
- Provision of new bus stops on Little France Drive.

Further measures which are to be investigated are as follows:

- Discounted public transport travel for staff, including the investigation of potential discounts for the SEStran one ticket which is of particular relevance to staff living out with the Edinburgh area; and

- Occupiers providing interest free loans or salary sacrifice schemes for staff to purchase public transport season tickets.

The opening of the Waverley Rail Line in 2015 and the future public transport (tram/ bus) route through the EbQ site would provide an excellent opportunity to increase public transport patronage. A specific requirement of the planning consent for the EbQ is the safeguarding of the public transport route running parallel to Little France Drive. In the long term, this route has the potential to be upgraded to accommodate the South East Edinburgh Tram.

As part of the expansion of EbQ, the existing onsite public transport infrastructure will be reviewed and improved to ensure improved service provision to all working at and visiting the site. The TPC and Working Group will attend regular meetings with the relevant Councils and public transport operators to monitor the progress of routes and provide input where required.

6.4 Reducing Unnecessary Car Use

While it is acknowledged that some staff located at EbQ may find it difficult to arrive by means other than the private car, and that some staff will require their car for work purposes, this section considers measures that will be implemented at EbQ to reduce the amount of unnecessary vehicle trips to the site.

6.4.1 Car Park Management

Parking provision at EbQ will be managed carefully to account for the sustainable travel opportunities available and the current regime operated at the NHSL RIE and within UoE car parks, without reducing accessibility.

6.4.2 Car Sharing

In addition to contributing to a reduction in congestion of the roads, car sharing has a number of benefits over driving alone which include:

- Financial savings;
- Opportunity to socialise;
- Helping the environment by reducing CO2 emissions; and
- Reducing parking pressure.

SEStran run a south east Scotland wide car sharing scheme called Tripshare in partnership with the UK wide car sharing organisation *liftshare*. Both NHSL and UoE are members of the Tripshare car-sharing scheme, and any future occupiers of EbQ will be required to sign up to this car sharing scheme.

The opportunity to create an EbQ specific car sharing scheme through Tripshare will be investigated as this would enable both staff and students across at the various organisations to search for matches on site.

As part of the car sharing scheme the following will be provided:

- A guaranteed ride home if required; and
- Car sharing spaces located in close proximity to building entrances.

6.4.3 Enterprise Car Club

The highly successful Enterprise Car Club (ECC) has been operating within Edinburgh for more than 10 years. ECC, based upon a group of people sharing a pool of cars rather than owning individual cars, has cars and parking bays located throughout the city to provide users with the flexibility to access a car as and when required. Cars may be picked up from any car club parking bay and can be returned to the same space, or to another car club destination in the city.

There is currently one ECC space available onsite, located in the QMRI car park. As part of the EbQ TP measures for implementation, further ECC spaces could be provided across the site, subject to approval by ECC. The provision of ECC vehicles onsite would provide the following benefits:

- Reduction/ replacement of need for pool cars;
- Reduction in the need for staff to bring their own cars to work for business purposes;
- Encouragement for visitors and patients to make linked trips if they have booked out ECC vehicles;
- Assistance in reducing car ownership; and
- Generation of financial savings for organisations and individuals who choose to sign up to the scheme.

Car clubs can also offer businesses self-service, round the clock access to a vehicle, with potential benefits including:

- Improvements in business efficiency;
- Reductions in risks;
- Removal of administrative headaches;
- Relieves parking pressure; and
- Improves environmental credentials.

Increasing the number of ECC vehicles will enable multiple organisations to share a vehicle, which could significantly reduce unnecessary car travel to work and reduce parking pressure at EbQ.

6.4.4 Electric Vehicles

The use of electric vehicles, for both commuting and business travel, should be promoted. The TPC will investigate if existing or new ECC vehicles could be upgraded to electric or hybrid vehicles. The UoE currently provide charging points and spaces for electric CCC vehicles at the city centre and King's Buildings campuses.

The TPC should also investigate the purchase of electric pool vehicles. The TPC should lead on this initially as pool vehicles have the potential to be an EbQ-wide scheme, and will be able to assist in the first instance if tenant specific. Electric vehicle charging points will be provided in new car parking facilities.

6.4.5 Motorcycle Parking

Provision will also be made for motorcycle parking.

6.4.6 Working Practices

Occupiers at EbQ will be asked to review and consider innovative working practices such as flexible working and staggered working times. This may not be practical for some occupiers, however, when possible, can assist in a reduction in impact on the road network at peak times of the day.

6.4.7 Business Travel Network

Consideration will be given to the creation of a Business Travel Network (BTN) for all stakeholders within EbQ. This would see the creation of a business-to-business network which would enable companies and occupiers of the EbQ to share best practice and promote the rationale for TPs and smarter travel choices.

The creation of a BTN would be the responsibility of the TPC assisted by the travel TP Working Group.

6.5 Action Plan

The action plan for EbQ is shown in **Table 6.1**. This pulls together the details the measures / actions listed throughout this Travel Plan which are to be implemented, where responsibility lies, and timescales for implementation.

Action	Resource Implications / Responsibility	Timescale
Launch and ongoing promotion of the Travel Plan	Travel Plan Coordinator	Month of Travel Plan launch and ongoing
Covered and secure cycle parking to be provided in close proximity to building entrances	EbQ Partners	As new buildings come online
Showering, locker and changing facilities to be provided	EbQ Partners	As new buildings come online
Investigation and encouragement of bicycle purchase scheme to be offered by occupiers of site	Travel Plan Coordinator	Ongoing
Promotion of the online BusTracker facility and the SEStran Bus Tracker mobile app through the EbQ travel web page	Travel Plan Coordinator	Ongoing
Development of key pedestrian links from all areas to the safeguarded public transport route and to existing bus stops on the A7 Old Dalkeith Road	EbQ Partners / Travel Plan Coordinator	As new buildings come online
Provision of new bus stops on Little France Drive	Travel Plan Coordinator	Ongoing
Increase Enterprise Car Club cars and use on site	EbQ Partners / Travel Plan Coordinator	As new buildings come online
Creation of Business Travel Network	EbQ Partners / Travel Plan Coordinator	As new buildings come online
Promotion of car sharing opportunities and benefits	Travel Plan Coordinator	Ongoing
Investigation of occupiers providing interest free loans or salary sacrifice schemes for staff to purchase public transport season tickets	Travel Plan Coordinator	Ongoing

Investigation into discounted public transport travel for staff	Travel Plan Coordinator	Ongoing
Investigate electric pool cars for site wide use	Travel Plan Coordinator	Ongoing
Travel Roadshow	Travel Plan Coordinator	Delivery throughout the year
Dr Bike Session	Travel Plan Coordinator	To coincide with travel roadshows ideally.
RTI displays	Travel Plan Coordinator	As buildings come online
Cycle training sessions	Travel Plan Coordinator	Delivery throughout the year
Led cycle rides	Travel Plan Coordinator	Delivery throughout the year
Active Travel Challenge	Travel Plan Coordinator to take on or organise for outside support	Run over the summer / autumn months each year
Public Transport Challenge	Travel Plan Coordinator to take on or organise for outside support	Run over the autumn / winter months each year

Table 6.1:EbQ Travel Plan Action Plan

7 Monitoring and Review

7.1 Context

Travel planning is an ongoing process and a TP is an evolving document which needs to be monitored and reviewed on a frequent basis. Efficient monitoring and review of the TP will ensure that it continues to meet with the needs of users of EbQ and is flexible to internal and external influences.

7.2 Travel Surveys

A key element of the monitoring and review process is to conduct frequent Travel Surveys of staff, visitors, and patients at EbQ. As outlined in **Chapter 5**, and moving forward, Travel Surveys should be undertaken within 6 months of any new occupation and annually thereafter, until completion of the Masterplan development. Travel Surveys should occur every second year after this point.

The baseline mode share for EbQ has been identified through the 2016/17 EbQ and UoE travel surveys and further surveys will build upon these figures.

Owing to the phasing of development at EbQ, it will be the responsibility of the TPC to provide each new occupier with a travel survey template, in order to standardise the surveys and results, and to collate the results for each occupier. The results should then be compared to the average behaviour for the site and the mode share targets.

Future travel surveys will serve to enable the following:

- Baseline travel patterns to be ratified in the context of the EbQ site;
- Staff mode share targets to be tailored as required and in consultation with CEC;
- Visitor and patient mode share targets to be accurately set; and
- Progress and short-term benefits achieved since operation identified so that any necessary review of the TP can take place.

7.3 Further Measures

To complement future travel surveys, the following will also be undertaken:

- Cycle parking counts;
- Car parking counts; and
- Count of the uptake on various financial measures.

As part of the monitoring and review process, a report will be submitted to CEC, and to all occupiers of the EbQ, outlining the most recent travel survey results and figures from the above counts.

Appendices

Appendix A – Historic Mode Share Data

Travel Data Review, 2004 – 2017

Context

Travel Surveys are designed to gather information on individual and collective travel behaviour, including demand by mode of transport; journey origin and destination points; and perceptions of travel, and, if undertaken regularly, paint an accurate picture of travel to a site over time.

At Edinburgh bioQuarter (EbQ), Travel Surveys have been undertaken since 2004 with NHS Lothian (NHSL) collecting and analysing travel data from staff, patients and visitors at the Royal Infirmary Edinburgh (RIE), and the University of Edinburgh (UoE) carrying out similar with staff and student groups at their buildings on-site.

In the years since 2004, NHSL Travel Surveys have occurred in 2006 and, most recently, in spring 2017 as detailed fully in the 2017 Edinburgh bioQuarter Travel Survey Report. University of Edinburgh have continued to survey separately, with their on-site buildings included in organisation-wide travel surveys in three year intervals from 2004 onwards.

NHS Lothian

The 2004 NHSL Travel Survey established the RIE mode share to be as follows:

Mode of Transport	Staff	Patients	Visitors	Combined
Car	48.5%	55.1%	67.1%	54.6%
Public Transport	37.6%	31.8%	25.8%	33.5%
Walk	3.7%	1.2%	1.3%	2.5%
Cycle	4.5%	0.5%	0.2%	2.6%
Other	5.7%	11.5%	5.7%	6.8%
Total	100%	100%	100%	100%

Table 1: NHSL RIE 2004 Mode Share

The 2006 NHSL Travel Survey allowed for the RIE mode share to be updated, and it was registered as follows:

Mode of Transport	Staff	Patients	Visitors	Combined
Car	49.5%	60.9%	71.1%	56.8%
Public Transport	33.3%	27.8%	23.0%	29.3%
Walk	3.8%	1.2%	0.8%	2.6%
Cycle	6.0%	0.8%	0.6%	3.6%
Other	7.3%	9.7%	4.5%	7.7%
Total	100%	100%	100%	100%

Table 2: NHSL RIE 2006 Mode Share

Comparison between the 2004 and 2006 modal splits highlights a minor increase in car travel. This increase is shown to principally relate to patients and visitors, however no information was available from the survey to understand the likely reason for this increase. Possibilities include a higher volume of patients using the hospital in 2006 than 2004, with the proportion of trips by car would increase accordingly.

Looking to the most recent travel data gathered, the 2017 mode share was found to be as follows:

Mode of Transport	Staff	Patients	Visitors	Combined
Car driver	53.4%	41.1%	51.9%	50.9%
Car passenger	3.6%	18.0%	8.9%	7.4%
Public Transport	28.7%	29.1%	30.6%	29.2%
Walk	2.9%	1.1%	3.1%	2.6%
Cycle	9.8%	1.1%	0.8%	6.1%
Other	1.6%	9.4%	4.8%	3.7%
Total	100%	100%	100%	100%

Table 3: EbQ (excluding UoE) 2017 Mode Share

From these results, it can be seen that EbQ (excluding UoE) has an excellent public transport share of 29.2% in 2017, near matching the 29.3% in the 2006 NHSL RIE survey. The results also show that there has been an increase in the combined walking/cycling mode share between 2006 and 2017 from 6.2% to 8.8%. This increase is mainly accounted for by staff travel; it is realistic to assume that the majority of patients will not be able to walk or cycle to the hospital, accounting for the low walk/ cycle mode share amongst this group.

A review of the car mode share does show a minor increase from 2006 to 2017, with the 2006 combined at 56.8% and the 2017 combined slightly higher at 58.3%. This increase can be attributed to a larger increase amongst staff to the site travelling by car. Possible reasons could include a higher volume of staff present on the EbQ campus from 2006, with the opening of Building Nine in 2013 and the introduction of a different demographic of staff than the NHS Lothian RIE.

University of Edinburgh

The University of Edinburgh's frequent travel surveys have highlighted exemplary sustainable travel practice over time. Prior to the most recent 2016 undertaking, a Travel Survey was carried out in 2013. The mode share established among staff and student groups was as follows:

Mode of Transport	Staff	Students	Combined
Car Driver			
Car Passenger			
Bus			
Shuttle Bus			
Train			
Walk			
Cycle			
Other			
Total	100%	100%	100%

Table 4: University of Edinburgh 2013 Mode Share

The 2016 University of Edinburgh mode share was found to be as follows:

Mode of Transport	Staff	Students	Combined
Car Driver	35.0%	6.2%	26.9%
Car Passenger	2.3%	0.5%	1.8%
Bus	32.3%	47.0%	36.5%
Shuttle Bus	3.4%	12.6%	6.0%
Train	3.5%	2.7%	3.3%
Walk	7.0%	8.7%	7.5%
Cycle	15%	21.2%	16.7%
Other	1.5%	0.0%	1.4%
Total	100%	100%	100%

Table 5: University of Edinburgh 2016 Mode Share

The above tables highlight that an excellent sustainable mode share has been achieved for journeys to and from the UoE buildings at EbQ. Tables 4 and 5 also demonstrate that car travel is in the minority for both staff and students, with a slight decrease between 2013 and 2016.

Summary

Travel data gathered from staff, student, patient, and visitor groups at EbQ in the time since 2004 has firmly established the site's baseline conditions upon which to compare the most recent travel survey findings, and to inform the development of targets and measures within the 2017 Travel Plan.

While historic NHSL travel data highlights a minor increase in car use, data gained in 2017 shows an increased use of sustainable transport modes since. University of Edinburgh staff and students are seen to have made further advances towards sustainable travel, with their current practice exemplary.

Appendices
Appendix B – 2017 Edinburgh bioQuarter Travel Survey Report

AGENDA		
Meeting Title:	RHCYP + DCN Programme Board	
Date/Time:	13 May 2019 / 14.30 – 16.30	
Location:	MacKinlay Room, RHSC&DCN Project Office, Little France Crescent	
Item		Lead
1.	Introductions / Apologies	JC
2.	Previous Action Notes from 06 February 2019	JC
	- <i>Matters Arising</i>	
3.	Project Dashboard / Post Handover Activities (<i>paper enclosed</i>)	BC
4.	Residual Risks (<i>risk register enclosed</i>)	BC
5.	Commissioning + Migration Update	JMacK
6.	Sciennes Road Decommissioning	CG/RH
7.	RHCYP Service Update	FM
8.	DCN Service Update	MP
9.	CAMHS Service Update	CR/GB
10.	Finance Update	NB
11.	Operations / Contract Management Update	SD
12.	Travel Plan Update	SD
13.	Communications Update	LC
14.	Any Other Business	
15.	Future Meeting <i>05 August 2019</i>	

NOTES

Meeting Title: RHSC + DCN Programme Board

Date/Time: Wednesday, 6 February 2019 / 15.00 – 17.00

Location: MacKinlay Room, Project Offices

Present: Brian Currie (BC), Ronnie Henderson (RH), Janice Mackenzie (JMack), Dorothy Hanley (notetaker), Susan Goldsmith (SG), Callum Gordon (CG), Iain Graham (IG), Mairi MacCrae (MM), Sorrel Cosens (SC), Nick Bradbury (NB), George Curley (GC), Gwynneth Bruce (GB), Judith Mackay (JM), Jim Crombie (JC), Fiona Mitchell (FM), Michael Pearson (MP), Alison Mitchell (AM), Angela Timony (AT), Donna Stevenson (DS)

<i>Item</i>		<i>Action</i>
1.	Apologies Carol Potter, Lynsey Cullen, Eddie Doyle, Jane Hopton, Cathy Richards, Chris Stirling	
2.	Previous Action Notes from 26 November 2018 - Matters arising no items not covered in agenda	
3.	Project Dashboard Executive summary covers all main issues no additional items to flag up	
4.	<p>Construction Progress and Settlement progress (verbal) Presentation slides presented (attached).</p> <ul style="list-style-type: none"> - January F+R committee and today's Board meeting agreed terms of settlement and extension of long stop by 1 month. - Meeting this morning's outcome not known at point of putting presentation together but not all of the paperwork looks likely to be ready so sign off unlikely tomorrow but should happen in next few days <p>Q1 Nick - Does programme set out when staged payments will be made. BC -Yes, May and June.</p> <p>BC showed the Programme summary and Extent of Works drawings. Outcome of joint works schedule is that commissioning will now need to happen alongside extensive number of affected rooms. To make this work will require a lot of communication and cooperation between MPX and NHS</p> <p>Key dates are as per JC email circulated with the PB papers.</p> <p>In parallel with all of the works described will be the Hospital Square works – those may extend beyond Live Date</p> <p>Q2. Post completion works – will be done in line with HAI scribe as keen to avoid conflict with works and compliance with HEI? RH/ BC No, will be done under CDM (works sectioned off)</p> <p>Q3 What if MPX late BC -all covered in SA. Full Payment MEC from day 1, and any snags put through the helpdesk</p>	
5.	<p>Project Risk Register Update Updated register circulated with papers. 3 High risk remaining Proposal for risks 4145, 3843 moving to Service RR was accepted 4174 – is to remain open as issue crosses different services. Should be resolved in 4-6 weeks. JC asked for this to be brought back to next meeting anticipating closure at this stage.</p>	Add to May Agenda 1

	<p>Q4 FM asked that feedback on Parking permit application process outcomes needed asap to allow planning of working patterns, pool cars etc. To date submissions had been put in to Steven as part of scoping exercise. GC stressed need for overall equity on the site. There are a limited number of spaces and there may be a need for a second stage review to ensure essential workers who need to access their car for their duties (community). GC confirmed that one of the mitigations is that "Service Need" weighting can be applied on request of Services SC added that RMH staff would like to be considered for spaces alongside NHS staff.</p> <p>FM raised Proximity Parking may also present an additional risk as there are staffing resource implications to man the barriers and manage booking of these spaces. Group meeting again tomorrow and JC requested more information following that</p> <p>Residual risk register will be brought to next meeting.</p> <p>Q5 GC asked that Pest Control be added to that – with particular focus on helipad as this is in close proximity to air intakes which may prove to be an issue. BC clarified that external envelope is not NHS obligation or responsibility. GC acknowledged that was true but as NHSL has definite interest in ensuring robust precautions in place there was a plan for RH to support an External review following handover</p>	<p>Services to action</p> <p>Add to May Agenda</p> <p>Add to May Agenda</p>
6.	<p>Commissioning Update</p> <p>Command centre set up with minimum of daily huddles and rota for leads per day from within the team</p> <p>Plan for equipping the hospital being reviewed in light of the programme of works</p> <p>Induction presentations at home sites start in March and Familiarisation tours in April</p> <p>NB working with Neil McLennan, Project Team, to ensure what we can get in before year end we do. He is comfortable there are levers in place to mitigate and manage process</p> <p>JC keen to minimise risks of negative spin during the moves JMack assured him that detailed planning is in place – JC would like to see detailed plan at May meeting</p> <p>Q6 Operational readiness – are all documents BYES were to develop ready and Help Desk up and running? BC Not all ready despite supports for process by project team. He advised that BYES are currently re-structuring that may also impacting on moving this forward</p> <p>IHSL and BYES have been asked to meet but not forthcoming as yet</p> <p>JC /SG will escalate.</p>	<p>Add to May Agenda</p> <p>JC/ SG</p>
7.	<p>Decommissioning Update</p> <p>Due to hand over to purchasers on 1st Sept which will be tight 6 week timeframe from migration particularly if site is to be cleared effectively.</p> <p>Edinburgh Council Planning Department were meeting today to discuss the planning application and depending on the outcome of this there may be leeway in dates</p> <p>Resources familiar with site, radiology protection, and robust security essential.</p> <p>Terms of sale includes all fixed items within the building.</p> <p>Harrow Green, removal company being used for the moves, are also registered for decommissioning so although another contract would be needed they may be appropriate to approach to assist</p> <p>It may be possible to clear any rooms not being used in advance of the migration.</p> <p>Walk round planned mid February with Michelle Finnie and Estates colleagues</p> <p>Q7 SG queried the costs associated with decommissioning. NB explained how the costs had been informed but that further work would be done around the estimates used for the purpose of the paper. CG and he will pick this up in their February meeting</p>	<p>Add to May Agenda</p>

8.	<p>RHSC Service Update paper as submitted</p> <p>Outstanding paper re haematology oncology staffing went to SMT last year. JC hadn't been sighted on it although SG and NB commented that Andrew Bone was working through the list of priorities</p> <p>Oncology and ED papers raise concerns about finance to support level of investment required. FM expanded on front door issues, stressing that phased approach to staffing uplift was proposed</p>	
9.	<p>DCN Service Update</p> <p>Paper as submitted. And risks around staffing discussed in RR</p> <p>Now that we have dates for the move MP will discuss with Glasgow interventional radiology</p>	MP
10.	<p>CAMHS Service Update</p> <p>Paper as submitted.</p> <p>Noted that CAMHS community services which were being displaced as part of the RHSC move have now all got new bases</p>	
11.	<p>Finance - Nick to review and provide any amendments</p> <p>200k overspend position</p> <p>700k additions (incl hospital square, canopies and gases)</p> <p>Equipment contingency 1.5 m against 1.2 m.</p> <p>Contingency for off site storage retained for now</p> <p>NB to submit updated paper to reflect changes since paper submitted</p> <p>Q8 DS asked if contingency should sit against equipment. NB Explained this is a nominal placement only, alternative would be to separate off on its own budget line</p> <p>BC reassured the meeting that Board Changes and off site floods are pretty much accounted for</p>	NB
12.	<p>AOB</p> <p>Communications – JC keen to put more information out and start reaching out to key individuals to promote good news story</p> <p>JM reported that a 3 month out PR plan being developed – key learning from Glasgow is being incorporated into process. Main point was to retain some of the positive elements of the building until after opening</p> <p>NB advised on a proposal to improve consistency of Project reporting – F+R draft templates to be circulated (not suggesting that this project changes reporting method, but would use our knowledge to inform final template structure</p>	NB
13.	<p>Next meeting</p> <p>Monday 13th May 2019</p> <p>Mackinlay Meeting Room, Project Office, Little France</p>	BC



**RHSC & DCN – LITTLE FRANCE
PROGRAMME BOARD – 13th May 2019**

COMMISSIONING UPDATE

Recommendation/ action required:

The Programme Board is asked to note the current commissioning update.

Author:

Director:

Janice MacKenzie Project Clinical Director RHSC and DCN reprovision	Brian Currie Project Director RHSC and DCN reprovision
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NHS Lothian**Programme Board Meeting
13th May 2019****Project Director****COMMISSIONING UPDATE****1 Purpose of the Report**

- 1.1 The purpose of this report is to update the Programme Board regarding commissioning activities and readiness for the services moves between 5th to 13th July 2019.

Any member wishing additional information should contact the Executive Lead in advance of the meeting.

2 Recommendations

The Board is recommended to note the current update.

- 2.1 Accept the update and acknowledge the commissioning activities happening to ensure services are ready for the moves in July 2019.

3 Discussion of Key IssuesCommissioning Activities

- 3.1 The NHSL Commissioning Team have programmed commissioning activities based on the Joint Commissioning Programme issued by MPX. This has not been without its challenges as there was a delay in the void detection work starting which has resulted in works not being completed within wards/departments as per the programme. However we have been able to work around this to date. MPX are now indicating that the void detection works and the isolation room radiant panels will now be completed ahead of the programme and anticipating these should all be completed by the end of May.
- 3.2 There is still a lot of snagging to be completed by Multiplex (MPX) and they are working with us to minimise any impact it has on commissioning activities. The outstanding works that MPX need to complete in the Fluoroscopy and Angiography rooms to allow the turnkey contractors to finish installation has now finally commenced.
- 3.3 There is a weekly Look Ahead meeting involving the Project Team, MPX, IHSL and Bouygues (BYES) which allows a co-ordinated approach to be taken to all of the activities happening on site.

- 3.4 The Command and Control Centre has been established and a daily huddle happens every morning with representatives from MPX, BYES, IHSL and the Project Team. There is a Hospital Controller and Deputy, both from the Project Team, who have responsibility for the co-ordination of all activities on site, fire response, dealing with any issues and liaison with all parties.
- 3.5 There is a monthly activities list which outlines the key activities happening on site and the timescales for these which allows us to monitor progress. In addition each ward/department has a list of key activities requiring to be undertaken.
- 3.6 Induction and Familiarisation Programme is progressing well. The Induction sessions were delivered on local site in March with the majority of staff attending. They were shown two videos, one about the building and the facilities within it and the other video about BYES and their role as FM provider and there was the opportunity for staff to ask any questions. The second part of the programme is a Familiarisation Tour of the new site to help staff orientate themselves to the new building. They also are shown a fire safety and evacuation video and are given their new ID Access badges. The Familiarisation tours started on the 15th April and will finish on the 14th June. There are 3 tours a day with 15 people on each tour and are led by one of the Project Team. Staff receive a pocket sized map of the building following their tour. Overall feedback from staff has been positive and for a large number of staff this is the first time they have seen the new hospital. We are also facilitating bespoke familiarisation tours for specific groups of RIE staff who will be accessing/working in the building e.g. Critical Care, Neonatal transport Team, Pharmacy
- 3.7 As previously reported between the 17th June and 3rd July is the time allocated for the setting up of wards/departments and this will allow 'super users' and managers from each area to support their individual team's orientation which will include how to use the new equipment and systems in the building e.g. nurse call, ceiling hoists, Guardian staff attack. We are however trying to support early access for teams to their areas in response to requests for this but it has to be balanced against any MPX works happening. For the wards who have top-up supplies Materials Management are stocking up store rooms this month and early June in conjunction with identified ward staff. The ward staff are also using this time to orientate themselves and look at how they are going to work within their new ward and they have found this very useful.
- 3.8 98% of equipment has been ordered with deliveries happening daily. The remaining equipment will be ordered in the next month as the items have a short lead in time. The placement of equipment has not been without its challenges due to unavailability of rooms as MPX are still working in them. This has resulted in some equipment having to be put in other areas as a temporary solution. There has been a small amount of damage to equipment but to date this has been minimal.
- 3.9 Following meetings with Infection Prevention and Control a staged approach is being taken with HAI Scribe Stage 4 and we are undertaking three different ones. Two have been undertaken covering the wards including critical care and Therapies and Outpatients. A number of issues were highlighted in relation to poor finish e.g. sealant of movement joints, gaps at coving and ceiling trims. These are

all issues that have previously been highlighted when the joint Room Reviews were undertaken with MPX who are aware that these needs to be addressed and are in the process of doing so. A few actions have been identified and a post completion change has been submitted to address these. The remaining Scribe will cover Theatres and Imaging and will be undertaken on the 17th May.

- 3.10 Scottish Ambulance Service have confirmed the ambulances that will be available for the patient moves and have undertaken site visits to RHSC and DCN and the new hospital to review the transfer routes
- 3.11 Key Operational Policies for the new hospital have been developed. An Operational Policy has been finalised for the distribution of keys to all wards and departments. Local services are updating key policies and information leaflets in advance of the moves.
- 3.12 Facilities Management - The Security team are in post and managing the security and access within the building. A Domestic Team is on site and are now cleaning the majority of the building, recruitment to remaining posts is ongoing. Porter staff are now on site and are assisting with equipment deliveries and placement. New catering posts have been advertised. The vending machines have been commissioned and are operational.
- 3.13 On April 11th a Resilience Exercise, Operation Red Knight, took place, to test the communication between sites and Command & Control Centre over the period of patient migration. Representatives from each of the services, RIE, BYES and SAS attended and it was well evaluated. A report has been produced and actions are being taken forward.
- 3.14 Harrow Green, Removal Company, have visited all areas to ascertain the number of crates that will be required. They have also produced a Handy Hints Guide which has been issued to all workbook holders. Harrow Green will be meeting with all departments over the coming month to finalise the detail of the moves.
- 3.15 Decluttering is continuing on all of the sites with some areas well advanced however some offices need to make a concerted effort to clear these areas.
- 3.16 New phone numbers have now all been agreed and are being disseminated to local services.

Migration Period

- 3.17 The Guide to Clinical Moves has been produced which identifies the key roles and responsibilities during the migration period and there are action cards to support this.
- 3.18 Detailed plan of all move activities during the migration period (4th – 15th July) has been agreed. This plan provides the following details:-
 - Current and New location
 - Last day of service
 - Last day of packing and unpacking day
 - Day of move
 - Patient move day where applicable
 - Day of service resuming
- 3.19 Staffing rotas are being finalised for all wards/departments and specific staff are being

allocated to designated roles e.g. patient sender and patient receiver, team leader.

- 3.20 Key senior staff has been confirmed for the Control and Command Centre. Fiona Mitchell, General Manager – Women & Children's, will be Command Centre Lead the week of the 8th July, supported by Janice Mackenzie, Project Clinical Director and Eddie Doyle, Associate Medical Director, will be present on the patient move days. Each site will have a Local Co-ordination Centre and key service staff have been confirmed for these. A member of the Project Commissioning team will also support the local co-ordination centres
- 3.21 SAS will have a presence in both the Command & Control and Local Co-ordination Centre. In addition they will have one A&E ambulance staffed with a Paramedic and Technician outside A&E for 24 hours from 19.00hrs on Wednesday 10/7/19 until Thursday 11/7/19 at 19.00hrs. These crews will advise, undertake patient assessment and transport when required to the new RHCYP.
- 3.22 The Project Team have a rota for the migration period and will be on site to support all aspects of the move and to support staff as they settle into their new departments.


4 Key Risks

- 4.1 Multiplex do not deliver on the key works as programmed which could impact on our ability to get areas ready
- 4.2 The ability of the services to release staff for local familiarisation and setting up of areas
- 4.3 Decluttering will not be complete prior to the hospital moving which will then impact on decommissioning.

5 Resource Implications

The resource implications currently relate to equipment storage costs and the releasing of service staff.

Janice MacKenzie
Project Clinical Director
6/5/19





**RHSC & DCN – LITTLE FRANCE
PROGRAMME BOARD – 13th May 2019**

CONFIDENTIAL: DECOMMISSIONING RHSC PROGRESS REPORT

Recommendation/ action required:

The Programme Board is asked to note progress and endorse recommendation for appointment of site clearance company.

Author:

Director:

Callum Gordon
Commissioning Manager
RHSC & DCN Reprovision

Brian Currie
Programme Director
RHSC & DCN Reprovision

NHS Lothian

Board Meeting
13th May 2019

Jim Crombie

CONFIDENTIAL: DECOMMISSIONING RHSC PROGRESS REPORT

1 Purpose of the Report

- 1.1 The purpose of this report is to recommend that the Board note progress and endorse recommendation for appointment of site clearance company.

Any member wishing additional information should contact the Executive Lead in advance of the meeting.

2 Recommendations

The Board is recommended to:

- 2.1 Note the appointment of G4S as security provider from closure of RHSC to handover to purchaser and potential additional camera coverage.
- 2.2 Endorse the Decommissioning Team's proposal that Harrow Green are appointed for site clearance subsequent to Decommissioning Team sweep.
- 2.3 Note discussion with Finance Colleagues regarding budget and costs.
- 2.4 Note that Decommissioning Steering Group and Sub Groups have met.
- 2.5 Note the potential risk regarding revocation of SEPA licences and impact on project timelines/handover to purchase.
- 2.6 Note decluttering as a potential risk.
- 2.7 Note the Director of Capital Planning, Head of Business Support & Asset Management and Decommissioning Managers have met with representatives of the purchasers to share information and maintain communication.

3 Discussion of Key Issues

- 3.1 **Security at RHSC** is currently provided in hours by G4S. Indicative costs were presented in the Decommissioning Plan Paper of 29th January 2019 associated with increasing security during the Decommissioning Period to handover. The Decommissioning Manager and Facilities Site Services Manager (Soft FM) RHSC met with the G4S Contracts Manager concerning requirements: 24 hour cover, 2 personnel, confirmation of patrols happening, increased camera coverage.

Advice from HFS was that if the existing RHSC contract had been appropriately tendered and this was considered an adjustment to the existing contract that if G4S proposal was reasonable, that the contract be amended and continued.

Key points are:

- 3.1.1 24/7 cover by 2 G4S Personnel: Cost £3,250.80 Ex VAT pw
Installation of Secure Trax Patrol System: This allows Decommissioning to assure patrols are undertaken. There is a small one-off cost for installation. Overall this is likely to be a reduction in estimate from the January 19 paper.

- 3.1.2 Amendment commences 5th July 2019 and continues to 30th September 2019 and the contract with NHS Lothian at RHSC terminates on that date. If there is a requirement to maintain a security presence from 1st October 2019, this will be by G4S Temporary Watch option and incur weekly charge.
- 3.1.3 Estates Facilities Management are engaging with G4S and VPS Security Systems regarding additional remote wireless cameras. This will incur additional cost, but will provide additional security against external intrusion.
- 3.1.4 The site boundary needs to be secured with HERAS fence and boarding of basement and ground floor windows and appropriate signage. Estates colleagues are managing this but costs will be met from the decommissioning budget.
- 3.1.5 While costs will be greater than indicative estimated in the 29th January Paper, project costs are lower overall, as described below.
- 3.1.6 The Decommissioning Team will liaise with Police Scotland, Scottish Fire and Rescue and Utilities Providers.

- 3.2 **Site Clearance:** The Decommissioning Managers conducted a site walkround over 1½ days with a Harrow Green representative to scope timescales and costs for site clearance.
 - 3.2.1 The estimate scopes 8 operatives and 2 vehicles for 13 days for the removal of all unfixed furniture and equipment. The estimate is £48 252 ex VAT. This includes a rebate for any recycling value. Mainly against metal in shelving, filling cabinets and desks.
 - 3.2.2 Harrow Green are on the contract framework for site clearance, so there is no requirement to tender, as long as NHSL do not tie to the moving contract.
 - 3.2.3 The scope and cost were shared with Facilities, Finance and HFS colleagues who are content these appear reasonable, therefore the Decommissioning Managers recommend its acceptance to the Programme Board.
 - 3.2.4 The Decommissioning Team have been contacted regarding the disposal of certain items. It is helpful to restate the approach here:
 - 3.2.5 Some imaging equipment is transferring, such as the Chest Room and Gamma Camera. Imaging equipment not transferring has been sold to a 3rd party for refurbishment and resale or for spares for older equipment still in operation elsewhere.
 - 3.2.6 Medical Physics are gathering medical equipment not transferring for similar sale or disposal. Anything that is still useful will not be scrapped.
 - 3.2.7 Furniture will go on Warpit and be available to that community and charities for the period up to the beginning of site clearance. Experience is that no one wants filling cabinets anymore and flat pack desks tend not to survive moving. The metal component of both has recycle value as does the chipped veneered chipboard component. Fridges etc need gases removed and stored and some components have recycle value.
 - 3.2.8 The clearance company will dispose of all residual items as per Zero Waste Scotland guidance and there will be a reduction in cost to the board associated with recycle value.

- 3.3 The Decommissioning Manager and Finance colleagues met to review the Projected Project Costs cited in the 29th January Paper. They agreed that workforce costs were covered within existing workforce budgets, though Finance would discuss with facilities whether they incurred any additional workforce costs.

Other costs cited under contract costs in the January paper were agreed as being approximate. The overall cost was agreed as a working budget.

However, discussion with the prospective site clearance company identifies the estimate for site clearance was substantially inaccurate and significantly lower. The Decommissioning Managers believe confusion arose in the handover of the project to them.

Updated costs and current unknowns are cited in Appendix 1.

- 3.4 The Decommissioning Steering Group met in February and April. The next scheduled meeting is 6th June. Decommissioning Sub Groups for Facilities have met and the records group is meeting shortly.

Facilities have meet with Medical Records and timetable established for the relocation of Medical Records. Meetings being arranged with other record groups: CAMHS, CCH etc.

Representatives from University of Edinburgh have been invited to the Steering Group as Radiological Decommissioning, clearance of confidential material and general clearance are areas of common interest.

- 3.5 Risk is discussed in the relevant section.

- 3.6 The Director of Capital Planning, Head of Business Support & Asset Management and Decommissioning Managers have met with representatives of the purchasers.

Purchasers indicated that they were comfortable with a later handover date than contracted. However, the Director of Capital Planning and Project Director have conveyed instructions from the Deputy Chief Executive that every effort be made to complete decommissioning by end of September 2019 to reduce risks associated with maintaining possession of a vacant building.

Process for purchasers coming onto site were agreed. Purchasers have requested access to the site in May to undertake Site Investigations. Following a review it has been agreed that this cannot be accommodated whilst the hospital is operational. Access will, however be facilitated as early as is possible and reasonable.

Purchasers confirmed section where large high value Imaging items are being removed is for demolition, so NHSL only has to ensure weather proof, secure and fire safe.

Purchasers informed they were content regarding removal of stained glass windows, with a requirement for the Sanctuary window space to be made secure. Facilities have obtained costs for removal, which are not significant. While the Sanctuary Window was donated to RHSC and is therefore the organisation's to dispose of. However, the Decommissioning Managers propose that if the artists of the respective pieces approach NHSL to secure their work, that it would be good PR to meet costs and return to them.

4 Key Risks

- 4.1 Break in for theft, vandalism or exploration was discussed with the G4S Contracts manager as a reputational risk to NHSL and G4S
- 4.2 Destruction of the building during decommissioning: Security measures are designed to mitigate. The Decommissioning Team will also liaise with Police Scotland and Scottish Fire and Rescue.
- 4.3 Radiological Protection colleagues have advised SEPA will not commence revocation of licenses until Radiological Decommissioning is complete. The timescale for revocation is up to 16 weeks from submission of appropriate documentation. RP are working to deliver the end of September deadline.
- 4.4 Walkrounds by RHSC Management Team and separately the Decommissioning Managers in scoping clearance identify areas where decluttering is well underway and areas where it does not appear to have started yet. This is a potential issue in some office areas. Decluttering is being reinforced by all respective management teams.

5 Risk Register

- 5.1 No additions to the Risk Register are currently required.

6 Impact on Health Inequalities

- 6.1 There are no impacts associated with the project.

7 Impact on Inequalities

There are no impacts associated with the project.

8 Involving People

- 8.1 Relevant stakeholders are involved in project delivery. The Decommissioning Managers have made contact with Communications regarding informing residents. The bulk of work will be undertaken during school holidays

9 Resource Implications

- 9.1 The resource implications are discussed in the body of the paper. Services concerned with decommissioning, principally the Commissioning Team, Facilities, E Health and records, Medical Physics and Imaging are required to provide workforce to support decommissioning as a priority. Costs are captured in the paper and in Appendix 1.

Callum Gordon
Commissioning Manager
13th May 2019



List of Appendices

Appendix 1: Decommissioning costs

Appendix 1: Updated Costs

Contract Costs	cost 1 month	Total Cost est 4 Months		Estimated cost Jan 19 Paper	Variance Jan to May
Security	£13,003.20	£52,012.80		£67,510.40	£15,497.60
Secure Trax and Tags	TBC	TBC		£5,000.00	TBC
VPS Security Systems	TBC	TBC		N/A	N/A
HERAS Fence and boarding up	TBC	TBC		N/A	N/A
Disposal Contractor	£12,063.00	£48,252.00		£450,000.00	£401,748.00
Radiological Decommissioning	£8,750.00	£35,000.00		£35,000.00	£0.00
Commissioning Team					
Joiner	£1,966.42	£2,949.63			
Porter Supervisor	£1,779.08	£2,668.63			
Domestic Supervisor	£1,779.08	£2,668.63			
Staff Costs	£5,524.58	£8,286.88		£73,627.08	£65,340.21
Contingency	£15,778.44	£63,113.75		£63,113.75	£0.00
Total	£39,340.78	£206,665.42	Total	£704,764.57	£222,178.76
NB Contingency is omitted on basis all costs are not yet known.					
Overall cost is significantly reduced from first estimate.			Total Variance Jan/May		£482,585.81
Any additional costs will be identified as they emerge.					
The proposed contingency is retained at £63,113.75					
Proposed that any costs additional are met from the variance between Jan & May papers					

**RHSC & DCN – LITTLE FRANCE
PROGRAMME BOARD – 13th May 2019**

RHSC SERVICE UPDATE

Recommendation/ action required:

The Programme Board is asked to note progress around Commissioning activities.

Authors:

Director:

Janice Mackenzie, Clinical Director
Dorothy Hanley, Service Redesign and
Commissioning Lead for Children's
Services

Fiona Mitchell Director, Women's and
Children's Services, RHSC

NHS Lothian

**Programme Board Meeting
13th May 2019**

Fiona Mitchell, Service Director – Women’s and Children’s Services

RHSC SERVICE UPDATE

1. Purpose of the Report

- 1.1 The purpose of this report is to update the Programme Board of progress made by Children’s Services.

2. Recommendations

The Programme Board is recommended to:

- 2.1 Note the ongoing progress in relation to commissioning

3. Service Redesign

- 3.1 Service teams are finalising the detail of their patient and operational pathways in preparation for the hospital being operational
- 3.2 As previously reported, workforce development proposal for RHCYP Emergency Department was taken to the Acute Services Senior Management Team meeting on 22 January 2019 and the proposed 3 year phasing was supported in principle. Recruitment to the first phase of additional posts is underway.
- 3.3 New operational policies required because of the move to the new building have been developed and are with relevant CMTs for finalisation and sign off. Any existing policies are being updated as per current review dates.

4. Children’s Services Commissioning

- 4.1 The Children’s Services Operational Commissioning Group continues to meet. Workbook holders are progressing key actions within identified timeframes
- 4.2 First phase of induction and familiarisation was completed in March with @ 84% of staff who will be working in the new building having attended the sessions. Managers of any staff who were unable to attend a session will be expected to arrange for them to view the video session via the intranet and confirm to the Project Team when they have done so. The majority of staff have now viewed the videos
- 4.3 Second phase of induction and familiarisation programme, visits for staff who will be working in the new building, commenced on April 15th and will run until mid June. Only when staff have completed both sessions will their new ID passes be issued.
- 4.3.1 Students on placement will be orientated on arrival and will sign out numbered access passes for the building. These will be returned at the end of their placements.
- 4.3.1.1 Cards not returned by students will be deactivated and issue reported to responsible university for action and return to security.

- 4.3.2 A more limited familiarisation tour will be conducted for key staff within RIE who, although not based in the RHCYP&DCN building, may need to access the new building (e.g. neonatal transfer team)
- 4.4 The MPX works programme is progressing and the void detection works are expected to complete ahead of programme. NHSL commissioning and delivery schedule is happening alongside the MPX works programme.
- 4.4.1 A schedule for delivery of top up items has been agreed with relevant wards/departments and staff released to support the setting up of the areas which started on 1st May in the Emergency Department
- 4.4.2 Family Council parent representatives and their children along with Young People Group members, total of 26 people split – 11 parents and 15 children and young people, visited the hospital on the evening of 2nd April to review facilities and key patient routes. All of those who attended thoroughly enjoyed their visit and were impressed with the facilities and how bright and airy everywhere was. Several of the parents had been involved in the design meetings and were pleased to see that many of their suggestions had been incorporated.

5. Key Risks

- 5.1 There is a continuing risk that staffing levels in the Emergency Department will not be able to be increased quickly enough to meet current and anticipated activity pressures by the time of the move
- 5.2 There is a small risk that not all staff may not have completed induction and familiarisation and therefore not received their ID access badges. This is being mitigated by the availability of the induction videos online and working closely with line managers to identify any areas of concern

Dorothy Hanley
1st May 2019

**RHSC & DCN – LITTLE FRANCE
PROGRAMME BOARD – 13th May 2019**

DCN SERVICES RE-PROVISION UPDATE

Author:

Director:

<p>Fiona Halcrow RHSC and DCN Re-Provision DCN Project Manager/Lead Commissioning Manager</p> <p>Chris Myers Service Manager, DCN and Orthopaedic Directorate</p>	<p>Michael Pearson Surgical General Manager</p>
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RHSC and DCN Programme Board

29th January 2019

DCN RE-PROVISION UPDATE

1 Purpose of the Report

- 1.1 The purpose of this report is to update the RHSC and DCN Programme Board of progress made by DCN.

2 Recommendations

The RHSC and DCN Programme Board are recommended to:

- 2.1 Note work progressed by DCN for the time period 6th Feb 2019 to 13th May 2019.

3 Discussion of Key Issues

- 3.1 Liaison continues with GGC with regarding support for the Interventional Radiology service at time of migration period; this is likely to be limited or none. The NHSL Radiology Service is currently reviewing options.
- 3.2 Staff Car Parking Permit Applications – unsuccessful applicants are being notified first. This has resulted in additional anxiety for some staff members who are now working their way through the appeal process.
- 3.3 Challenge to appoint to new nurse establishment by time new building operational continues. There is a Nurse Recruitment event at RIE in July.

4 DCN Service Commissioning

- 4.1 Work continues within the directorate in taking forward the development of the various clinical pathways involving the theatre and radiology directorates and includes (*completed pathways have been removed from Table*):

Pathway	Current Position	Lead Service
CT Biopsy Pathway – Oncology Patients	In-progress	Radiology Department
RIG Pathway	<i>Work on-going to complete associated pathway.</i>	Radiology/ DCN
DCN CEPOD	<i>Meeting held with Neurosurgeons and Anaesthetists. Work still progressing. Theatre Schedule Complete</i>	DCN Theatre Commissioning Group
Young Adult Scoliosis	Theatre days now agreed	DCN /Scoliosis

Pathway	Current Position	Lead Service
Pathway		

4.2 DCN Operational Policies (New Building)

The following procedures are complete:

- DCN Standard Operational Procedure
- Patient Absconding (In-Patient Roam Alert)
- Guardian Staff Attack (DCN In-Patient Areas)

The 'Close Proximity Car Parking SOP' for the building is almost complete.

4.3 **Recruitment** – phased plan for recruiting nurses into post before the service is operational has commenced. To date, we have only managed to recruit to current/existing establishment.

4.3.1 It is noted that the increased number of theatre sessions, in addition to the immediate proximity of the new DCN to the Emergency Department at RIE and the Major Trauma Service development will increase the demands on the ST3+ Neurosurgery rota. In parallel, the neurosurgery service does not have sufficient elective outpatient capacity to meet the elective demand. As a result, a bid is being prepared to the Scottish Trauma Network and the Waiting Times Improvement Plan funding for a total of 3 Clinical Fellows to enhance the rota, ensure resilience for major trauma and increase elective outpatient capacity.

4.4 **Equipment/Furniture not transferring with services** – the majority of furniture within DCN that has been reviewed and has been identified as not fit for purpose for others to use. Items that are fit for purpose will be advertised via WARPIT system. Equipment fit for use by other lists continues to be reviewed.

4.5 **De-cluttering** – equipment/furniture not being used and not fit for purpose being decommissioned now as part of the de-cluttering plan. Regular walk round of DCN estate on-going to keep momentum up on this task.

4.6 **Familiarisation and induction Phase 1** – 99% of DCN and associated departments staff relocating to the RIE campus attended the two presentations in March. Staff have started to attend the 2nd Phase (Hospital Tour, Fire Lecture and collection of ID Badge).

4.7 **Off-Duties/Rosters** – DCN and associated departments relocating to the RIE campus have prepared their off-duty rosters for the period leading up to and through the migration move timeline.

- 4.8 **Roles and Responsibilities at time of Migration** – personnel have been identified to fulfil the roles needed in the local DCN Co-ordinating Centre. Wards and departments moving have identified personnel to lead on key roles at time of migration. Training on these roles and responsibilities are being taken forward locally.
- 4.9 Staff personnel transfer templates have been updated monthly.
- 4.10 Staff will start local induction and commence the set up of their wards/departments from mid May.

5 Key Risks

- 5.1 DCN Interventional Radiology Service at time of migration
- 5.2 Recruiting adequate ward nursing and theatre staffing to allow the opening of 62 in-patient beds and 4 theatres.

Fiona Halcrow, Project Manager
[REDACTED]

6th May 2019

**RHSC & DCN – LITTLE FRANCE
PROGRAMME BOARD – 13th May 2019**

CAMHS / PPALS COMMISSIONING UPDATE

Recommendation/ action required:

The Programme Board is asked to note progress around Commissioning activities.

Authors:

Margaret DiMascio
Commissioning Manager
RHCYP + DCN

Director:

Dawn Carmichael
Service Manager
Royal Edinburgh Hospital

NHS Lothian

Programme Board Meeting
13th May 2019

Dawn Carmichael, Service Manager

CAMHS COMMISSIONING UPDATE

1. Purpose of the Report

- 1.1 The purpose of this report is to update the Programme Board of progress made by The Child and Adolescent Mental Health Services (CAMHS) and the Paediatric Psychology and Liaison Service (PPALS) in relation to commissioning.

2. Recommendations

The Programme Board is recommended to note the ongoing progress.

3. Key Service Redesign

- 3.1 Service teams are working on pathways in preparation for the hospital becoming operational. Completion will be facilitated at an 'away day' on 14th May.
- 3.2 Particular work is required around the operation of the intensive nursing suite.
- 3.3 South East Edinburgh CAMHS teams will relocate from Rillbank Terrace to a purpose built department in the Lauriston Building on 14th June. The new department has benefitted from financial support from ECHC and other charities to enhance the space to match the design in RHCYP.

4. CAMHS Services Commissioning

- 4.1 Joint room reviews were undertaken in April with Multiplex. A significant number of snags were identified. A programme of remedial works is underway.
- 4.2 There has been some slippage against key commissioning activities, the service teams and commission manager have put measures in place to address this.
- 4.3 A review of anti-ligature fixtures and fittings will take place in May. The purpose is to ascertain that the changes requested in 2018 have been made.
- 4.4 A review of equipment to transfer will be undertaken on 8th to 10th May.
- 4.5 Ward / OP set up will take place from 3rd to 14th June
- 4.6 CAMHS is liaising with Police Scotland to agree support arrangements at RHCYP.
- 4.7 The first phase of induction and familiarisation was completed in March. 97% of CAMHS staff who will be based at RHCYP attended. One further session will be delivered for the remaining 3%.
- 4.8 The second phase of the induction and familiarisation programme is underway. The majority of CAMHS staff have booked a place.

5. PPALS Commissioning

- 5.1 Access arrangements for on-call staff to be agreed.
- 5.2 Storage space needs to be identified for PPALS.

6. Key Risks

- 6.1 CAMHS have requested change to the Melville Unit garden. The change necessitates the removal of 50sqm of decorative stone to be replaced with soil and plants. The stones, soil and any other landscaping materials will have to be brought in and out through the ward to reach this internal garden. This work will need to be completed prior to ward set up on 3rd June, there is some concern that this may not be achievable.
- 6.2 CAMHS have requested changes to the set up of the fire fighting equipment, the access and egress arrangements and security on the Fire Alarm Call Points.

Margaret DiMascio
2nd May 2019

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**RHSC + DCN – LITTLE FRANCE
PROGRAMME BOARD – 13th May 2019**

RHSC + DCN CAPITAL EXPENDITURE

Recommendation/ action required:

The Programme Board is asked to:

- Note the current forecast spend against total available budget and acknowledge the continued existence of risks within.

Author:

Aidan McMurray/Nick Bradbury
Project Accountant
RHSC+DCN – Little France

Director:

Brian Currie
Project Director
RHSC+DCN – Little France

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NHS Lothian

Royal Hospital for Sick Children & Department of Clinical Neurosciences
Programme Board

13th May 2019

RHSC + DCN CAPITAL EXPENDITURE

1. Purpose

- 1.1 The purpose of this paper is to provide the programme board with a summary of capital expenditure associated with the re-provision of the Royal Hospital for Sick Children & Department of Clinical Neurosciences at Little France.
- 1.2 This paper does not consider potential additional costs which may arise from any settlement agreement between the board and IHSL.

2 Recommendations

- 2.1 The Programme Board members are asked to:
- Note the current forecast spend against total available budget and acknowledge the continued existence of risks within.

3 Overall Forecast

- 3.1 The overall forecast for the project is summarised below in table 1. Overall it shows deterioration in the forecasted capital position from the February
- 3.2 forecast, within this there remains areas of pressure as well as continuing uncertainty as to final costs. These movements are discussed in further detail below.
- 3.3 The programme board is asked to note the current forecast position against allocated capital budgets and to acknowledge the continuing uncertainty surrounding some areas of spend.

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Table 1 – Overall Capital Forecast

Item	Feb 19 Forecast	Movement	Current Forecast (May 2019)
	£k		£k
Reference Design	2,541	0	2,541
Petrol Station Site	702	0	702
Enabling & Town planning	22,706	0	22,706
Offsite Flood	7,838	-11	7,849
Clinical Enabling	10,799	0	10,799
Equipment	32,495	-300	32,195
Change / SA's	3,993	966	4,959
Total Expenditure	81,074	655	81,751
Approved Budget at FBC	80,084	0	80,084
Charitable Funding	0	0	0
County Air Ambulance	700	0	700
Ronald Macdonald House	500	0	500
Insurance reimbursement	190	0	190
Total Funding	81,474	0	81,474
Projected (Over)/Under Spend	400		-277

The board should note that underlying this position there remains a further £312k of contingency funding within equipment and legal fees budgets. At this stage it is not proposed that these budgets are released to support the overall position.

3.4 Offsite Flood

3.4.1 Costs in relation to the offsite flood prevention works have increased by £11k due to further compensation. Table 2, shown below, outlines the movements in overall costs from the March position.

3.4.2 The anticipated final cost in relation to the main works stands at £6.163m including VAT, with further costs arising from enabling works and advisory fees bringing the total cost to the board to £7.849m.

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Table 2 – Offsite Flood Expenditure

Offsite Flood	Contractor Appointment	July 2018 Forecast	January 2019 Forecast	May 2019 Forecast	Variance from Original	Variance from July Forecast
	£k	£k	£k	£k	£k	£k
Tendered Works	2,497	2,497	2,497	2,497	0	0
VAT on works	499	499	499	499	(0)	(0)
Approved CE's	0	2,416	2,454	2,454	(2,454)	(38)
Anticipated CE's	0	101	185	185	(185)	(84)
VAT on CE's	0	503	528	528	(528)	(24)
Sub Total - Total Works Cost	2,997	6,017	6,163	6,163	(3,166)	(146)
NHSL TA Fees / Design	690	1,433	1,435	1,435	(745)	(2)
NHSL Legal	87	83	83	83	4	0
Surveys	179	24	27	27	152	(3)
Enabling	110	131	131	131	(21)	0
Contingency	200	0	0	0	200	0
Further Compensation	0	0	0	11	(11)	(11)
Total Forecast / Variance	4,263	7,686	7,838	7,849	(3,586)	(162)

3.5 Change

3.5.1 Change costs continue to move as the project progresses. Since the last report there have been a number of small scale movements in the cost of individual changes as they are formally agreed. Net anticipated expenditure in relation to change now stands at £4.959m, representing an increase on the previously reported figure.

3.5.2 The projection shown in table 3 takes account of potential savings arising from project co changes. The July forecast did not include these amounts as it had been assumed that they may be included within the proposed settlement agreement. Current projections of the value of these changes total £0.183m, and therefore make up a significant proportion of the forecast reduction in costs shown. If the board does not agree to these changes then these savings would not be realised.

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Table 3 – Change cost Summary

Change Costs	Feb	Movement	May
	£k	£k	£k
Main works	4,525	- 246	4,771
NHS QS & Legal Fees	287	-	287
Consort Legal Fees	120	-	120
IHSL Fees	300	-	300
Compensation for late handover	100	-	100
Legal Fee Contingency	150	-	150
Transfer to Equipment	-769	-	- 769
Total	4,713	-246	4,959

3.5.3 As previously stated, the above costs represent amounts for which the board is liable. There are further significant change costs related to the Arts and Therapeutic Design Programme and the Ronald MacDonald Family Hotel. These costs will be met from contributions from charitable bodies and from Ronald MacDonald House Charity (RMHC) respectively.

3.6 Equipment

3.6.1 Overall projected spend on new build/ NPD equipment is now forecast to be £27.547, representing a decrease in anticipated spend of £0.269 from the forecast as at February 2019.

3.6.2 Table 4 outlines the movements in anticipated equipment spend in detail. The board will note the increase in contingency budgets held as a result of the reduction in overall projected spend on new build/NPD equipment. At this stage no further release of equipment budgets is proposed.

Table 4 – Equipment Expenditure

Item	Feb Forecast	Movements	Current Forecast
	£k	£k	£k
RHSC/DCN Equipment	27,816	(269)	27,547
St. Johns MRI	1,200	0	1,200
Clinical Enabling Equipment	2,514	3	2,517
Transfer from Change	769	0	769
Equipment Contingency	(104)	267	162
Total	32,195	0	32,195

4 Risks

4.1 Certainty around total project spend has not yet been achieved due to the continuing presence of risks to projected costs, namely in relation to equipment costs and change costs.

4.2 At its previous meeting, the programme board considered a paper outlining the potential impact of programme uncertainty upon equipment costs, both in terms of price increases and additional storage and handling

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requirements. The project team continue to manage these risks, however it should be noted that there may be additional costs if there is further slippage in the overall programme.

- 4.3 Projected spend in relation to changes instructed by the board is discussed in detail within section 3.6 above. The board should note that there remains and number of changes where final costs are yet to be agreed and as such cost projections continue to be subject to change. Estimations of costs between board advisors and project co vary in relation to a number of changes which are yet to be agreed, and as such final costs may rise.

5 Contingency Funding

- 5.1 The project continues to retain contingency budgets:
- £150k in relation to legal fees
 - £162k in relation to equipment
- 5.2 The board will be aware that NHS Lothian does not have the authority to exceed allocated budgets, and will also be aware of previous actions taken to maximise available budget. To date, £4.4m of budget previously allocated to equipment purchases has been released to support pressures within other areas of the project, with a further £1.2m of charitable funding received from Ronald Macdonald House Charity (RMHC) and County Air Ambulance being released to support the overall position.
- 5.3 Taking into account the above described risks, it is not proposed that further release from contingency budget should be approved at this time.

Aidan McMurray/Nick Bradbury
Project Accountant
03/05/18



**RHCYP + DCN – LITTLE FRANCE
PROGRAMME BOARD – 13th May 2019**

CONTRACTS MANAGEMENT UPDATE

Author:

Stuart Davidson
Contracts Manager
RHSC+DCN – Little France

Director:

Brian Currie
Project Director
RHSC+DCN – Little France

RHCYP and DCN Programme Board

13th May 2019

DCN RE-PROVISION UPDATE

1 Purpose of the Report

- 1.1 The purpose of this report is to update the RHCYP and DCN Programme Board of progress made by the Contracts Manager on operational matters post handover.

2 Recommendations

The RHCYP and DCN Programme Board are recommended to:

- 2.1 Note work progressed by the Contracts Manager for the time period 22nd Feb 2019 to 6th May 2019.

3 Discussion of Key Issues

- 3.1 There remains a large number of logged defects which are being notified to the Helpdesk. This is a legacy issue from the Construction phase and whilst it was anticipated to a lesser extent the scale of issue in some instances is concerning, for example lifts, doors, hydro-boil taps, heat loss in heat station plant rooms. This is having a detrimental effect on service provision for BYES.
- 3.2 There are approximately 30 client driven post completion changes in the system and whilst there is time to undertake the works prior to occupation, ISHL are not performing within the stipulated timeframe to cost works which is concerning.
- 3.3 The Contracts Manager post is unsupported. In the event of planned or unplanned absence of the Contracts Manager the contingency is unidentified and represents a potential risk to ongoing managing and monitoring of IHSL performance. Clarity on the Board's intentions in this regard would be very welcome.

4 Contracts Management

4.1 Delivery

4.1.1 Managing Performance

This is essentially ensuring the service is provided in line with the contract.

Service delivery

- Service management is well structured; baselines are understood by both parties, and IHSL understand the service they are required to deliver. There are some minor amendments required and IHSL are addressing these aspects. The Contracts Manager ensures that NHS Lothian provides the information and contacts needed to deliver the service.
- A performance management system is in place. The system is comprehensive, objective and provides incentives for IHSL to meet or exceed agreed performance standards.
- Service levels agreements are in place, and are linked to what the service needs, understood by IHSL / BYES, and monitored by the Contracts Manager and/or Building Users.
- IHSL performance is assessed using clear, objective and meaningful metrics. Templates and proformas are being used to ensure a consistency of approach.
- Reporting is as far as possible on a focused, ‘by exception’ basis, with IHSL self-measuring and reporting where appropriate but with independent checking mechanisms to alert the Contracts Manager to performance issues.
- Clear processes are in place to handle operational problem resolution and resolve issues as quickly as possible.
- Where appropriate, user compliance with the contract is monitored and managed to ensure maximum operational effectiveness and value for money.
- Staffing levels are noted as being under resourced with circa 6 positions requiring to be staffed. IHSL / BYES are utilising other contracts to supplement this contract but that in itself is unsustainable over the longer term. BYES will ensure these positions are filled.

Feedback and communications

- Regular and routine feedback is given to IHSL on their performance. The first monthly contract review meeting took place on Wednesday 1st May 2019. The next scheduled meeting is to take place on 14th May 2019.
- There are clear contact points for service users for both IHSL and with the NHS Lothian Contracts Manager. Building Users understand what the contract is intended to deliver, and are involved in the assessment of BYES / IHSL performance where relevant. Users understand escalation routes where issues arise.
- Changes in user requirements are captured and considered as part of formal change and contract management processes.
- There are formal performance reviews with IHSL, with documented improvement plans agreed where necessary, covering both operational issues and adherence to key contractual requirements, for example, on Helpdesk reporting. HFS and SFT engaged in a workshop review on Tuesday 30th April 2019.

- An external audit commissioned by NHS Lothian, performed on IHSL by Callidus, is awaited. This focuses on key compliance issues on the FM Service Provider and that of IHSL generally.

4.1.2 Payments

- Payment mechanisms are documented and are clear and well understood by all parties. There have been some anomalies identified by the Contracts Manager and these have been highlighted and communicated to IHSL.
- Payment processes are well defined and efficient; appropriate checks and authorisation processes are in place for paying invoices.
- The costs of the services delivered and contract management costs are mapped against budgets and allocated appropriately.
- Payment changes after the actual completion date being achieved (handover), for example from contract variations, are made using contractual provisions and are demonstrated to provide value for money.

4.1.3 Risk

Processes and plans

- Contractual/supplier risk management is in place with clear responsibilities and processes, identification of who is best placed to manage risk.
- Risks are formally identified and monitored regularly, with mitigating actions developed and implemented where possible and 'obsolete' risks removed from consideration where appropriate.
- Escalation and reporting routes are in place for risk governance.
- Contingency plans are needed to handle ultimate IHSL failure (temporary or long-term failure/default); exit strategies are developed and updated through the life of the contract.

Contractual terms

- Contractual terms around termination are understood and monitored by the Contracts Manager.
- Contractual terms around warranties, indemnities and insurance are understood and monitored by the Contracts Manager.
- Contractual terms around security and confidentiality are understood and monitored by the Contracts Manager, particularly issues relating to the security/confidentiality of personal data.
- Dispute resolution processes are in place, including agreed adjudication procedures, mediation, and arbitration.

4.1.4 Managing relationships

- The Contracts Manager is acutely aware of the need in developing strong internal and external relationships that facilitate delivery.
- The Contracts Manager understands his own role and has clear visibility of well-structured roles and responsibilities on the IHSL side. There are some outstanding queries regards the IHSL Board and these are expected to be

forthcoming. The Contracts Manager recently attended, as an observer, the IHSL Board meeting and learned of the Director responsible for Health & Safety is Matthew Templeton.

- Both regular structured and informal communication routes between the Contracts Manager and IHSL / BYES are open and used; Consideration may be given to NHS Lothian and IHSL / BYES staff being co-located, where appropriate.
- Building Users will be given clear expectations and an understanding of the contract and the services/ performance to be delivered (for example, through fact sheets, newsletters, intranet or briefings).
- Problem resolution processes are well defined and used, and are designed to ensure minor problems do not escalate and cause relationship issues; a 'blame culture' is avoided.

4.2 Structure and Resources

4.2.1 Planning and governance

- There was a planned transition from construction phase, through into the operational period.
- There are well defined processes and a clear contract management plan, with a focus on outputs and a 'whole life' approach to performance.
- Contract management processes are aligned with, among others, wider organisational governance processes, operational boards, and risk structures.
- Regular assessment and evaluation takes place to ensure that the cost of contract management activities is justified and proportionate to the benefits obtained.
- Knowledge management is embedded, capturing key data and lessons from contract management process and experience both within the organisation and more widely.
- Professional contract management guidance is developed, or identified from external sources, and made available to the Contracts Manager

4.2.2 People

- The Contracts Manager has continuity through the design and construction phase to lead-in to the operational phase.
- The Contracts Manager has a detailed knowledge of the contract and other relevant issues, such as service level agreements, and ongoing supplier performance.
- The Contracts Manager has the appropriate skills (both specific contract management skills and more general commercial awareness and expertise), with access to relevant training and development.
- NHS Lothian is participating in a contract management 'community' in the form of the HFS/SFT led PPP Practitioner Group allowing contract managers to share good practice. The PPP Practitioner Group also plays a role in the wider government contract management/ procurement community. Attendance at the East Regional Operational Collaborative

Groups (ROCG) meetings also allows the sharing of knowledge and good practice.

4.2.3 Administration

- Electronic copy contracts are stored and logged, and are easily accessible when required; A Contract Management Plan has been produced to aid the process.
- Contract Management software is used for recording key information, to give, for example, search capability; relevant ongoing contract management information and documentation is retained and managed. This is called Affinitext. A number of NHS Lothian employees have access to this facility.
- There are mechanisms in place for identifying key contract ‘trigger points’, such as notice periods.
- There is regular and ad hoc reporting of contract management information.

4.3 Development

4.3.1 Contract development (variations)

Change processes

- There are clear processes for the management of minor changes and contract variations Processes are in place that clearly lay out the governance of contractual change – who needs to approve what and how it will happen – with a focus on effective and prompt change implementation. There remains a need to map out the management of change post occupation – a local management process prior to alignment with the existing process.
- Both parties have a clear understanding of the arrangements for any extension of the timescale for delivering costs on changes. BYES are currently not managing the level of volume of changes and have sought external assistance with costings. This is being closely monitored by the Contracts Manager.

Processes for different types of change

- There are more rigorous processes to handle major contractual changes, including clear approval mechanisms and accountabilities, and controls to demonstrate that changes offer value for money.

4.3.2 Supplier development

- Processes are in place that clearly set out how IHSL activities will be planned, managed and governed.
- Clear processes for benefits measurement and capture are in place to ensure that IHSL is focused on continuous improvement and achieving value for NHS Lothian.

4.4 **Strategy**

4.4.1 Supplier relationship management; essentially having a programme for managing and developing relationships with suppliers.

- A benefits realisation plan remains to be developed for supplier relationship management; with a clear sense of what value is to be generated for both parties.
- There is a focus on capturing innovation from sub-contractors where necessary or valuable.
- Knowledge management issues are being addressed, including knowledge capture from sub-contractors and the supply chain generally.

4.4.2 Market management

This is regarding the wider market issues that impact on this contract, but lie beyond the influence and control of IHSL or BYES.

- Market intelligence is used to maintain an understanding of the market and of alternative suppliers.
- There is an ongoing evaluation of emerging technologies and practices, and identification of opportunities from both immediate and parallel market sectors.

5 **Key Risks**

5.1 The timeous rectification of outstanding faults and legacy issues from the construction phase.

5.2 IHSL are claiming that due to the Settlement Agreement they are currently unable to submit a compliant look ahead plan indicating planned and programmed maintenance works. This may have an effect on the service post occupation of staff and patients and result in access restrictions FOR IHSL / BYES. The ability to plan ahead is a contractual requirement and ISHL are reporting it will not be until mid-June until this information is forthcoming.

5.3 BYES staffing levels are not fully filled at occupation.

5.4 IHSL ability to handle changes / variations in the stipulated timeframes.

5.5 How NHS Lothian plans to monitor and manage IHSL in the absence of the Contracts Manager.

Stuart Davidson
Contracts Manager
7th May 2019





**RHSC & DCN – LITTLE FRANCE
PROGRAMME BOARD – 13th May 2019**

APPROVAL OF THE EDINBURGH BIOQUARTER TRAVEL PLAN

Recommendation / action required:

The Programme Board is asked to confirm approval of the Edinburgh BioQuarter Travel Plan and to confirm the acceptance of the findings and the targeted sustainable travel targets detailed therein.

Author:

Director:

Stuart Davidson
Contracts Manager
RHSC+DCN – Little France

Brian Currie
Project Director
RHSC+DCN – Little France

NHS Lothian**RHSC & DCN Programme Board**
13th May 2019**ACCEPTANCE OF EDINBURGH BIOQUARTER TRAVEL PLAN****1 Purpose of the Report**

- 1.1 The purpose of this report is to update the Programme Board on progress with the Travel Plan for the Edinburgh BioQuarter and approval of the Travel Plan itself.

Any member wishing additional information should contact the Executive Lead in advance of the meeting.

2 Recommendations

The Board is recommended to:

- 2.1 Confirm approval of the Edinburgh BioQuarter Travel Plan.
- 2.2 Confirm the acceptance of the findings and the targeted sustainable travel targets.

3 Discussion of Key Issues

- 3.1 The Edinburgh BioQuarter Travel Plan is a stand-alone document which aims to increase the proportion of campus users utilising public transport, walking and cycling to the campus and reduce journeys by car.
- 3.2 NHS Lothian committed to an agreement to submit a Draft Travel Plan prior to first occupation of the new hospital building. This agreement was with the City of Edinburgh Council.
- 3.3 The commitment to the City of Edinburgh Council extends to publicise the Travel Plan and implement the terms of the Travel Plan within twelve months of first occupation of the new hospital, all of which follows the City of Edinburgh Council approvals of the Travel Plan.
- 3.4 The objectives of the Travel Plan are to encourage sustainable travel to the campus, including high-quality public transport links to the Edinburgh BioQuarter; to highlight the financial, health and environmental benefits associated with sustainable travel.

- 3.5 There are currently pressures on car parking within the campus. The promotion of sustainable travel is one method by which to try and alleviate and ameliorate the numbers of car journeys to the campus, primarily by staff and then visitors.
- 3.6 The appointment of a Travel Plan Co-ordinator is key to the success of implementation and adoption of the aims and objectives of the Travel Plan itself.
- 3.7 There has been Travel Surveys undertaken for existing campus users and at those sites which are moving. This has set benchmarking data on which to derive modal share targets up to and including the year 2022 for the campus.
- 3.8 Sweco are an Engineering consultancy specialising in Transport Planning and Development Infrastructure. They were appointed through an approved tender procurement route and are managed by NHS Lothian on behalf of the Edinburgh BioQuarter partners.
- 3.9 Ongoing monitoring, at least annually, for travel surveys for the campus is recommended.
- 3.10 An EBQ Transport Group was established with representation from all the Edinburgh BioQuarter partners. This has worked well to-date with input from Sweco when required. Continued co-operation, coordination and communication with the EBQ Transport Group is seen as essential to the success of Transport Planning within the EBQ.

4 Key Risks

- 4.1 The Board not approving the Travel Plan and therefore non-adherence to the commitment with the City of Edinburgh Council in Planning terms.
- 4.2 Not having a Travel Plan for the Edinburgh BioQuarter site.
- 4.3 Not being committed to the focus of Travel Planning arrangements for the Edinburgh BioQuarter and not encouraging sustainable travel to the campus, as a whole.
- 4.4 Not investing in subsequent surveys will prevent the monitoring of progress and evaluating effectiveness of the strategy.
- 4.5 Negative perception of a healthcare not providing enough adequate resources and facilities to promote sustainable travel.
- 4.6 Further developments within the Edinburgh BioQuarter not recognising the Travel Plan and adhering to its aims and objectives.
- 4.7 Alignment with the Travel Plan and the car parking management strategy.

5 Resource Implications

There is a current and on-going commitment to resource a Travel Planning Co-ordinator. This role is currently being undertaken by Sweco. The Edinburgh BioQuarter partners are currently funding this arrangement through a tripartite arrangement with NHS Lothian, Scottish Enterprise and the University of Edinburgh.

There is an ongoing commitment to evaluate effectiveness of the approach and initiatives in terms of Travel Surveys. The Travel Planning Co-ordinator is best placed to undertake this remit.

There is a ongoing requirement to co-ordinate, communicate and facilitate campus-wide initiatives such as Bicycle User Groups, sustainable Travel initiatives such as 'On Foot, By Bike Edinburgh', liaison with local Bus Operators.

Stuart Davidson
Contracts Manager
6th May 2019



List of Appendices

Travel Well – Edinburgh BioQuarter Travel Plan



**RHSC + DCN – LITTLE FRANCE
PROGRAMME BOARD – 13th May 2019**

COMMUNICATIONS MOVE CAMPAIGN UPDATE

Recommendation/ action required:

The Programme Board is asked to note the progress of the communications awareness campaign that will run before, during and after the moves in July.

Acknowledge the risk associated with any moving date changes and the potential implications this would create.

Author:

Lynsey Cullen
Senior Communications Officer

Director:

Judith Mackay
Director of Communications,
Engagement and Public Affairs

NHS Lothian

RHSC & DCN Programme Board

13th May 2019

Judith Mackay, Director of Communications, Engagement and Public Affairs

1 Purpose of the Report

- 1.1 The purpose of this report is to outline the details of the communications strategy for the moves of RHSC/DCN in July 2019.

Any member wishing additional information should contact the Lead in advance of the meeting.

2 Recommendations

Members are recommended to:

- 2.1 Note the progress of the communications awareness campaign that will run before, during and after the staff and patient moves in July 2019.
- 2.2 Acknowledge the risk associated with any moving date changes and the potential financial implications this would create.

3 Discussion of Key Issues

- 3.1 The communications awareness campaign is set to provide a visible profile for the project, with a mix of traditional and digital medium.
(**Appendix 1: Awareness Campaign Plan**)
- 3.2 As part of the communications awareness campaign, it will be important to capture staff stories and memories of the current RHSC, DCN and CAMHS. A number of opportunities are being explored to ensure we provide a range of positive stories between June and August and beyond. (**Appendix 2 – Proactive Media Matrix**)

4 Key Risks

- 4.1 Any changes to moving dates of Children's Emergency Department will have a detrimental effect of the effectiveness of the awareness campaign.
- 4.2 School holidays will commence just before the move This has been identified as a potential risk when asking schools to share our key messages through the stakeholder toolkit. We have agreed to distribute the toolkit and promotional materials two weeks earlier than originally planned to mitigate this risk.

5 Involving People

- 5.1 The campaign is using a variety of accessible promotional materials. When possible, subtitles and audio will be included in digital elements. All printed materials in this campaign will adhere to the NHS Lothian Readability and Accessibility Criteria.

6 Resource Implications

- 6.1 The commissioning team allocated a maximum cost of £100, 000 and to date the campaign is running at £76,504.28.

Lynsey Cullen
Senior Communications Officer


01 May 2019

List of Appendices

Appendix 1 – Awareness Campaign Plan
Appendix 2 – Metric of Media activity June –August 2019

PROUD HISTORIES | NEW CHAPTERS

Royal Hospital
for Sick
Children

Department
of Clinical
Neurosciences

Child and
Adolescent Mental
Health Service



Awareness campaign – 6 weeks to move

Date: 03 May 2019

Lynsey Cullen, Senior Communications Officer

www.nhslothian.scot.nhs.uk/proudhistoriesnewchapters



Aims

- To increase public awareness in regards to the moving dates.
- To reduce the risk of patients turning up at the wrong location.
- Provide clear and concise information on the moving process to all key stakeholders
- To be able to evidence the reach and effectiveness of the campaign

Risks of an unsuccessful campaign

A family turning up at the wrong A&E is an example of a key risk.

Like taxi numbers, you only look for the information when you need it.

- Missed appointments
- Delays in emergency treatment
- Reputational damage for NHS Lothian and project team
- Bad patient experience

Key messages

- Children's A&E is moving on 9th July 2019.
- The new hospital is opening - investment in modern healthcare facilities.
- Child services are moving to Edinburgh BioQuarter, Little France between 5th – 15th July 2019.
- Department of Clinical Neurosciences is moving to Edinburgh BioQuarter between 5th – 15th July 2019.
- Child and Adolescent Mental Health Services are moving to 3 different locations including Edinburgh BioQuarter, Little France between 5th – 15th July 2019.
- No services are closing due to this move.

Key audiences

- Families with dependant children
- Carers
- Current patients and their families
- Current service users
- Referred patients
- NHS/IJB Staff
- GPs
- Transport organisations
- Integration Joint Boards
- Edinburgh and Lothian councils e.g schools, nurseries, foster carers
- Regional NHS Boards

Where do our key audiences ‘hang out’?

- Edinburgh
 - West Lothian
 - East Lothian
 - Mid Lothian
 - Scottish Borders
 - Dumfries & Galloway
 - Tayside
- Primary schools
 - Secondary schools
 - Nurseries
 - Child minders
 - Parks
 - Soft plays
 - Public transport (ubers,taxis, buses)
 - Dentists
 - GP surgeries
 - Libraries
 - NHS locations
 - Bus stops
 - Train stations
 - Supermarkets
 - Leisure centres
 - Opticians
 - Community centres
 - Pharmacies

Communication channels will include:

Internal

- Connections (P/D)
- Team brief (P/D)
- Intranet (D)
- Verbal updates at internal meetings
- Site specific newsletters (P/D)
- Display screens (D)
- Leaflets/dedicated newsletters (P)
- Social media (D)

P – Print media

D – Digital media

External

- Website (D)
- Display screens (D)
- Social media (D)
- Partnership websites (D)
- Posters (P)
- Leaflets (P)
- Partner newsletters (P)
- Media (P/D)
- TV – News (D)
- Radio – News bulletins (D)
- Social media (D)
- Bus advertising (D)
- Forth One Radio advertising (D)
- Media releases (P/D)

PAID INVESTMENT: Bus advertising BOOKED – 6 weeks 10th June – 21st July 2019

In Scotland

61% see Bus advertising every week
10.8 million Bus journeys every month

In one week alone, more consumers in Edinburgh see Bus advertising compared to Press, Radio and regular viewers of ITV1.

This campaign will be seen by 93% of Adult population, seeing it on average 11 times.

Interiors

150 Interior Panels across x3 Edinburgh depots plus East Lothian and West Lothian

Rears

60 Lower Rears across x3 Edinburgh depots plus East Lothian and West Lothian



PAID INVESTMENT: Forth One radio advertising BOOKED – 12 weeks 20th May – 18th August 2019

This campaign includes:

- Coverage on air for 6 weeks before and after the Emergency Department move, with a particular focus on that week, using a mix of 30 and 20 seconds ads.
- There will be ads running every week.
- 5 adverts:
 - Two pre move – 30 & 20 sec ads.
 - One moving 30 sec ad and
 - Two post move both 30 and 20 sec ads
- Full section takeover on Forth One radio Player with a video pre roll in July.

Importantly, this campaign will be heard by 47% of the population in the Forth One area, 547,221 people hearing a combination of the five ads 26 times.



PAID INVESTMENT: Leaflet mail drop BOOKED – Distribution for w/c 3rd June 2019

A leaflet with key moving information will be printed and distributed to over 400,000 residential addresses during the week of 3rd June 2019. These are all the residential addresses identified by Royal Mail's Door to Door service and includes East, Mid, West Lothian and City of Edinburgh.

A further 9,000 leaflets are being printed and are being distributed to departments, GP surgeries, Options and Pharmacies across the Lothians. We will have extra copies available on request.



Taxi partnership

- NHS Lothian has the contract with Central Taxis.
- They have 465 vehicles

We are agreeing to:

- Make arrangements with Central Taxis to invite drivers into the new building during the lead up to opening. This Open day will take place on Thursday 27th June 2019.
- We will provide them all with stakeholder toolkit and window sticker to display inside the taxis.
- We will explore digital presence on their app and website.

Stakeholder toolkit

- We have a number of stakeholders who we would ask for them to help us promote our awareness messages.
- Like national awareness campaigns we are producing a stakeholder toolkit that can be distributed to – IJBs, other Health boards, Local Authorities to distribute to schools and nurseries, Police Scotland, SAS, Lothian buses, Border Buses, GPs, Dentists, Pharmacies, Opticians Taxi firms, Universities in Edinburgh, NHS Lothian staff, available online.
- The pack would include – digital assets and text for them to lift and use in their own publications and websites.
- This will be made available at the beginning of June 2019.

Advertising investments	Up to £100k BUDGET	ACTUAL (*As Of 3rd May 2019)
Posters – Double sided	£1,000	£To be confirmed
Leaflets- printing of leaflets	£10,000 (Q410,000)	£8,400 (exc VAT)
Direct Mail drop - delivery	£30,000	£19,937.28 (exc Vat)
Car window stickers (TAXIS) (based on 10,000)	£1500	£To be confirmed
Bus/Train advertising	£20,000	£18,506 exc VAT)
Connections -May edition 4 extra pagesq	£300.00	£294.00 (exc VAT)
Radio Forth	£35,000	£29,367.00 (exc VAT)
Total	£97,800	£76,504.28*

From: Henderson, Ronnie
Sent: 24 May 2019 10:19
To: Sutherland, SarahJane; Guthrie, Lindsay
Cc: Inverarity, Donald; Kalima, Pota; Khatamzas, Elham; Cameron, Fiona; Kolodziejczyk, Kamil K
Subject: RE: RHSC Ventilation

Importance: High

Tracking:	Recipient	Read
	Sutherland, SarahJane	Read: 24/05/2019 10:48
	Guthrie, Lindsay	
	Inverarity, Donald	
	Kalima, Pota	Read: 24/05/2019 10:42
	Khatamzas, Elham	
	Cameron, Fiona	Read: 24/05/2019 10:19
	Kolodziejczyk, Kamil K	

Sarah, Lindsay,

Sorry been on a course for past 3 days so missed this.

Testing scheduled for today has been postponed and will be rescheduled for 12:30 on Tuesday 28/5, hopefully one of you can attend at that time.

Regards

Ronnie

Ronnie Henderson
Commissioning Manager Hard FM

[Redacted]

[Redacted]

[Redacted]

From: Sutherland, SarahJane
Sent: 21 May 2019 08:20
To: Guthrie, Lindsay; Henderson, Ronnie
Cc: Inverarity, Donald; Kalima, Pota; Khatamzas, Elham; Cameron, Fiona
Subject: RE: RHSC Ventilation

Hi Ronnie,

I have a meeting at SJH from 0900-1200hrs next Friday. What time is the further ventilation validation being carried out?

Kind regards
Sarah

Sarah Jane Sutherland
Lead HAI Scribe Advisor
Infection Prevention and Control Team
NHS Lothian



From: Guthrie, Lindsay
Sent: 17 May 2019 18:20
To: Henderson, Ronnie
Cc: Sutherland, SarahJane; Inverarity, Donald; Kalima, Pota; Khatamzas, Elham; Cameron, Fiona
Subject: RHSC Ventilation

Hi Ronnie

Thanks for taking time to discuss the various issues around water safety and ventilation that have been flagged over the past few weeks.

It was really helpful to understand in a bit more detail what these might be, and reassuring that most of the 81 items identified as part of the settlement process have little or no HAI component, and that all of those which carry residual risk are captured on the project risk register. With the summary information on positive water results I think we will be able to have a really positive and productive discussion on June 5th.

As promised, I have asked our secretary to forward next week the draft minutes from our last Pan Lothian Infection Control Committee which will give some clarity for you in relation to the context of the discussion we had in relation to the RHSC/DCN build and concerns raised at that time.

I discussed with Donald the further ventilation validation programme you have arranged for next Friday 24th May. I understand this to be 1) for theatres, cleaning all ducts, rebalancing and checking pressure cascades, and will not include further UCV testing); and 2) for isolation rooms repeat all commissioning and validation tests

We do think that it would be useful to have independent validation by an authorising engineer, recognising there is a cost associated with this.

As discussed, both Donald and I are on annual leave, but Pota, Elham and/or Sarah (all cc'd) may be able to attend to observe/participate.

Kind regards
Lindsay
Lindsay Guthrie
Lead Nurse



From: John Rayner [REDACTED]
Sent: 20 May 2019 09:29
To: Jamie Minhinnick
Cc: Currie, Brian; Henderson, Ronnie; Douglas, Brian; Paul Clinton; Leigh Kowalski; Dianne Halsey
Subject: RE: Validation

Dear Jamie,

I'm afraid that my diary is almost completely full for the next 9 weeks and so I cannot make this last minute commitment for next week.

Best wishes,

John

Eur Ing John M Rayner, BSc (Eng), CEng, FIHEEM, FCMI, MIMechE, MEI, MIET, MSVHSoc, TechIOSH
Authorising Engineer



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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From: Jamie Minhinnick
Sent: 20 May 2019 07:51
To: Henderson, Ronnie
Cc: Currie, Brian; Douglas, Brian; John Rayner; Paul Clinton; Leigh Kowalski; Dianne Halsey
Subject: RE: Validation

Dear Ronnie,

Many thanks for your email.

I'm afraid I am not available on the 24/5 to witness the isolation rooms. I will speak to my colleagues to see if someone is available.

We do not offer an airflow measurement survey for independent validation. This should be arranged through your verification/validation contractor who will produce a report on the system which I/we can witness and cross reference against the design criteria.

It is very important at this stage that all commissioning data is made available to your independent validation engineers. All critical systems (as detailed in section 4 of SHTM 03/01 Pt B) should be validated as fit for purpose and to set verification criteria moving forward not just theatres. You should also pass any agreed derogations with regards to ventilation systems to the engineers. Without this, they will be measured against the SHTM03/01 criteria and not the design (which can often be very different).

Regards

[Redacted]

Jamie Minhinnick IEng MInstRE, CMgr MCMI, GCGI, MIHEEM
Authorising Engineer



[Redacted]

[Redacted]

[Redacted]

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From: Henderson, Ronnie [Redacted]
Sent: 17 May 2019 15:57
To: Jamie Minhinnick
Cc: Currie, Brian
Subject: Validation
Importance: High

Hi Jamie,

Hope all is well with you. We are closing in on the final move date for the new RHCYP & DCN hospital in Edinburgh and the contractor is about to redo validation and commissioning of some ventilation systems. Can I ask the following:

1. Would you be able to come to site on 24/5 to jointly witness the re-validation of Isolation suites, if so I will confirm time and arrangements on Monday after a meeting with the construction commissioning manager.
2. Similarly our Infection Control Team are keen that that the theatres are independently validated and a report produced declaring fitness for purpose, is this a service you can provide/arrange

Regards

Ronnie

Ronnie Henderson
Commissioning Manager Hard FM
[Redacted]



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From: Alison Parton [REDACTED]
Sent: 03 June 2019 10:51
To: Henderson, Ronnie
Cc: Hull, Ashley; Currie, Brian; Greer, Graeme; Paul Jameson
Subject: RE: Independent Validation

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Ronnie

Good to talk to you again.

I will try and get an indication of costs over to you later today/tomorrow, this will be clearer after Paul's visit on Wednesday. Paul Jameson's contact details are; [REDACTED] [REDACTED]

Kind Regards,
Alison

From: Henderson, Ronnie [REDACTED]
Sent: 31 May 2019 11:19
To: Alison Parton [REDACTED]
Cc: Hull, Ashley [REDACTED]; Currie, Brian [REDACTED]; Greer, Graeme [REDACTED]
Subject: RE: Independent Validation

Hi Alison,

Regarding drawings do you just need layout/general location drawings (easy to get) or do you need ventilation detail (more difficult). I assume you will also need design information, can you confirm exactly what you will need please.

Regards

Ronnie

Ronnie Henderson
Commissioning Manager Hard FM
[REDACTED]

[REDACTED]

[REDACTED]

From: Alison Parton [REDACTED]

Sent: 31 May 2019 10:25
To: Henderson, Ronnie
Cc: Hull, Ashley; Currie, Brian; Greer, Graeme
Subject: RE: Independent Validation

Good Morning Ronnie

I have passed this onto my colleague and I will be back in touch shortly.

Kind Regards,
Alison

From: Henderson, Ronnie [REDACTED]
Sent: 30 May 2019 16:54
To: Alison Parton [REDACTED]
Cc: Hull, Ashley [REDACTED]; Currie, Brian [REDACTED]; Greer, Graeme [REDACTED]
Subject: Independent Validation
Importance: High

Hi Alison,

Good to talk to you earlier.

As discussed we are looking for independent validation to SHTM 03-01 of 10 theatres (7 of which are UCV but can also be used as conventional), 19 isolation rooms, 1 angiography procedures room, 1 intra-operative MRI, and ITU/HDU/NNU. There are also 3 standard MRI's, & 2 CT's, which are non interventional, if these are required under 03-01.

Due to the large volume I will forward all relevant drawings tomorrow and look to set up an introduction and planning meeting for early next week with a view to carrying the validation out week beginning 17/6.

If you could liaise with your Edinburgh office and confirm availability for that week as well as indicative time and cost I will raise the order.

Thanks and best regards

Ronnie

Ronnie Henderson
Commissioning Manager Hard FM

[REDACTED]

[REDACTED]

[REDACTED]

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Alison Parton
Accounts Manager



IOM Consulting Limited

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

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Cc: Hull, Ashley; Currie, Brian; Greer, Graeme
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Ronnie

Ronnie Henderson
Commissioning Manager Hard FM
[REDACTED]
NHS Lothian

[REDACTED]

[REDACTED]

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To: Henderson, Ronnie
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Alison

From: Henderson, Ronnie [REDACTED]
Sent: 30 May 2019 16:54
To: Alison Parton [REDACTED]
Cc: Hull, Ashley [REDACTED]; Currie, Brian [REDACTED]; Greer, Graeme [REDACTED]
Subject: Independent Validation
Importance: High

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If you could liaise with your Edinburgh office and confirm availability for that week as well as indicative time and cost I will raise the order.

Thanks and best regards

Ronnie

Ronnie Henderson
Commissioning Manager Hard FM

[Redacted]

[Redacted]

[Redacted]

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Alison Parton
Accounts Manager



IOM Consulting Limited

Brookside Business Park

[REDACTED]

[REDACTED]

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From: Henderson, Ronnie
Sent: 30 May 2019 14:33
To: 'Blanca Beato-Arribas'
Cc: Currie, Brian; Hull, Ashley; Evans, Stephen; Stacey Ward
Subject: RE: 2019-05-20 theatre ventilation testing (NHS Lothian)

Hi Blanca,

Many thanks for this.

Regards

Ronnie

Ronnie Henderson
Commissioning Manager Hard FM

[REDACTED]

[REDACTED]

[REDACTED]

From: Blanca Beato-Arribas [REDACTED]
Sent: 30 May 2019 14:29
To: Henderson, Ronnie
Cc: Currie, Brian; Hull, Ashley; Evans, Stephen; Stacey Ward
Subject: RE: 2019-05-20 theatre ventilation testing (NHS Lothian)

Hello Ronnie,

Thank you very much for your time on the phone yesterday.

As discussed, our work on hospitals and isolation rooms has been focused on investigations of design performance or design failure. We do not however carry out routine commissioning in accordance with HTM 03.

Please find attached some information about the work that we have carried out in the past and our methodology for testing the airtightness of isolation rooms. Airtightness can be one of the reasons why design flowrates/ pressure differentials are not achieved.

I am sorry we were not able to help on this occasion, but please do not hesitate to contact me if you have further enquires.

Kind regards,

Blanca

Blanca Beato Arribas

PhD, Eur. Ing., CEng, MCIBSE

Microclimate Team Leader

BSRIA Test

[Redacted]

[Redacted]

From: Henderson, Ronnie [Redacted]
Sent: 28 May 2019 09:51
To: Stacey Ward [Redacted]
Cc: Currie, Brian [Redacted]; Hull, Ashley [Redacted]; Evans, Stephen [Redacted]
Subject: RE: 2019-05-20 theatre ventilation testing
Importance: High

Hi Stacey,

Thanks for getting in touch.

As part of the initial validation and verification of the various ventilation systems in the new RHCYP/DCN hospital in Edinburgh we require to independently validate our critical systems including theatres and isolation suites as well as radiology areas, is this something you can provide.

Please note there are 10 individual operating theatres and 19 isolation rooms as well as an angiography procedures room and intra-operative MRI

If possible I would like to arrange for this to be done quickly as we are in the process of gearing up to equip these areas for opening which is scheduled for early July.

Look forward to hearing from you soon

Regards

Ronnie Henderson
Commissioning Manager Hard FM

[Redacted]

[Redacted]

[Redacted]

From: Stacey Ward [REDACTED]
Sent: 21 May 2019 11:22
To: STORRAR, Ian (NHS NATIONAL SERVICES SCOTLAND); Henderson, Ronnie
Subject: RE: 2019-05-20 theatre ventilation testing

Many thanks Ian,

Hello Ronnie, yes please do send me any details you have with regards to this project. I'm sure that this is something we can assist with.

Please send me what you can and I will put you in contact with the relevant person here at BSRIA.

Many thanks,

Kind regards

[REDACTED]
Stacey Ward
Membership Manager – BSRIA Limited
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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From: STORRAR, Ian (NHS NATIONAL SERVICES SCOTLAND) [REDACTED]
Sent: 20 May 2019 17:21
To: Henderson Ronnie (NHS Lothian) [REDACTED]
Cc: Stacey Ward [REDACTED]
Subject: 2019-05-20 theatre ventilation testing

Ronnie,

Further to our telephone conversation, I would suggest that you speak to BSRAI re the theatre ventilation verification.

I have copied Stacey into this email and his contact details are as follows;-

Stacey Ward

Membership Manager – BSRIA Limited

[Redacted]

Regards

Ian

Ian Storrar BSc CEng FCIBSE FIHEEM MIET

Head of Engineering - Health Facilities Scotland

Procurement, Commissioning and Facilities

NHS National Services Scotland

[Redacted]

[Redacted]

[Redacted]

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From: Colin Macrae [REDACTED]
Sent: 19 June 2019 12:19
To: Graeme Greer
Cc: Kelly Bain
Subject: Tracker
Attachments: Tracker.xlsx

Graeme

Attached tracker to date, note the red text is to show where the 4 bed bays do not achieve balanced pressure.

Happy to discuss

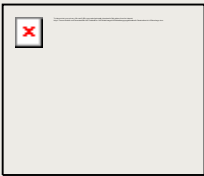
Regards

Colin

Colin Macrae

Senior Building Services Engineer

[REDACTED]



[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[Website](#) | [Twitter](#) | [LinkedIn](#) | [Facebook](#) | [YouTube](#)

[REDACTED]

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			Work planned	Air flow checks	Plates	2 day early indication	Results	Comments
1	MRI room G-Q1-134 room vents		Cancelled					
2	MRI room G-Q1-123 room vents		Cancelled					
3	MRI room G-Q1-110 room vents		Cancelled					
4	CT	G-Q1-136						
5	AHU 02-22 Plant							
6	CT	G-Q1-059						
7	AHU 02-25							
8	MRI room room vents	1-P1-064						
9	AHU 02-20 Plant							
10	Theatre Suite 4 (UCV 36)	1-P1-155	Theatre 36 UCV					
11	Theatre Suite 2 (UCV 37)	1-P1-070						
12	Theatre Suite 1 (UCV 38)	1-P1-078						
13	Theatre Suite 3 (UCV 31)	1-P1-091						
14	Angio Procedures	1-P1-093						Ceiling Tiles to be replaced
15	Theatre Suite 3 (UCV 32)	1-P1-131	19/06/2019					Open holes in walls
16	Theatre Suite 4 (UCV 33)	1-P1-129	19/06/2019					Open holes in walls
17	Theatre Suite 5 (34)	1-P1-140	17/06/2019	Yes	✓			
18	Theatre Suite 6 (35)	1-P1-050	17/06/2019	Yes	✓			
19	Theatre Suite 1 (30)	1-P1-032	17/06/2019	yes	✓			
20	Theatre Suite 2 (UCV31)	1-P1-044						
21	AHU 02-19 Plant	1-P1-155						
22	AHU 02-16 Plant	1-P1-070						
23	AHU 02-15 Plant	1-P1-078						
24	AHU 02-17 Plant	1-P1-091						
25	AHU 02-18 Plant	1-P1-093						
26	AHU 02-11 Plant	1-P1-131						
27	AHU 02-12 Plant	1-P1-129						
28	AHU 02-13 Plant	1-P1-140						

29	AHU 02-14 Plant	1-P1-050					
30	AHU 02-09 Plant	1-P1-032					
31	AHU 02-10 Plant	1-P1-044					
32	HDU 4 bed bay	1-B1-009					No door numbers
33	HDU 4 bed bay	1-B1-031	18/06/2019				Supply 3.13 ac/h, extract 1.26 ac/h
34	HDU 4 bed bay	1-B1-063	18/06/2019				Supply 3.20 ac/h, extract 1.9 ac/h
35	HDU single bed cubicle	1-B1-037	18/06/2019				
36	NNU 3 cot bay	1-B1-065	18/06/2019				Hatches open
37	NNU single cot cubicle	1-B1-075	18/06/2019				Hatches open in lobby and bedroom
38	Single bed isolation cubicle 10	1-B1-036					Hatches open
39	Single bed isolation cubicle 15	1-B1-026					There is a strong draft from the APS
40	Single bed isolation cubicle 19	1-B1-017					
41	Single bed isolation cubicle 20	1-B1-016					
42	Single bed isolation room 1	1-H2-021					
43	AHU 04-06						
44	IEF 02						
45	IEF 03						
46	IEF 04						
47	IEF 05						
48	IEF 06						
49	AHU 04-07 changeover						
50	Single bed isolation room 5	3-C1.4-072					
51	Single bed isolation room 1	3-C1.4-052					
52	Single bed isolation room 2	3-C1.4-049					
53	Single bed isolation room 3	3-C1.4-043					
54	Single bed isolation room 4	3-C1.4-040					
55	Single bed isolation room	3-C1.3-008					
56	AHU 04-07						
57	IEF 10						
58	IEF 11						
59	IEF 12						
60	IEF 13						
61	IEF 14						

62	IEF 19							
63	AHU 04-06 changeover							
64	Single bed isolation room 1	3-C1.1-040						
65	Single bed isolation room 2	3-C1.1-036						
66	Single bed isolation room 3	3-C1.1-033						
67	Single bed isolation room TC	3-C1.1-004						
68	AHU 04-08							
69	IEF 15							
70	IEF 16							
71	IEF 17							
72	IEF 18							
73	Single bed isolation room 5	1-L1-068						
74	AHU 02-24							
75	IEF 07							
76	Single bed isolation room 1	G-A2-072						
77	AHU 02-23							
78	IEF 01							
79	Single bed isolation room 17	1-L2-039						
80	Single bed isolation room 16	1-L2-135						
81	AHU 02-21							
82	IEF 08							
83	IEF 09							

From: Currie, Brian [redacted] on behalf of Currie, Brian
Sent: 20 June 2019 16:32
To: Wallace Weir [redacted]; Darren Pike [redacted]
Cc: [redacted] Henderson, Ronnie
[redacted]; Mackenzie, Janice
[redacted]; Greer, Graeme [redacted]; Chris
Wilson [redacted]; Colin Grindlay [redacted]
Subject: RHCYP + DCN - Little France - AHU's - URGENT
Attachments: IMG_1489.JPG; IMG_1464.JPG; IMG_1494.JPG

Gents

Please see below our urgent compliance concerns on AHU's.

Could we please discuss asap?

Many thanks

Brian

Brian Currie
Project Director - NHS Lothian

[redacted]

[redacted]



From: Greer, Graeme [redacted]
Sent: 20 June 2019 16:11
To: Mackenzie, Janice; Currie, Brian; Henderson, Ronnie; Macrae, Colin; Bain, Kelly J; Hull, Ashley
Subject: RE: Independent validation

Brian,

Further to our call, IOM have commented that all the AHUs are non-compliant with the SHTMs due to the wiring connections within each section of each AHU, by reference to the following clause of the SHTM 03-01;

General

1.41 The equipment built into the ventilation system and its ductwork should be of a type that will neither cause nor sustain combustion. No materials that could sustain biological activity should be used in the construction or assembly of the system.

IOMs main concerns relate to fire / smoke risk, and infection control both in the control panel enclosure and main airflow chambers. I have attached photos that indicate the potential issue.

It appears the control panel and associated wiring is located in a separate compartment of the AHU (and not part of the main airflow), however I think the IOM issue is the grommets / seals have air passing through them, hence still fire / smoke / infection control concerns.

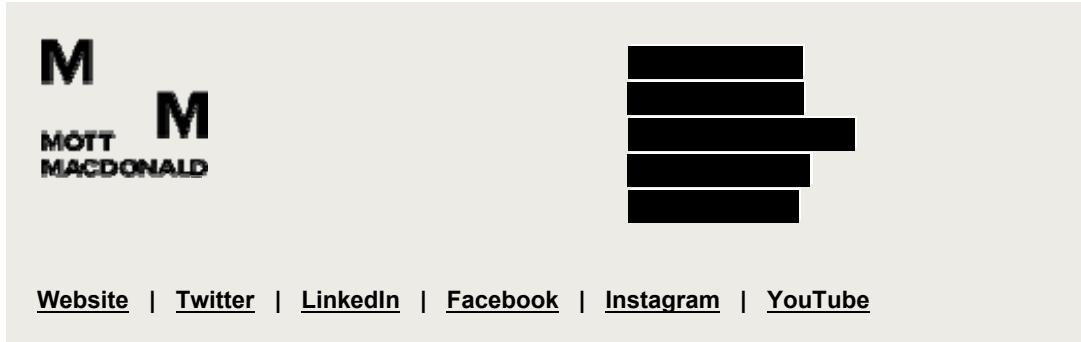
In terms of the main chambers, I think they are also concerned about the amount of equipment / wiring in the main airflow, this appears to be associated with sensors / wiring / cable tray.

Think IOM would be interested in extent of materials that could cause or sustain combustion, and also could create static and cause dust / infection control issues.

Kind Regards
Graeme

Graeme Greer
Associate

[Redacted]



MOTT MACDONALD

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From: Greer, Graeme
Sent: 20 June 2019 12:22
To: 'Mackenzie, Janice' [Redacted]; 'Currie, Brian' [Redacted]; 'Henderson, Ronnie' [Redacted]; Macrae, Colin [Redacted]; Bain, Kelly J [Redacted]; 'Hull, Ashley' [Redacted]
Subject: RE: Independent validation

Brian / Janice,

Just as an update to the email below.

The IOM issue is fire / smoke related as opposed to infection control, and concerns the first part of the SHTM sentence - [1.41 The equipment built into the ventilation system and its ductwork should be of a type that will neither cause nor sustain combustion.](#)

Photos attached FYI of the items that are in the ventilation system, rather than in separate compartmentation.

I have discussed more with Colin and Willie, and it could be the materials used by Project Co are non-combustible, (LSF), which may satisfy IOM, however we would need to ask Project Co to confirm.

I have asked Colin to clarify with IOM whether a satisfactory non-combustible response from Project Co would in turn satisfy IOM relative to SHTM compliance.

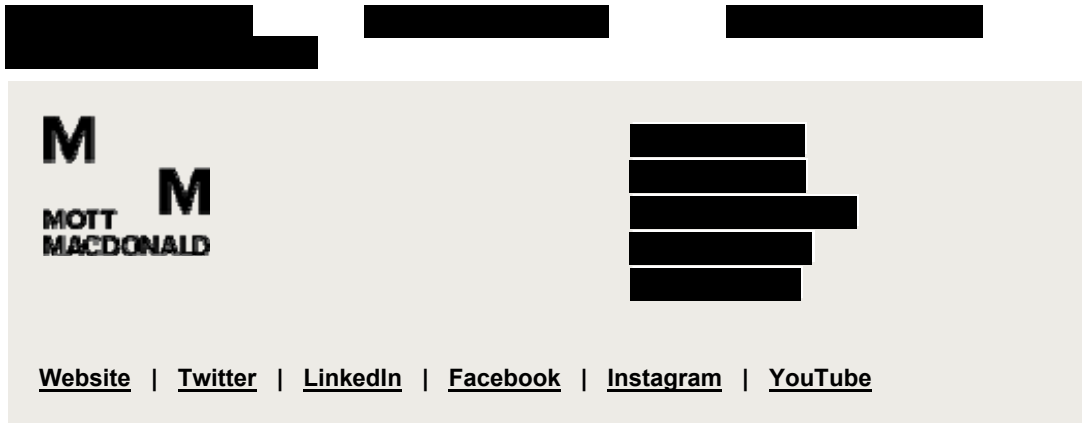
Will let you know when we hear back from IOM.

Any queries, please give me a call.

Thanks
Graeme

Graeme Greer

Associate



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From: Greer, Graeme
Sent: 20 June 2019 10:54
To: 'Mackenzie, Janice' [redacted]; Currie, Brian [redacted]; Henderson, Ronnie [redacted]; Macrae, Colin [redacted]; Bain, Kelly J [redacted]; Hull, Ashley [redacted]
Subject: RE: Independent validation

Brian / Janice,

Colin has just had a call from IOM commenting that all the AHUs are non-compliant with the SHTMs due to the wiring connections within each section of each AHU, by reference to the following clause of the SHTM;

General

1.41 The equipment built into the ventilation system and its ductwork should be of a type that will neither cause nor sustain combustion. No materials that could sustain biological activity should be used in the construction or assembly of the system.

Initial feedback is this is not a base design issue, and more a manufacturer design issue, which seems odd.

Colin, can you provide more detail / photos to explain IOM's concerns.

Perhaps worth setting up a meeting with IOM this afternoon to discuss current findings? (no problems me coming across if of use).

This could potentially be a significant issue, however suggest we need to find out more to fully understand IOM's comments?

Thanks
Graeme


Graeme Greer

Associate

[Redacted]

[Redacted]

[Redacted]



[Redacted]

[Redacted]

[Redacted]

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From: Mackenzie, Janice [Redacted]
Sent: 20 June 2019 08:02
To: Greer, Graeme [Redacted]; Currie, Brian [Redacted];
 Henderson, Ronnie [Redacted]; Macrae, Colin [Redacted]
 Bain, Kelly J [Redacted]; Hull, Ashley [Redacted]
Subject: RE: Independent validation

Thanks Graeme, I am happy to send will do so now, so will change wording slightly.

Janice

From: Greer, Graeme [Redacted]
Sent: 20 June 2019 07:43
To: Mackenzie, Janice; Currie, Brian; Henderson, Ronnie; Macrae, Colin; Bain, Kelly J; Hull, Ashley
Subject: RE: Independent validation

Tanks Janice,

The SHTM / SA query relates to the difference in air change rates for the 4 bed rooms and I think isolation suites. IOM commented the air change rates were lower than SHTM requirements.

Think it depends how we want the information presented to Infection Control. A fail on the IOM report that can be explained by the compromise in the SA, or a note in the IOM report referring to the SA? Perhaps worth a conversation with IOM today?

Not sure about the 2 CT's ? they were on the IOM appointment letter, but could perhaps be removed in the same way MRI's were removed?

Updated draft below ? given the criticality, might have more impact coming from yourself or Brian? I am at the opticians at 9am, but online until 8.30 if you want me to send?

Thanks
Graeme

Bob / Chris / John / David

Further to OMG this morning, and a follow up meeting with Colin Macrae and Ashely Hull, please refer to the note below of the areas being reviewed by IOM, issues encountered, and support from Project Co relative to the first three days of IOM work,

Areas being reviewed by IOM

1	MRI room G-Q1-134 room vents	
2	MRI room G-Q1-123 room vents	
3	MRI room G-Q1-110 room vents	
4	CT	G-Q1-136
5	AHU 02-22 Plant	
6	CT	G-Q1-059
7	AHU 02-25	
8	MRI room room vents	1-P1-064
9	AHU 02-20 Plant	
10	Theatre Suite 4 (UCV 36)	1-P1-155
11	Theatre Suite 2 (UCV 37)	1-P1-070
12	Theatre Suite 1 (UCV 38)	1-P1-078
13	Theatre Suite 3 (UCV 31)	1-P1-091
14	Angio Procedures	1-P1-093
15	Theatre Suite 3 (UCV 32)	1-P1-131
16	Theatre Suite 4 (UCV 33)	1-P1-129
17	Theatre Suite 5 (34)	1-P1-140
18	Theatre Suite 6 (35)	1-P1-050
19	Theatre Suite 1 (30)	1-P1-032
20	Theatre Suite 2 (UCV31)	1-P1-044
21	AHU 02-19 Plant	1-P1-155
22	AHU 02-16 Plant	1-P1-070
23	AHU 02-15 Plant	1-P1-078
24	AHU 02-17 Plant	1-P1-091
25	AHU 02-18 Plant	1-P1-093

26	AHU 02-11 Plant	1-P1-131
27	AHU 02-12 Plant	1-P1-129
28	AHU 02-13 Plant	1-P1-140
29	AHU 02-14 Plant	1-P1-050
30	AHU 02-09 Plant	1-P1-032
31	AHU 02-10 Plant	1-P1-044
32	HDU 4 bed bay	1-B1-009
33	HDU 4 bed bay	1-B1-031
34	HDU 4 bed bay	1-B1-063
35	HDU single bed cubicle	1-B1-037
36	NNU 3 cot bay	1-B1-065
37	NNU single cot cubicle	1-B1-075
38	Single bed isolation cubicle 10	1-B1-036
39	Single bed isolation cubicle 15	1-B1-026
40	Single bed isolation cubicle 19	1-B1-017
41	Single bed isolation cubicle 20	1-B1-016
42	Single bed isolation room 1	1-H2-021
43	AHU 04-06	
44	IEF 02	
45	IEF 03	
46	IEF 04	
47	IEF 05	
48	IEF 06	
49	AHU 04-07 changeover	
50	Single bed isolation room 5	3-C1.4-072
51	Single bed isolation room 1	3-C1.4-052
52	Single bed isolation room 2	3-C1.4-049
53	Single bed isolation room 3	3-C1.4-043
54	Single bed isolation room 4	3-C1.4-040
55	Single bed isolation room	3-C1.3-008
56	AHU 04-07	
57	IEF 10	
58	IEF 11	
59	IEF 12	
60	IEF 13	
61	IEF 14	
62	IEF 19	
63	AHU 04-06 changeover	
64	Single bed isolation room 1	3-C1.1-040
65	Single bed isolation room 2	3-C1.1-036
66	Single bed isolation room 3	3-C1.1-033
67	Single bed isolation room TC	3-C1.1-004
68	AHU 04-08	
69	IEF 15	
70	IEF 16	
71	IEF 17	
72	IEF 18	
73	Single bed isolation room 5	1-L1-068

74	AHU 02-24	
75	IEF 07	
76	Single bed isolation room 1	G-A2-072
77	AHU 02-23	
78	IEF 01	
79	Single bed isolation room 17	1-L2-039
80	Single bed isolation room 16	1-L2-135
81	AHU 02-21	
82	IEF 08	
83	IEF 09	
84	Recovery	1-P1-109
85	AHU	
86	Recovery	1-P1-029
87	AHU	

Issues encountered by IOM

1. Issues encountered 17 June 19
 - ? Ceiling tiles needed to be replaced in the adjacent corridors outside of Theatre 35 ? 1-P1-050 ? could impact balancing of rooms.
 - ? There are no locks on the access to corridors 1P1-126 and 1P1-110, hence the clean zone was not locked down.
2. Issues encountered 18 June 19
 - ? NNU ? ceilings have been removed post Clinical Clean, hence test could not be undertaken.
 - ? NNU ? no locks on the NNU doors, hence clean zone is not locked down.
 - ? G G-A2-072 has a door grille and ceiling tile debris in the en-suite which will require to be removed before the clinical clean is redone.
 - ? AHU 04-06 had failed (no extract from the room), however no action had been taken.
3. Issues encountered 18 June 19
 - ? None as yet

Support from Project Co

1. In corridors outside of the areas being reviewed by IOM, could Project Co please check all corridor ceiling tiles are complete.
2. In the rooms being reviewed by IOM, could Project Co please confirm that all works are complete, including ceiling tiles.
3. Appreciating work is underway on the access control for double swing doors, could Project Co please secure the areas that have already been clinically cleaned, particularly access to corridors 1P1-126 and 1P1-110.
4. Whilst debris should not be in the rooms post clinical clean, could Project Co ensure all debris has been removed.
5. Could Project Co please ensure nobody else enters a room after it has been clinically cleaned.
6. Could Project Co please confirm all AHU?s are working for IOM to undertaken the independent validation.
7. If there any rooms that you find with issues post clinical clean, can you please liaise with Colin and Ashely in order the Board can re-organise a clinical clean.
8. Please also note that IOM are working this Saturday and Sunday. Colin Macrae will provide a list of all the rooms being reviewed during the weekend, hence please can these areas be double checked before close of play on Friday?

You will appreciate the Independent Validation is critical to infection control / patients moving in, hence please can you action as soon as possible please?

In terms of the water flushing the Board are undertaking in the above areas, the Board will inform you as soon as the Board stop flushing.

If there are any queries on the above, please don't hesitate to call.

Happy to set up another meeting if we think required?

Kind Regards
Graeme

-----Original Message-----

From: Mackenzie, Janice [redacted]
Sent: 19 June 2019 22:36
To: Greer, Graeme [redacted]; Currie, Brian [redacted];
Henderson, Ronnie [redacted]; Macrae, Colin [redacted];
Bain, Kelly J [redacted]; Hull, Ashley [redacted]
Subject: RE: Independent validation

Thanks Graeme for this. I'm not sure what the SA said and the different requirements to the SHTM. From an Infection Control and Facilities perspective I'm pretty sure they would want the results against the SHTM

As for the draft email I'm happy with it but just couple of queries I note the 2 CT Scanners are listed but I didn't think we were doing sampling in those rooms?

Given the criticality of this issue can we ask them to confirm that all actions have been done by close of at at the latest.

Do we need to say something about the water flushing which we are doing in these rooms and we will let them know when we will stop doing this.

Re point 4 do we want them to liaise with Colin and Ashley re removal of any debris and I assume we will then need to clean area again so this needs to be done as a matter of urgency.

Also wonder if for the avoidance of doubt we just need to reemphasize the importance of this external validation and implications of tests fail!

Would be keen email goes out in the morning to keep the momentum up.

[redacted]

From: "Greer, Graeme" [redacted]
Sent: 19 Jun 2019 15:55
To: "Currie, Brian" [redacted]; "Mackenzie, Janice"
[redacted]; "Henderson, Ronnie" [redacted];
"Macrae, Colin" [redacted]; "Bain, Kelly J" [redacted]; "Hull, Ashley"
[redacted]
Subject: RE: Independent validation

Hi all,

Further to OMG this morning, and meeting with Colin, Ashley and myself, note below of internal NHSL / IOM issues and issues for Project Co to support.

Internal NHSL / IOM

1. IOM are checking against SHTM, and not the settlement agreement. Do the Board want to inform IOM now, or wait for the report and clarify the settlement agreement amendments.

Project Co support

Draft below to Project Co, any comments?

Bob / Chris / John / David

Further to OMG this morning, and a follow up meeting with Colin Macrae and Ashely Hull, please refer to the note below of the areas being reviewed by IOM, issues encountered, and support from Project Co relative to the first three days of IOM work,

Areas being reviewed by IOM

1

MRI room G-Q1-134 room vents

2

MRI room G-Q1-123 room vents

3

MRI room G-Q1-110 room vents

4

CT

G-Q1-136

5

AHU 02-22 Plant

6

CT

G-Q1-059

7

AHU 02-25

8

MRI room room vents

1-P1-064

9

AHU 02-20 Plant

10

Theatre Suite 4 (UCV 36)

1-P1-155

11

Theatre Suite 2 (UCV 37)

1-P1-070

12

Theatre Suite 1 (UCV 38)

1-P1-078

13

Theatre Suite 3 (UCV 31)

1-P1-091

14

Angio Procedures

1-P1-093

15

Theatre Suite 3 (UCV 32)

1-P1-131

16

Theatre Suite 4 (UCV 33)

1-P1-129

17

Theatre Suite 5 (34)

1-P1-140

18

Theatre Suite 6 (35)

1-P1-050

19

Theatre Suite 1 (30)

1-P1-032

20

Theatre Suite 2 (UCV31)

1-P1-044

21

AHU 02-19 Plant

1-P1-155

22

AHU 02-16 Plant

1-P1-070

23

AHU 02-15 Plant

1-P1-078

24

AHU 02-17 Plant

1-P1-091

25

AHU 02-18 Plant

1-P1-093

26

AHU 02-11 Plant

1-P1-131

27

AHU 02-12 Plant

1-P1-129

28

AHU 02-13 Plant

1-P1-140

29

AHU 02-14 Plant

1-P1-050

30

AHU 02-09 Plant

1-P1-032

31

AHU 02-10 Plant

1-P1-044

32

HDU 4 bed bay

1-B1-009

33

HDU 4 bed bay

1-B1-031

34

HDU 4 bed bay

1-B1-063

35

HDU single bed cubicle

1-B1-037

36

NNU 3 cot bay

1-B1-065

37

NNU single cot cubicle

1-B1-075

38

Single bed isolation cubicle 10

1-B1-036

39

Single bed isolation cubicle 15

1-B1-026

40

Single bed isolation cubicle 19

1-B1-017

41

Single bed isolation cubicle 20

1-B1-016

42

Single bed isolation room 1

1-H2-021

43

AHU 04-06

44

IEF 02

45

IEF 03

46

IEF 04

47

IEF 05

48

IEF 06

49

AHU 04-07 changeover

50

Single bed isolation room 5

3-C1.4-072

51

Single bed isolation room 1

3-C1.4-052

52

Single bed isolation room 2

3-C1.4-049

53

Single bed isolation room 3

3-C1.4-043

54

Single bed isolation room 4

3-C1.4-040

55

Single bed isolation room

3-C1.3-008

56

AHU 04-07

57

IEF 10

58

IEF 11

59

IEF 12

60

IEF 13

61

IEF 14

62

IEF 19

63

AHU 04-06 changeover

64

Single bed isolation room 1

3-C1.1-040

65

Single bed isolation room 2

3-C1.1-036

66

Single bed isolation room 3

3-C1.1-033

67

Single bed isolation room TC

3-C1.1-004

68

AHU 04-08

69

IEF 15

70

IEF 16

71

IEF 17

72

IEF 18

73

Single bed isolation room 5

1-L1-068

74

AHU 02-24

75

IEF 07

76

Single bed isolation room 1

G-A2-072

77

AHU 02-23

78

IEF 01

79

Single bed isolation room 17

1-L2-039

80

Single bed isolation room 16

1-L2-135

81

AHU 02-21

82

IEF 08

83

IEF 09

84

Recovery

1-P1-109

85

AHU

86

Recovery

1-P1-029

87

AHU

Issues encountered by IOM

1. Issues encountered 17 June 19

* Ceiling tiles needed to be replaced in the adjacent corridors outside of Theatre 35 ? 1-P1-050 ? could impact balancing of rooms.

* There are no locks on the access to corridors 1P1-126 and 1P1-110, hence the clean zone was not locked down.

1. Issues encountered 18 June 19

* NNU ? ceilings have been removed post Clinical Clean, hence test could not be undertaken.

- * NNU ? no locks on the NNU doors, hence clean zone is not locked down.
- * G G-A2-072 has a door grille and ceiling tile debris in the en-suite which will require to be removed before the clinical clean is redone.
- * AHU 04-06 had failed (no extract from the room), however no action had been taken.

1. Issues encountered 18 June 19

- * None as yet

Support from Project Co

1. In corridors outside of the areas being reviewed by IOM, could Project Co please check all corridor ceiling tiles are complete.
2. In the rooms being reviewed by IOM, could Project Co please confirm that all works are complete, including ceiling tiles.
3. Appreciating work is underway on the access control for double swing doors, could Project Co please secure the areas that have already been clinically cleaned, particularly access to corridors 1P1-126 and 1P1-110.
4. Whilst debris should not be in the rooms post clinical clean, could Project Co ensure all debris has been removed.
5. Could Project Co please ensure nobody else enters a room after it has been clinically cleaned.
6. Could Project Co please confirm all AHU?s are working for IOM to undertaken the independent validation.

Please also note that IOM are working this Saturday and Sunday. Colin Macrae will provide a list of all the rooms being reviewed during the weekend, hence please can these areas be checked for the above on Friday.

If there are any queries on the above, please don?t hesitate to call.

Happy to set up another meeting if we think required?

Kind Regards
Graeme

Graeme Greer
Associate

[Redacted signature block]

[REDACTED]

[REDACTED]

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From: Greer, Graeme
Sent: 18 June 2019 11:57
To: Currie, Brian [REDACTED] Mackenzie, Janice [REDACTED]
Cc: Henderson, Ronnie [REDACTED]
Macrae, Colin [REDACTED]; Bain, Kelly J [REDACTED] Hull, Ashley [REDACTED]
Subject: RE: Independent validation

Apologies copied Ashley as well.

Graeme Greer
Associate

[REDACTED]

[Redacted]

[Redacted]

[Redacted]

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From: Greer, Graeme
Sent: 18 June 2019 11:22
To: Currie, Brian

[Redacted]
Mackenzie, Janice

Cc: Henderson, Ronnie

[Redacted]; Macrae, Colin
; Bain, Kelly J

Subject: RE: Independent validation

Brian / Janice,

Just caught up with Colin, and summary below of IOM progress with the Independent Validation;

Areas to be undertaken ? 3 Conventional Operating Theatres, 7 UCV Theatres, 19 Isolation Rooms, angiography procedures room, 1 Intra-operative, ITU, NNU, 3 Standard MRI?s and 2 CT?s.

1. 17 June 19 - three Conventional Operating Theatres were undertaken yesterday ? scope in accordance with appointment letter and includes the following (paraphrased);

1. Supply and extract airflow measurements
2. Airflow measurements in the recovery area
3. Pitot duct traverse to measure total quantities of fresh air
4. Pressure differentials across doors to provide pressure cascade figures
5. Electronic particle counting to assess the air filtration efficiency between inlet air and theatre supply air
6. Noise measurements in the theatres
7. Audit of AHU?s
8. Audit of operating suite
9. UKAS accredited airborne microbiological sampling and enumeration in an empty theatre
10. Check the fire damper proving test has been carried out
11. Check control / warning lights and surgeons panel display function
12. Dirty filter simulation to assess whether the AHU can deliver the design airflow volume even under dirty filter conditions
13. Smoke visualisation test to assess mixing / dilution
14. Full validation report

1. Scope for all other areas to be clarified with IOM, the appointment letter only covers Conventional Operating Theatres and Ultra Clean Ventilation.

2. Issues encountered 17 June 19

1. Ceiling tiles needed to be replaced in the adjacent corridors ? could impact balancing of rooms.
2. There are no locks on the theatre doors, hence the clean zone is not locked down
3. MRI?s have been removed from the scope ? do we know why?

1. Issues encountered 18 June 19

1. NNU ? ceilings have been removed post Clinical Clean, hence test cannot be undertaken today
2. NNU ? no locks on the NNU doors, hence clean zone is not locked down

To keep us updated on progress, Colin will provide an informal tracker of the rooms completed.

I think worth noting there does appear to be significant risk associated with lack of lock down of the areas, both in terms of impacting the progress of IOM, and also longer terms cleanliness of the rooms. Can we discuss at TDG this afternoon?

Kind Regards
Graeme

Graeme Greer
Associate

[REDACTED]

[REDACTED]

[REDACTED]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

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From: Henderson, Ronnie

Sent: 03 June 2019 13:03

To: David Wilson

Subject: Independent validation

Hi David,

We will be carrying out the independent validation of all critical ventilation systems beginning 17th June for approx 8-10 days. Can you please ensure that all the following areas and systems are in as complete condition to allow full inspection to take place:

- * Operating Theatres
- * Recovery Areas
- * Intra-Operative MRI
- * ITU/HDU/NNU
- * Isolation Suites

It may be that CT and MRI areas on the ground floor will also be independently validated.

On another note ? Stephen Evans responded re balancing of the IOMRI with theatre vent, can you advise availability.

Regards

Ronnie

Ronnie Henderson
Commissioning Manager Hard FM

[Redacted]

[Redacted]

[Redacted]

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**Services Report – P2739 (HDU 037)
Date of Survey – 20th June 2019**

Ventilation Validation

HDU –Single Bed Cubicle (1.B1.037)

**Royal Hospital for Children and Young
People, Edinburgh**

REPORT TO CLIENT

VENTILATION VALIDATION

HDU ROOM 1.B1.037

ON BEHALF OF

**NHS Lothian
ROYAL HOSPITAL FOR CHILDREN AND YOUNG PEOPLE AND
DEPARTMENT OF CLINICAL NEUROSCIENCES.
LITTLE FRANCE CRESCENT
EDINBURGH
EH16 4TJ**

REPORT NUMBER: P2730 (HDU 037)

REPORT ISSUED: 5TH NOVEMBER 2019

VERSION: FINAL REPORT

VERIFICATION FREQUENCY – ANNUALLY

Report prepared for: Ronnie Henderson

Validation carried out by: Peter Grasby & Craig Nobel
IOM Consulting Ltd.



Authorised by:



.....
Jeremy Slann BSc (Hons) CEng CMIOSH MIMMM FIHEEM
Director of Occupational Hygiene Services and
Healthcare Ventilation
IOM Consulting Ltd.

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EXECUTIVE SUMMARY

SHTM 03-01 requires that critical ventilation systems are verified against design/SHTM standards and that any inability to achieve the recommended standards is classed as a failure. It is not in the remit of a validation/verification company to state whether an HDU suite is fit for use. Rather, this is a judgement for the client and/or clinical department to make, given their knowledge of the particular clinical procedures to be carried out.

This summary highlights where standards have or have not been achieved and is expanded upon in the relevant "Results" sections.

Air Change Rates

HDU Supply: *did not meet recommendations*

Pressure Differentials

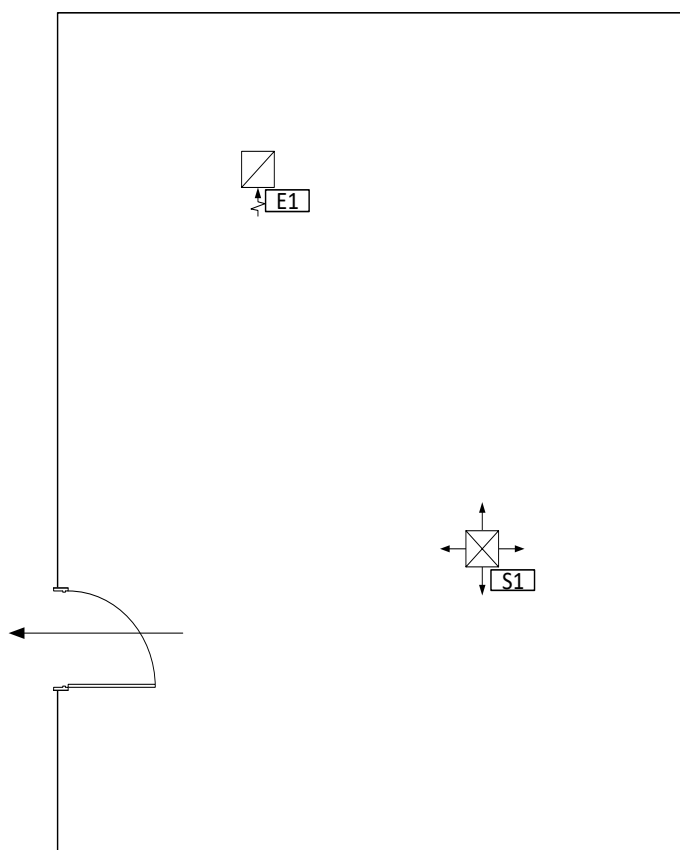
HDU: *acceptable*

Noise Levels

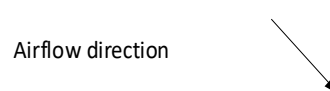
HDU: *satisfactory*

SCHEMATIC DIAGRAM

(not to scale)



KEY



INTRODUCTION

IOM Consulting Ltd. was requested to undertake the validation of this HDU as required by Healthcare Facilities Scotland; Scottish Health Technical Memorandum 03-01 (SHTM 03-01) - Ventilation for Healthcare Premises.

1 PROCEDURES - Summary

This assessment has been undertaken in compliance with SHTM 03-01

The following tests were carried out;

- Airflow measurements at supply and extract grilles throughout the suite
- Pressure differential measurements throughout the suite
- Noise level measurements as appropriate

A full description of procedures can be found in Appendix 1.

Equipment used:-

Instrument	Manufacturer	Serial number
Balometer	TSI	PH 7311922002
Micromanometer	DPM	8176
Integrated noise meter	CEL	00680931
Noise Calibrator		117453

2 RESULTS

Test criteria: SHTM 03-01 gives recommended minimum quantities of fresh air to be supplied to or extracted from locations in the Critical care areas.

2.1 AIRFLOW VOLUMES

Supply Grilles

HDU

Grille Number/ Location	Measured airflow l/s
S1 / HDU	70

Extract Grilles

HDU

Grille Number/ Location	Measured airflow l/s
E1 / HDU	31

2.2 AIR CHANGE RATES

Test criteria: SHTM 03-01 recommends air change rates per hour (AC/hr) for the Critical Care Area and Isolation Rooms. The AC/hr is determined by dividing the supply or extract airflow rate per hour by the room volume.

Room	Room Volume m ³	Measured AC/hr	SHTM 03-01 recommended AC/hr
HDU	73.44	3.4 (S)	10

(S) = supply, (E) = extract

2.2.1 Conclusions

HDU supply air change rate **did not meet** the recommendations.

2.2.2 Recommendations

Upgrade the ventilation system to improve the air change rates to the SHTM 03-01 recommendation.

2.3 PRESSURE DIFFERENTIALS

Test criteria: For design calculations, SHTM 03-01 gives nominal room pressure values, the purpose of which is to maintain a hierarchy of cleanliness within the HDU by creating an airflow cascade from clean to less clean rooms. From these values, nominal differential pressures between the rooms can be derived.

Measurement Location	Measured Pressure Differential (Pa)	SHTM 03-01 Pressure Differential (Pa)
HDU to external corridor	6.3	+10

2.3.1 Conclusions

The pressure differentials **practically created** the correct cascade through the suites to maintain the hierarchy of cleanliness.

2.3.2 Recommendations

Airflows should be improved to provide the required cascade of air within the department.

2.4 NOISE

Location	Measured Noise Levels dB(A)	SHTM 03-01 Noise Limits dB(A)
HDU	33.9	35

The noise level of the HDU is within the recommended limit.

2.4.1 Recommendations

No further action. Re-verify within 12 months.

APPENDIX 1 – PROCEDURES - Detailed

Grille Airflow Volume Measurements

Airflow measurements at supply and extract grilles are determined using an electronic balometer. The balometer incorporates a measuring grid connected to a micromanometer and has an air capture hood which fits over the grille. The hood captures all of the air supplied or extracted by the grille and displays the volume of air flowing. Automatic compensation is provided to allow for the balometer's resistance to airflow (back-pressure compensation).

Each grille is measured in turn and the airflow volume recorded in l/s.

Air Change Rates

The room supply/extract volumes are converted from l/s to m³/hour and divided by the relevant room volume. This gives the number of air changes per hour (AC/hr) for each room.

HBN4, supp1 states that the air change rate within the isolation room is calculated from the sum total of the extract airflow from both isolation room and bathroom. The room volume is that of the isolation room only.

Pressure Differential Measurements

Pressure differentials in Pascals (Pa) are determined using a micromanometer. In order to measure the pressure across the doors a pitot tube is passed through the gap between or under the doors. This ensures the flexible tube is not trapped which can cause an incorrect reading.

Each pressure differential is measured in turn and the pressure recorded.

An assessment is made of the accuracy of the magnehelic gauge displaying the pressure differential between the lobby and corridor.

Noise Measurements

SHTM 03-01 requires noise levels to be tested using a Type 2 noise meter. For the avoidance of disputes, IOM uses Type 1 noise meters as they have a higher level of accuracy.

Although it is the noise level produced by the ventilation system that is being measured, equipment in the rooms or activity outside the rooms may increase sound levels thus rendering noise readings meaningless in relation to the ventilation system.

On occasion there is too much background noise from equipment within the room to accurately measure the ventilation noise level alone. This is recorded as 'Excessive Background Noise'.

APPENDIX 2 – CALIBRATION CERTIFICATES

**Services Report – P2739 (HDU 063)
Date of Survey – 20th June 2019**

Ventilation Validation

HDU – 4 Bed Bay (1.B1.063)

**Royal Hospital for Children and Young
People and Department of Clinical
Neurosciences**

REPORT TO CLIENT

VENTILATION VALIDATION

HDU 4 BED BAY (1.B1.063)

ON BEHALF OF

**NHS Lothian
ROYAL HOSPITAL FOR CHILDREN AND YOUNG PEOPLE AND
DEPARTMENT OF CLINICAL NEUROSCIENCES.
LITTLE FRANCE CRESCENT
EDINBURGH
EH16 4TJ**

REPORT NUMBER: P2730 (HDU 063)

REPORT ISSUED: 5TH NOVEMBER 2019

VERSION: FINAL REPORT

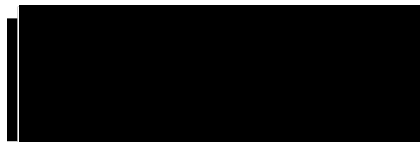
VERIFICATION FREQUENCY – ANNUALLY

Report prepared for: Ronnie Henderson

Validation carried out by: Peter Grasby & Craig Nobel
IOM Consulting Ltd.



Authorised by:



.....
Jeremy Slann BSc (Hons) CEng CMIOSH MIMMM FIHEEM
Director of Occupational Hygiene Services and
Healthcare Ventilation
IOM Consulting Ltd.

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EXECUTIVE SUMMARY

SHTM 03-01 requires that critical ventilation systems are validated against design/HTM standards and that any inability to achieve the recommended standards is classed as a failure. It is not in the remit of a validation/verification company to state whether an HDU suite is fit for use. Rather, this is a judgement for the client and/or clinical department to make, given their knowledge of the particular clinical procedures to be carried out.

This summary highlights where standards have or have not been achieved and is expanded upon in the relevant "Results" sections.

Air Change Rates

HDU Supply: *did not meet recommendations*

Pressure Differentials

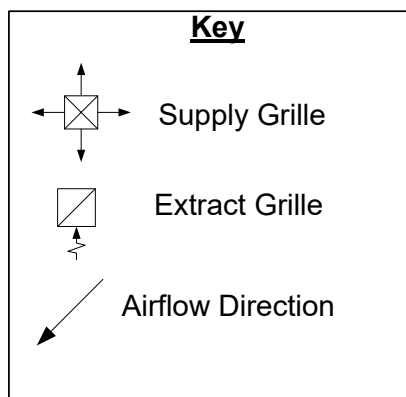
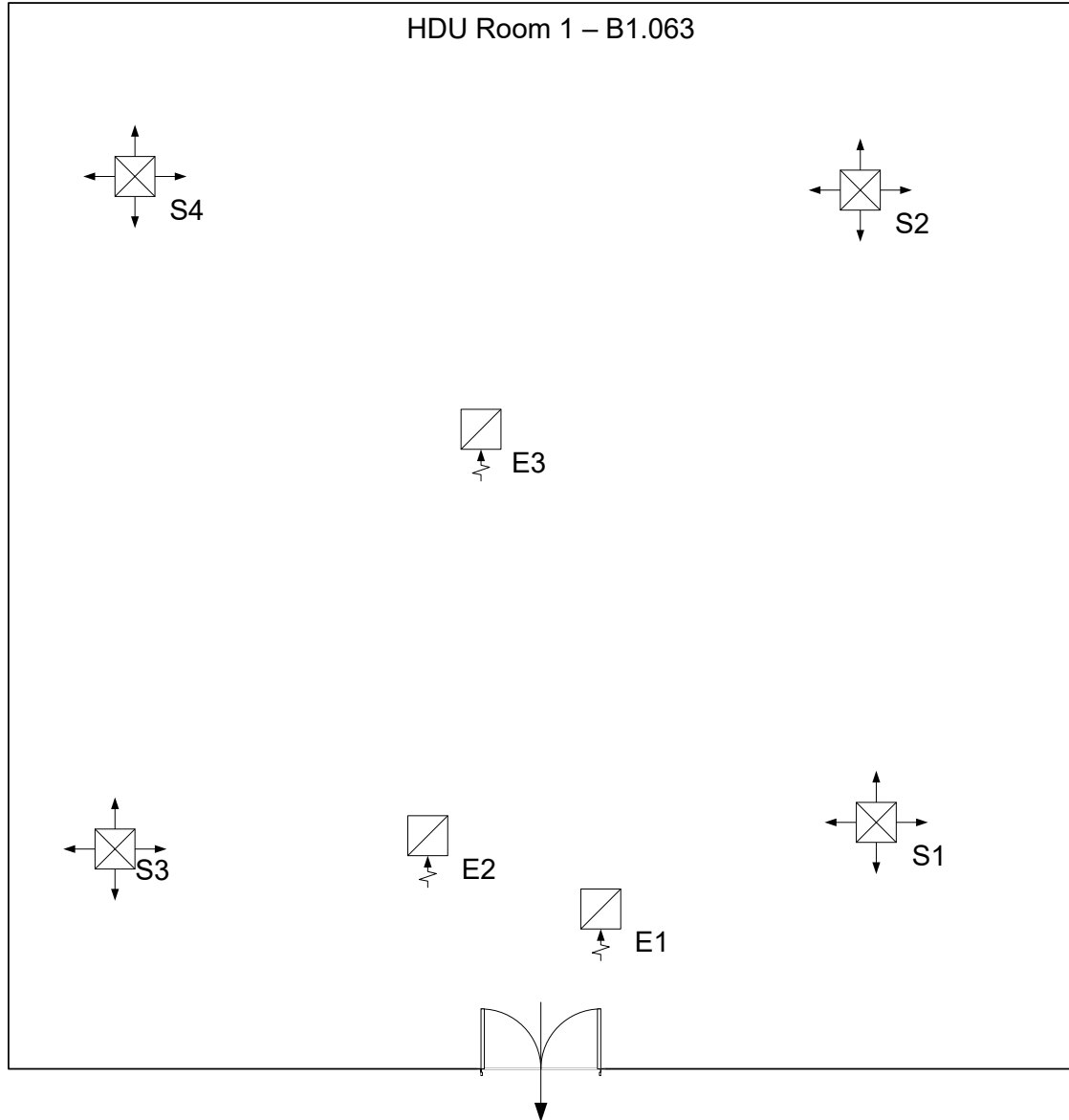
HDU: *did not meet recommendations*

Noise Levels

HDU: **satisfactory**

SCHEMATIC DIAGRAM

(not to scale)



INTRODUCTION

IOM Consulting Ltd. was requested to undertake the validation of this HDU as required by Healthcare Facilities Scotland; Scottish Health Technical Memorandum 03-01 (SHTM 03-01) - Ventilation for Healthcare Premises.

1 PROCEDURES - Summary

This assessment has been undertaken in compliance with SHTM 03-01

The following tests were carried out;

- Airflow measurements at supply and extract grilles throughout the suite
- Pressure differential measurements throughout the suite
- Noise level measurements as appropriate

A full description of procedures can be found in Appendix 1.

Equipment used:-

Instrument	Manufacturer	Serial number
Balometer	TSI	PH 7311922002
Micromanometer	DPM	8176
Integrated noise meter	CEL	00680931
Noise Calibrator		117453

2 RESULTS

Test criteria: SHTM 03-01 gives recommended minimum quantities of fresh air to be supplied to or extracted from locations in the Critical care areas.

2.1 AIRFLOW VOLUMES

Supply Grilles

HDU

Grille Number/ Location	Measured airflow l/s
S1 / HDU	59
S2 / HDU	60
S3 / HDU	63
S4 / HDU	68
HDU Supply Total	250

Extract Grilles

HDU

Grille Number/ Location	Measured airflow l/s
E1 / HDU	62
E2 / HDU	42
E3 / HDU	45
HDU Extract Total	149

2.2 AIR CHANGE RATES

Test criteria: SHTM 03-01 recommends air change rates per hour (AC/hr) for the Critical Care Area and Isolation Rooms. The AC/hr is determined by dividing the supply or extract airflow rate per hour by the room volume.

Room	Room Volume m ³	Measured AC/hr	SHTM 03-01 recommended AC/hr
HDU	277.6	3.2 (S)	10 (S)

(S) = supply, (E) = extract

2.2.1 Conclusions

HDU supply air change rate **did not meet** the recommendations.

2.2.2 Recommendations

Upgrade the ventilation system to improve the air change rates to the SHTM 03-01 recommendation.

2.3 PRESSURE DIFFERENTIALS

Test criteria: For design calculations, SHTM 03-01 gives nominal room pressure values, the purpose of which is to maintain a hierarchy of cleanliness within the HDU by creating an airflow cascade from clean to less clean rooms. From these values, nominal differential pressures between the rooms can be derived.

Measurement Location	Measured Pressure Differential (Pa)	SHTM 03-01 Pressure Differential (Pa)
HDU to external corridor	1.5	+10

2.3.1 Conclusions

The pressure differentials **did not** create the correct cascade through the suite to maintain the hierarchy of cleanliness.

2.3.2 Recommendations

Airflows should be improved to provide the required cascade of air within the department.

2.4 NOISE

Location	Measured Noise Levels dB(A)	SHTM 03-01 Noise Limits dB(A)
HDU	33.7	35

2.4.1 Recommendations

No further action. Re-verify within 12 months.

APPENDIX 1 – PROCEDURES - Detailed

Grille Airflow Volume Measurements

Airflow measurements at supply and extract grilles are determined using an electronic balometer. The balometer incorporates a measuring grid connected to a micromanometer and has an air capture hood which fits over the grille. The hood captures all of the air supplied or extracted by the grille and displays the volume of air flowing. Automatic compensation is provided to allow for the balometer's resistance to airflow (back-pressure compensation).

Each grille is measured in turn and the airflow volume recorded in l/s.

Air Change Rates

The room supply/extract volumes are converted from l/s to m³/hour and divided by the relevant room volume. This gives the number of air changes per hour (AC/hr) for each room.

HBN4, supp1 states that the air change rate within the isolation room is calculated from the sum total of the extract airflow from both isolation room and bathroom. The room volume is that of the isolation room only.

Pressure Differential Measurements

Pressure differentials in Pascals (Pa) are determined using a micromanometer. In order to measure the pressure across the doors a pitot tube is passed through the gap between or under the doors. This ensures the flexible tube is not trapped which can cause an incorrect reading.

Each pressure differential is measured in turn and the pressure recorded.

An assessment is made of the accuracy of the magnehelic gauge displaying the pressure differential between the lobby and corridor.

Noise Measurements

SHTM 03-01 requires noise levels to be tested using a Type 2 noise meter. For the avoidance of disputes, IOM uses Type 1 noise meters as they have a higher level of accuracy.

Although it is the noise level produced by the ventilation system that is being measured, equipment in the rooms or activity outside the rooms may increase sound levels thus rendering noise readings meaningless in relation to the ventilation system.

On occasion there is too much background noise from equipment within the room to accurately measure the ventilation noise level alone. This is recorded as 'Excessive Background Noise'.

APPENDIX 2 – CALIBRATION CERTIFICATES

From: Currie, Brian
Sent: 21 June 2019 12:50
To: 'Greer, Graeme'
Cc: Macrae, Colin; Henderson, Ronnie; Mackenzie, Janice
Subject: RE: RHCYP + DCN - Little France - AHU's - URGENT

Importance: High

Many thanks Graeme.

Regardless of any response from IHSL today we should meet with IOM on Monday morning and seek clarity on their view on all of this.

Could you / Colin set something up with them say at 10.30am?

We will have finished our weekly look ahead meeting with IHSL by then.

Regards

Brian

Brian Currie
Project Director - NHS Lothian

[REDACTED]

[REDACTED]



From: Greer, Graeme [REDACTED]
Sent: 21 June 2019 12:22
To: Currie, Brian
Cc: Macrae, Colin; Henderson, Ronnie; Mackenzie, Janice
Subject: RE: RHCYP + DCN - Little France - AHU's - URGENT

Brian,

Further to our call this morning, a few thoughts below on your questions.

As I mentioned this morning, based on current feedback from IOM, we anticipate they will report the system as non-compliant against the SHTM 03-01.

With respect to the fire / smoke issue, and in terms of “unsafe” we would think it likely that IOM would conclude that if the equipment / wiring is combustible, this would not be considered safe for occupation, and therefore we should clarify this with Project Co.

With respect to the static / dust accumulation issue, IOM may take the view that this will manifest itself almost immediately, and therefore any “in use” remediation would have to be undertaken immediately. Project Co may consider temporary measures that could reduce the static / dust accumulation issue.

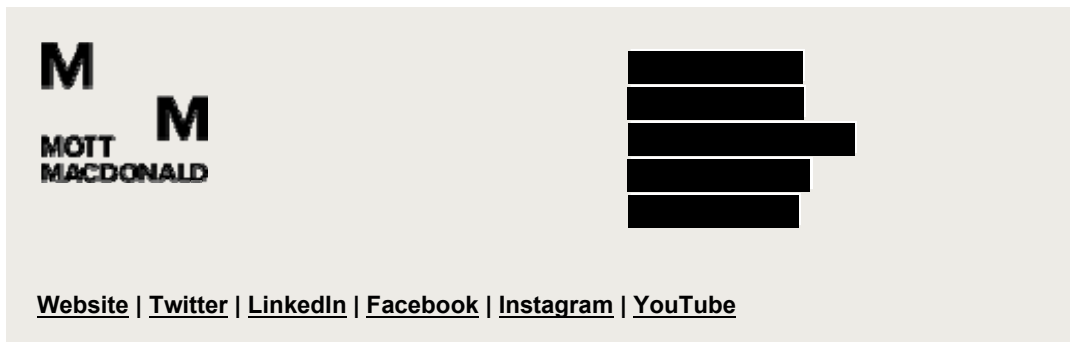
IOM may advise in their reporting a combination of temporary rectification, permanent future remedials, or works needed before occupation. It would be useful to understand how IOM propose to structure their validation report.

Assuming IOM report as non-compliant against the SHTM, suggest the Board would need to undertake a risk assessment against any immediate remedials proposed by Project Co to determine whether patients could be moved in. We would obviously be happy to assist in the risk assessment / review proposed mitigation measures as needed.

Kind Regards
Graeme

Graeme Greer
Associate

[Redacted]



MOTT MACDONALD

[Website](#) | [Twitter](#) | [LinkedIn](#) | [Facebook](#) | [Instagram](#) | [YouTube](#)

[Redacted]

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From: Currie, Brian
Sent: 21 June 2019 08:35
To: Greer, Graeme
Cc: Macrae, Colin ; Henderson, Ronnie ; Mackenzie, Janice
Subject: RHCYP + DCN - Little France - AHU's - URGENT
Importance: High

Have passed on to IHSL / MPX who are reviewing urgently and a meeting/call to be held this morning I hope once they have digested.

Couple of immediate questions come to mind:

1 Take it we can occupy and use facilities as is or will IOM report system unsafe?

2 Assuming remedials agreed, can the works be done whilst facilities occupied? Presumably there is a PPM protocol for AHU's which allow just such as thing?

Regards

Brian

Brian Currie
Project Director - NHS Lothian

[Redacted]

[Redacted]



From: Greer, Graeme [Redacted]
Sent: 20 June 2019 16:11
To: Mackenzie, Janice; Currie, Brian; Henderson, Ronnie; Macrae, Colin; Bain, Kelly J; Hull, Ashley
Subject: RE: Independent validation

Brian,

Further to our call, IOM have commented that all the AHUs are non-compliant with the SHTMs due to the wiring connections within each section of each AHU, by reference to the following clause of the SHTM 03-01;

General

1.41 The equipment built into the ventilation system and its ductwork should be of a type that will neither cause nor sustain combustion. No materials that could sustain biological activity should be used in the construction or assembly of the system.

IOMs main concerns relate to fire / smoke risk, and infection control both in the control panel enclosure and main airflow chambers. I have attached photos that indicate the potential issue.

It appears the control panel and associated wiring is located in a separate compartment of the AHU (and not part of the main airflow), however I think the IOM issue is the grommets / seals have air passing through them, hence still fire / smoke / infection control concerns.

In terms of the main chambers, I think they are also concerned about the amount of equipment / wiring in the main airflow, this appears to be associated with sensors / wiring / cable tray.

Think IOM would be interested in extent of materials that could cause or sustain combustion, and also could create static and cause dust / infection control issues.

Kind Regards
Graeme

**Services Report – P2739 (HDU 031)
Date of Survey – 22nd June 2019**

Ventilation Validation

HDU – Room (1.B1.031)

**Royal Hospital for Children and Young
People and Department of Clinical
Neurosciences**

REPORT TO CLIENT

VENTILATION VALIDATION

HDU ROOM B1.031

ON BEHALF OF

**NHS Lothian
ROYAL HOSPITAL FOR CHILDREN AND YOUNG PEOPLE AND
DEPARTMENT OF CLINICAL NEUROSCIENCES.
LITTLE FRANCE CRESCENT
EDINBURGH
EH16 4TJ**

REPORT NUMBER: P2730 (HDU 031)

REPORT ISSUED: 5TH NOVEMBER 2019

VERSION: FINAL REPORT

VERIFICATION FREQUENCY – ANNUALLY

Report prepared for: Ronnie Henderson

Validation carried out by: Paul Jameson & Peter Grasby
IOM Consulting Ltd.



Authorised by:



.....
Jeremy Slann BSc (Hons) CEng CMIOSH MIMMM FIHEEM
Director of Occupational Hygiene Services and
Healthcare Ventilation
IOM Consulting Ltd.

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EXECUTIVE SUMMARY

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This summary highlights where standards have or have not been achieved and is expanded upon in the relevant "Results" sections.

Air Change Rates

HDU Supply: ***did not meet recommendations***

Pressure Differentials

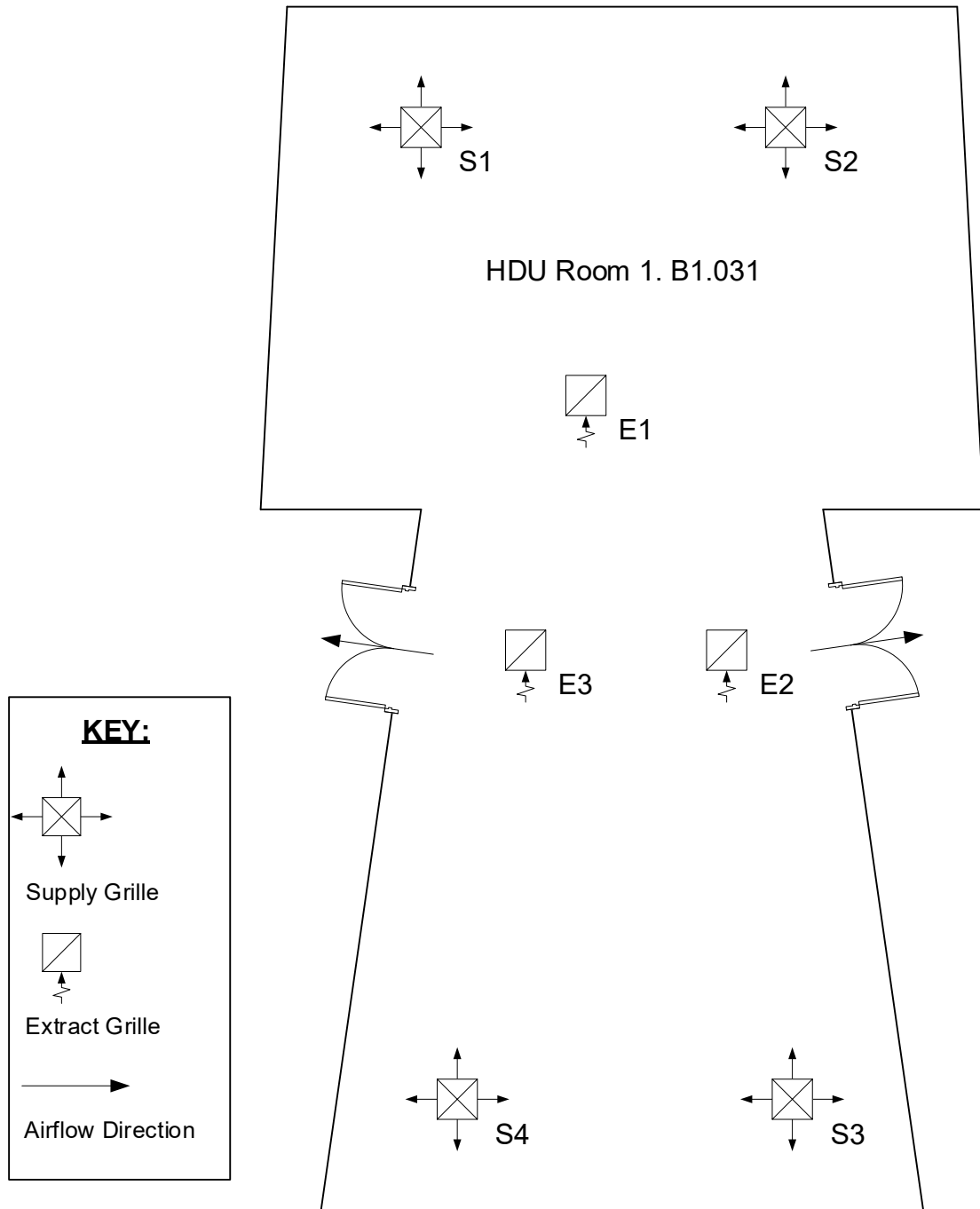
HDU: ***did not meet recommendations***

Noise Levels

HDU: **satisfactory**

SCHEMATIC DIAGRAM

(not to scale)



INTRODUCTION

IOM Consulting Ltd. was requested to undertake the validation of this HDU as required by Healthcare Facilities Scotland; Scottish Health Technical Memorandum 03-01 (SHTM 03-01) - Ventilation for Healthcare Premises.

1 PROCEDURES - Summary

This assessment has been undertaken in compliance with SHTM 03-01

The following tests were carried out;

- Airflow measurements at supply and extract grilles throughout the suite
- Pressure differential measurements throughout the suite
- Noise level measurements as appropriate

A full description of procedures can be found in Appendix 1.

Equipment used:-

Instrument	Manufacturer	Serial number
Balometer	TSI	PH 7311922002
Micromanometer	DPM	8176
Type 1 integrated noise meter	Rion NA 28	00680931
Noise calibrator (calibrated yearly)	CEL 110/2	117453

2 RESULTS

Test criteria: SHTM 03-01 gives recommended minimum quantities of fresh air to be supplied to or extracted from locations in the Critical care areas.

2.1 AIRFLOW VOLUMES

Supply Grilles

HDU

Grille Number/ Location	Measured airflow l/s
S1 / HDU	66
S2 / HDU	62
S3 / HDU	59
S4 / HDU	72
HDU Total	259

Extract Grilles

HDU

Grille Number/ Location	Measured airflow l/s
E1 / HDU	25
E2 / HDU	37
E3 / HDU	43
HDU Total	105

2.2 AIR CHANGE RATES

Test criteria: SHTM 03-01 recommends air change rates per hour (AC/hr) for the Critical Care Area and Isolation Rooms. The AC/hr is determined by dividing the supply or extract airflow rate per hour by the room volume.

Room	Room Volume m ³	Measured AC/hr	SHTM 03-01 recommended AC/hr
HDU	298.4.	3.1(S)	10

(S) = supply, (E) = extract

2.2.1 Conclusions

HDU supply air change rate **did not meet** the recommendations.

2.2.2 Recommendations

Upgrade the ventilation system to improve the air change rates to the SHTM 03-01 recommendation.

2.3 PRESSURE DIFFERENTIALS

Test criteria: For design calculations, SHTM 03-01 gives nominal room pressure values, the purpose of which is to maintain a hierarchy of cleanliness within the HDU by creating an airflow cascade from clean to less clean rooms. From these values, nominal differential pressures between the rooms can be derived.

Measurement Location	Measured Pressure Differential (Pa)	SHTM 03-01 Pressure Differential (Pa)
HDU to corridor to beds 9-15	3.2	+10
HDU to corridor to beds 16-21	0.5	+10

2.3.1 Conclusions

The pressure differentials **did not create** the correct cascade through the suites to maintain the hierarchy of cleanliness.

2.3.2 Recommendations

Airflows should be improved to provide the required cascade of air within the department.

2.4 NOISE

Location	Measured Noise Levels dB(A)	SHTM 08-01 Noise Limits dB(A)
HDU	33	35

The noise level of the HDU is within the recommended limit.

2.4.1 Recommendations

No further action. Re-verify within 12 months

APPENDIX 1 – PROCEDURES - Detailed

Grille Airflow Volume Measurements

Airflow measurements at supply and extract grilles are determined using an electronic balometer. The balometer incorporates a measuring grid connected to a micromanometer and has an air capture hood which fits over the grille. The hood captures all of the air supplied or extracted by the grille and displays the volume of air flowing. Automatic compensation is provided to allow for the balometer's resistance to airflow (back-pressure compensation).

Each grille is measured in turn and the airflow volume recorded in l/s.

Air Change Rates

The room supply/extract volumes are converted from l/s to m³/hour and divided by the relevant room volume. This gives the number of air changes per hour (AC/hr) for each room.

HBN4, supp1 states that the air change rate within the isolation room is calculated from the sum total of the extract airflow from both isolation room and bathroom. The room volume is that of the isolation room only.

Pressure Differential Measurements

Pressure differentials in Pascals (Pa) are determined using a micromanometer. In order to measure the pressure across the doors a pitot tube is passed through the gap between or under the doors. This ensures the flexible tube is not trapped which can cause an incorrect reading.

Each pressure differential is measured in turn and the pressure recorded.

An assessment is made of the accuracy of the magnehelic gauge displaying the pressure differential between the lobby and corridor.

Noise Measurements

SHTM 03-01 requires noise levels to be tested using a Type 2 noise meter. For the avoidance of disputes, IOM uses Type 1 noise meters as they have a higher level of accuracy.

Although it is the noise level produced by the ventilation system that is being measured, equipment in the rooms or activity outside the rooms may increase sound levels thus rendering noise readings meaningless in relation to the ventilation system.

On occasion there is too much background noise from equipment within the room to accurately measure the ventilation noise level alone. This is recorded as 'Excessive Background Noise'.

APPENDIX 2 – CALIBRATION CERTIFICATES

**Services Report – P2730 (HDU 009)
Date of Survey – 23rd June 2019**

Ventilation Validation

HDU – Room 1 B1.009

**Royal Hospital for Children and Young
People and Department of Clinical
Neurosciences**

REPORT TO CLIENT

VENTILATION VALIDATION

HDU ROOM B1.009

ON BEHALF OF

**NHS Lothian
ROYAL HOSPITAL FOR CHILDREN AND YOUNG PEOPLE AND
DEPARTMENT OF CLINICAL NEUROSCIENCES.
LITTLE FRANCE CRESCENT
EDINBURGH
EH16 4TJ**

REPORT NUMBER: P2730 (HDU 009)

REPORT ISSUED: 5TH NOVEMBER 2019

VERSION: FINAL REPORT

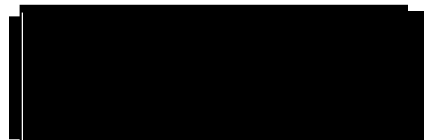
VERIFICATION FREQUENCY – ANNUALLY

Report prepared for: Ronnie Henderson

Validation carried out by: Paul Jameson & Peter Grasby
IOM Consulting Ltd.



Authorised by:



.....
Jeremy Slann BSc (Hons) CEng CMIOSH MIMMM FIHEEM
Director of Occupational Hygiene Services and
Healthcare Ventilation
IOM Consulting Ltd.

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EXECUTIVE SUMMARY

SHTM 03-01 requires that critical ventilation systems are verified against design/SHTM standards and that any inability to achieve the recommended standards is classed as a failure. It is not in the remit of a validation/verification company to state whether an HDU suite is fit for use. Rather, this is a judgement for the client and/or clinical department to make, given their knowledge of the particular clinical procedures to be carried out.

This summary highlights where standards have or have not been achieved and is expanded upon in the relevant "Results" sections.

Air Change Rates

HDU Supply: *did not meet recommendations*

Pressure Differentials

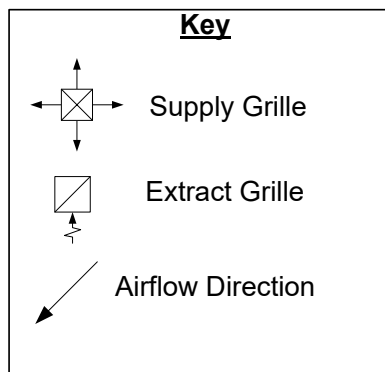
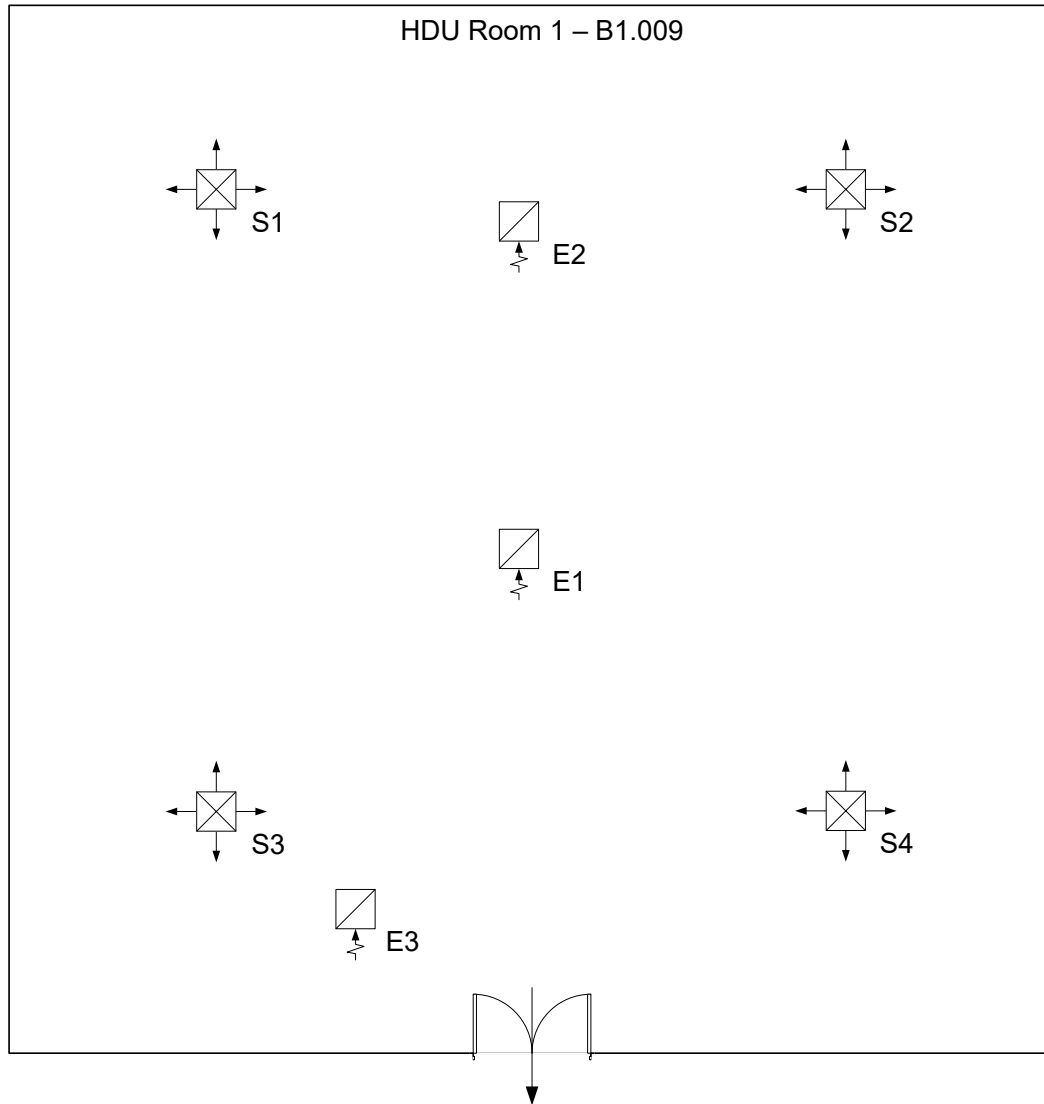
HDU: *acceptable*

Noise Levels

Owing to excessive background noise, noise levels could not be assessed.

SCHEMATIC DIAGRAM

(not to scale)



INTRODUCTION

IOM Consulting Ltd. was requested to undertake the validation of this HDU as required by Healthcare Facilities Scotland; Scottish Health Technical Memorandum 03-01 (SHTM 03-01) - Ventilation for Healthcare Premises.

1 PROCEDURES - Summary

This assessment has been undertaken in compliance with SHTM 03-01

The following tests were carried out;

- Airflow measurements at supply and extract grilles throughout the suite
- Pressure differential measurements throughout the suite
- Noise level measurements as appropriate

A full description of procedures can be found in Appendix 1.

Equipment used:-

Instrument	Manufacturer	Serial number
Balometer	TSI	PH 7311922002
Micromanometer	DPM	8176
Integrated noise meter	CEL	00680931
Noise Calibrator		117453

2 RESULTS

Test criteria: SHTM 03-01 gives recommended minimum quantities of fresh air to be supplied to or extracted from locations in the Critical care areas.

2.1 AIRFLOW VOLUMES

Supply Grilles

HDU

Grille Number/ Location	Measured airflow l/s
S1 / HDU	76
S2 / HDU	87
S3 / HDU	68
S4 / HDU	63
HDU Supply Total	294

Extract Grilles

HDU

Grille Number/ Location	Measured airflow l/s
E1 / HDU	44
E2 / HDU	37
E3 / HDU	27
HDU Extract Total	108

2.2 AIR CHANGE RATES

Test criteria: SHTM 03-01 recommends air change rates per hour (AC/hr) for the Critical Care Area and Isolation Rooms. The AC/hr is determined by dividing the supply or extract airflow rate per hour by the room volume.

Room	Room Volume m ³	Measured AC/hr	SHTM 03-01 recommended AC/hr
HDU	311.9	3.4 (S)	10

(S) = supply, (E) = extract

2.2.1 Conclusions

HDU supply air change rate **did not meet** the recommendations.

2.2.2 Recommendations

Upgrade the ventilation system to improve the air change rates to the SHTM 03-01 recommendation.

2.3 PRESSURE DIFFERENTIALS

Test criteria: For design calculations, SHTM 03-01 gives nominal room pressure values, the purpose of which is to maintain a hierarchy of cleanliness within the HDU by creating an airflow cascade from clean to less clean rooms. From these values, nominal differential pressures between the rooms can be derived.

Measurement Location	Measured Pressure Differential (Pa)	SHTM 03-01 Pressure Differential (Pa)
HDU to external corridor	8	+10

2.3.1 Conclusions

The pressure differentials **generally created** the correct cascade through the suites to maintain the hierarchy of cleanliness.

2.3.2 Recommendations

No further action required. Re-verify within 12 months.

2.4 NOISE

Location	Measured Noise Levels dB(A)	SHTM 03-01 Noise Limits dB(A)
HDU	EBN*	35

*Excessive background noise

2.4.1 Recommendations

Owing to excessive background noise, the noise levels could not be measured during the validation

APPENDIX 1 – PROCEDURES - Detailed

Grille Airflow Volume Measurements

Airflow measurements at supply and extract grilles are determined using an electronic balometer. The balometer incorporates a measuring grid connected to a micromanometer and has an air capture hood which fits over the grille. The hood captures all of the air supplied or extracted by the grille and displays the volume of air flowing. Automatic compensation is provided to allow for the balometer's resistance to airflow (back-pressure compensation).

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The room supply/extract volumes are converted from l/s to m³/hour and divided by the relevant room volume. This gives the number of air changes per hour (AC/hr) for each room.

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Noise Measurements

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APPENDIX 2 – CALIBRATION CERTIFICATES

-RHSC & DCN – Steering Group No 4

Notes of Meeting 24th June 2019

Attendees:

NHSL: Susan Goldsmith & Brain Currie

IHSL: Matt Templeton

Multiplex: Callum Tuckett

Chair: Roger Thompson

1.0 Quorum and Apologies

The Meeting was quorate
There were apologies from J Crombie and T Rose

2.0 Previous Minutes

These were agreed for accuracy

3.0 Review Progress of Post Completion Works and Outstanding Works

The meeting agreed to use the updated issues report from the Conference Call on 20th June (attached) as the main agenda for the meeting. This highlighted the Board's concerns with progress towards opening.

Double Swing Doors

- CT reported that works are due to be completed on Friday 28th

Access Control System

- Final checks are being completed

Lifts not reliable and visibly damaged

- CT said that if the refurbished doors are not up to standard then they will be replaced

Guardian System not operational

- There remain certain issues with connectivity
- BC commented on the overall connectivity with all systems and the handheld devices. There is a need to get the specialists together

Water management not yet passed to BYES

- MT reported that BYES have agreed to take over responsibility for the water systems on Wed 26th
-

Access Control Systems – not all doors visible on system

- IHSL believe that this item was completed last Friday

Boilers unable to run on oil

- Complete

Window Restrictors

- Velfac have checked all the restrictors and they are working correctly

HAI Scribe/ Infection Control

- The builders work will be complete by 28th June. MPX will advise NHSL and Infection Control Team

Snagging – MPX closing out various snags, but no evidence that they have been completed

- CT said that a full review of this question is underway and the team are liaising with Stuart Davison
- There remain circa 70 to be completed

Gaps in Fire Doors

- MPX have 10 joiners on site and are working through the building floor by floor – probably a 3- week exercise – Ongoing

Will Board operational changes be implemented by BYEs- in particular door security

- MT reported that 2 will not be complete by 3rd July – Radiology?
-

CT Scanner Room overheating

- CT advised that the FCUs are now on site
- BC reported that power outage had caused some damage to one of the scanners

Excessive temperature in all heat stations

- The works are virtually complete and data logger have been installed

Critical Ventilation Systems – Independent validation

- The verification process has highlighted some real concerns with certain areas not achieving the required air changes
- A separate workstream will look at these questions
- ***Critical to opening***

Dishwasher Issues

- The power supply works are complete

- The dosing units are on order

Medical Gases Repeater Panel

- The repeater panel will be installed by 3rd July

Security to 4th Floor Terrace

- A solution is proposed that should work but operationally there needs to be some planning and work

4.0 BYES Preparedness

No real issues were reported

The meeting with David Carr (BYES MD) was discussed. BC agreed to prepare an agenda

5.0 Interface Matters

SG said how challenging the completion and opening of the hospital was proving, with all of the works being completed and interfacing that with the clinical commissioning

6.0 Project Co Operational Matters

- The reports on the reliability of the PMS system and the operation of the Helpdesk were tabled
- SG said that the Board would review these and revert
- SG said that the Board intended to conduct an independent audit of the services at an early stage. IHSL is of the view that this would best be done a few months into full operations, but it is the Board's decision

7.0 NHSL Commissioning Activities

Along with the construction works coordinating these with final cleaning was proving to be difficult

8.0 Relationship and partnership Working

Nothing was reported

9.0 A.o.B

There would be a call on the ventilation testing issues 10.00am on Friday 28th

From: Currie, Brian
Sent: 05 July 2019 15:08
To: Graham, Iain
Subject: RHCYP + DCN - Little France - Critical Care Ventilation

Iain

Further to your question earlier today, I first became aware of a potential measurement issue with the ventilation in Critical Care on Monday 24th June, actual time escapes me.

It is my recollection that senior management were made aware at a 10.00am meeting at on Friday 28th June.

Regards

Brian

Brian Currie
Project Director - NHS Lothian

[Redacted signature block]

[Redacted signature block]



From: Currie, Brian
Sent: 25 June 2019 10:38
To: Callum Tuckett [REDACTED]; 'Roger Thompson RMT'; 'Matthew Templeton'; Goldsmith, Susan
Cc: 'Wallace Weir'; [REDACTED]; 'Bob Brown'; Darren Pike; David Wilson; 'Colin Grindlay'; Henderson, Ronnie; Davidson, Stuart X; Mackenzie, Janice; Graham, Iain; Davidson, Stuart X
Subject: RHCYP + DCN - Little France - IOM Issues Log dated 25 June 2019 - URGENT
Attachments: RIE_Childrens hospital issues log-rec from IOM 25 June 2019.pdf

For the avoidance of doubt, this transmittal, all attachments and our ongoing discussions concerning ventilation proceed entirely without prejudice to our whole rights, remedies and pleas and cannot be referred to or relied upon by you in any circumstances whatsoever without our express consent.

Please find attached first issues log just received from IOM.

This follows previous emails and a discussion at yesterday's Steering Group meeting.

We confirm our availability to participate in a telephone conversation on these matters at 10.00am this Friday and to meet before at IHSL's request.

We note Bob Brown's recent email to assist in these matters and we will advise availability of the Board's AE in due course.

We look forward to hearing from you at your earliest convenience.

Meantime we continue to reserve our whole rights, remedies and pleas.

Regards

Brian

Brian Currie
Project Director - NHS Lothian

[REDACTED]

[REDACTED]



Area	item	Issue
General	Systems do not appear to have been commissioned well	Various issues identified below
General	Swirl diffusers have been widely used in the development.	Not normally used in critical areas like theatres as they can be difficult to measure accurately with balometers and they can impact on wound site velocity
Preparation	Some areas are not completed and ready for handover. Eg ceiling tiles still missing	
Theatres	Very limited extract in theatre corridors. Corridors are not at 0 absolute pressure and do not meet required 7 ach/hr (SHTM03-01 part A appendix 2 Table A2)	No escape for surplus air. Could impact on open door protection. Pressure in corridors is pushing fire doors open
Theatres	Issues with doors, door actuators, closers and interlocking to DU's	
Theatres	Some prep rooms do not meet required air supply volumes. (theatres 35, 31, 32, 33 and 38)	Should be 100l/s for SPS room.
Theatres	Most theatres do not properly control temperature	There are a number of faulty control valves on plant/heater batteries
Theatres	Concerns about open door protection (eg theatre 34)	Theatre supply 1171, LLE365, scrub 73. Leaves 733 for open door vs required 750.
Theatres	UCV clean zone not marked in flooring - not tape but alternative coloured zone or lines in flooring.	Para 7.108 of SHTM 03-01 part A and Para 6.26 of HBN 26 which states 'In theatres with ultra-clean ventilation the floor area enclosed by the hood should be marked with lines or a contrasting coloured area of flooring'.
Theatres	Some fabric issues in theatres (eg holes to fill and under benching gaps to fill)	
Theatres	Theatre 33 - 4 cells fail 0.2 test at 0.17m/s. Filter screen may have been adapted	Re-commission UCV - may need HEPA filters as pressure drop is 170pa vs typical 100/110 for clean filters
Theatres	It is understood that extract grilles in DU are supplied one from each theatre.	Systems will need to be interlocked so both theatres are running when any one is in use.
Theatres	Dirty utility extract rates do not meet requirements in some theatres. Should be 410l/s.	Theatres 30, 36, 37, 33, 38.
Theatres	issues on some theatre light stems, covers missing, not well fitted and cabling exposed	
Theatres	Individual grilles in conventional theatres not balanced which can impact on air flows at patient wound site.	BSRIA Guide AG 3/89.3 Table 1 page 10 requires them to be within 10% of lowest grille reading.
Theatres	Noise slightly high in UCV theatres	measurements 3.5 dbA above requirements. We would expect new facilities to meet the SHTM standard.
Theatres	UCV hepa filter pressure drops relatively high (140-170 pa) compared with expected 100/110 pa for new filters	
Theatres	Hepa filter screens on UCV are distorted in places	
Isolation rooms	Several isolation rooms on one AHU. HBN 04-01 supplement 1 (2013) Para 2.37 states that ideally each isolation suite should have its own supply and extract system.	Para 2.37 of HBN 04-01 states that ideally each isolation suite should have its own dedicated supply and extract system
Isolation rooms	Some isolation rooms not achieving the required 10 ach/hr	Min running at 5 ach and some just under 10
Isolation rooms	Back up arrangements appear to be very complex and as such likely to be challenging in future	
HDU's	Only achieving 3-4 ach/hr vs required 10	NHS have apparently agreed this??
AHU's	Filter pleat orientation incorrect on top row of final filters	Should be vertical
AHU's	Pre filters showing signs of bypass	
AHU's	Magnahelic gauges not marked for clean and dirty limits	
AHU's	Insufficient access for cleaning (eg inlets) and access hatches are too small for cleaning/maintenance	
AHU's	Some duct traverse test points are not plugged	
AHU's	Surplus drip tray in AHU (?humidifier removed?). Tray drain is not blanked off	
AHU's	Cooling coil drip tray area not easy to clean. Cooling coil baffles cannot be easily removed due to cable installation	
AHU's	Trap arrangements incorrect. No suitable air gaps and traps dirty and incorrectly installed	
AHU's	Magnahelic gauge scale too wide	1-500pa whereas 1-250 reflects likely filter pressure drops
AHU's	Motorised dampers take a long time to open and close which impacts on the speed of auto-changeover	No spring return fitted so may not close in the event of power failure.
AHU's	Plant labelling incorrect and shows incorrect areas served.	Temporary labelling installed
AHU's	Branch ducts not generally marked up to show areas served	
AHU's	Auto change over arrangements need to be fully tested. Some MD's do not close on plant isolation and some units will not re-start after both motors have been isolated.	
AHU's	Some motors running at over 95% speed so there is limited scope for system to overcome dirty filter pressure drop and maintain system performance	
BMS	Communication problems between BMS and AHU (eg theatre 33)	
BMS	It is not clear if critical plant will operate in stand alone mode in the event of issues with BMS or comms	
AUHs	cableing inside AHU also cable connectors inside AHU, potential for electrical faults to cause as source of fire within the airstream. Potential for smoke/fume to enter clinical areas	Similar situation was found at an NHS hospital in the NorthEast 2016 all wiring had to be removed from AHUs before handover to Trust

Area	item	Issue
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Theatres	Issues with doors, door actuators, closers and interlocking to DU's	
Theatres	Some prep rooms do not meet required air supply volumes. (theatres 35, 31, 32, 33 and 38)	Should be 100l/s for SPS room.
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AHU's	Trap arrangements incorrect. No suitable air gaps and traps dirty and incorrectly installed	
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AHU's	Motorised dampers take a long time to open and close which impacts on the speed of auto-changeover	No spring return fitted so may not close in the event of power failure.
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AHU's	Some motors running at over 95% speed so there is limited scope for system to overcome dirty filter pressure drop and maintain system performance	
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BMS	It is not clear if critical plant will operate in stand alone mode in the event of issues with BMS or comms	
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WORKING FOR A HEALTHIER FUTURE

Services Report: P2739 (DCN-REC)
Date of Survey: 27th June 2019

Ventilation Validation

DCN Recovery

Royal Hospital for Children and Young People and Department of Clinical Neurosciences



REPORT TO CLIENT

VENTILATION VALIDATION

RECOVERY

ON BEHALF OF

**NHS Lothian
ROYAL HOSPITAL FOR CHILDREN AND YOUNG PEOPLE AND
DEPARTMENT OF CLINICAL NEUROSCIENCES.
LITTLE FRANCE CRESCENT
EDINBURGH
EH16 4TJ**

REPORT NUMBER: P2739 (DCN-REC)

REPORT ISSUED:

VERSION: DRAFT REPORT

VERIFICATION FREQUENCY – ANNUALLY

Report prepared for:

Verification carried out by: Paul Jameson & Peter Grasby
IOM Consulting Ltd.



Report prepared by:

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ventilation
IOM Consulting Ltd.



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EXECUTIVE SUMMARY

HTM 03-01 requires that critical ventilation systems are verified against design/SHTM standards and that any inability to achieve the recommended standards is classed as a failure. It is not in the remit of a verification company to state whether a theatre suite is fit for use. Rather, this is a judgement for the client and/or clinical department to make, given their knowledge of the particular clinical procedures to be carried out.

This summary highlights where standards have or have not been achieved and is expanded upon in the relevant "Results" sections.

Air Change Rates – See section 3.2

Recovery room supply:	<i>did not meet recommendations</i>
Recovery room extract:	<i>did not meet recommendations</i>
Dirty utility extract:	<i>did not meet recommendations</i>
Clean utility extract:	<i>did not meet recommendations</i>

Noise Levels – See section 3.4

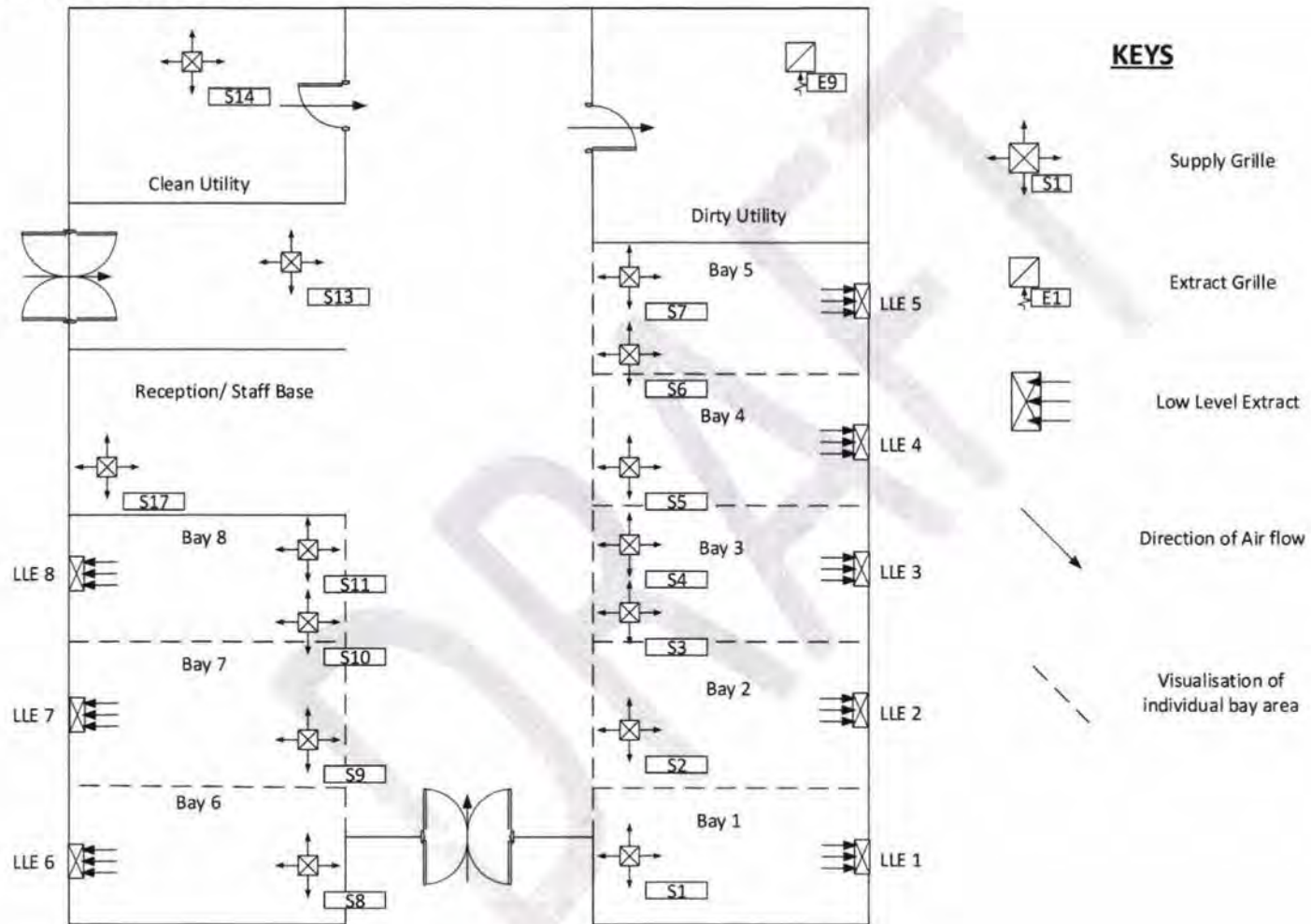
Recovery room:	<i>satisfactory</i>
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Note

Even when using the individual recovery bay areas to calculate air change rates within each bay 3 out of 8 bays failed to meet the recommended air change rate.



SCHEMATIC DIAGRAM



(not to scale)

1 INTRODUCTION

IOM Consulting Ltd. was requested to undertake the validation of this recovery as required by Healthcare Facilities Scotland; Scottish Health Technical Memorandum 03-01 (SHTM 03-01) - Ventilation for Healthcare Premises.

2 PROCEDURES - Summary

This assessment has been undertaken in compliance with SHTM 03-01

The following tests were carried out;

- Airflow measurements at supply and extract grilles throughout the suite
- Pressure differential measurements throughout the suite
- Noise level measurements as appropriate

A full description of procedures can be found in Appendix 1.

Equipment used:-

Instrument	Manufacturer	Serial number
Balometer	TSI	PH731 1922002
Micromanometer	DPM	8176
Integrated noise meter	Rion	00680931



3 RESULTS

3.1 AIRFLOW VOLUMES

Supply Grilles

Grille Number/ Location	Measured airflow l/s	SHTM 03-01 recommended airflow l/s
S1 / Recovery Main Area Bay 1	137	Equates to 15 AC/hr
S2 / Recovery Main Area Bay 2	152	
S3 / Recovery Main Area Bay 3	96	
S4 / Recovery Main Area Bay 3	129	
S5 / Recovery Main Area Bay 4	83	
S6 / Recovery Main Area Bay 5	128	
S7 / Recovery Main Area Bay 5	149	
S8 / Recovery Main Area Bay 6	142	
S9 / Recovery Main Area Bay 7	84	
S10 / Recovery Main Area Bay 8	153	
S11 / Recovery Main Area Bay 8	113	
S12 / Recovery Main Area Reception staff base	35	

S13 / Recovery Main Area	74	
Recovery Total	1475	
S14 / Clean Utility	50	Equates to 6 AC/hr

DRAFT



P2739 (DCN-REC) Royal Hospital for Children and Young People and Department of
Clinical Neurosciences

Extract Grilles

Grille Number/ Location	Measured airflow l/s	SHTM 03-01 recommended airflow l/s
LLE1 / Recovery Main Area	171	Equates to 15 AC/hr
LLE2 / Recovery Main Area	201	
LLE3 / Recovery Main Area	194	
LLE4 / Recovery Main Area	167	
LLE5 / Recovery Main Area	170	
LLE6 / Recovery Main Area	204	
LLE7 / Recovery Main Area	218	
LLE8 / Recovery Main Area	220	
Recovery Total	1545	
E9 / Dirty Utility	50	Equates to 6 AC/hr



3.2 AIR CHANGE RATES

Test criteria: SHTM 03-01 recommends air change rates per hour (AC/hr) for recovery rooms. The AC/hr is determined by dividing the supply or extract airflow rate per hour by the room volume.

Room	Room Volume m ³	Measured AC/hr	HTM 03-01 recommended AC/hr
Recovery Area Total space	454.6	(S) 11.7 (E) 12.2	15
Dirty Utility	36.16	(E) 5	6
Clean Utility	32.53	(S) 5.5	6
Recovery Bay 1	32.08	(S) 15.37 (E) 19.18	15
Recovery Bay 2	32.08	(S) 17 (E) 22.55	15
Recovery Bay 3	32.08	(S) 25.24 (E) 21.77	15
Recovery Bay 4	32.97	(S) 9 (E) 18.23	15
Recovery Bay 5	31.19	(S) 31.97 (E) 19.62	15
Recovery Bay 6	35.96	(S) 14.21 (E) 20.42	15



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Recovery Bay 7	35.96	(S) 8.4 (E)21.82	
Recovery Bay 8	35.96	(S) 26.6 (E) 22.02	

(S) = supply, (E) = extract

3.2.1 Conclusions

The main recovery area supply air change rate **did not meet** the recommendations.

The main recovery area extract air change rate **did not meet** the recommendations.

The dirty utility extract air change rate **did not meet** the recommendations.

The clean utility supply air change rate **did not meet** the recommendations.

In order to determine if each recovery bay satisfied the air supply/extract to each bay was used to calculate the bay air change rates

All eight recovery bays extract met the recommendations

However 3 of the eight supplies did not meet the recommendations

The overriding conclusion is the recovery did not meet the recommendations

3.2.2 Recommendations

Recommission system to improve the air change rates to meet SHTM03-01.



3.3 PRESSURE DIFFERENTIALS

Test criteria: For design calculations, SHTM 03-01 gives nominal room pressure values, the purpose of which is to maintain a hierarchy of cleanliness by creating an airflow cascade from clean to less clean rooms. From these values, nominal differential pressures between the rooms can be derived.

Measurement Location	Measured Pressure Differential (Pa)	HTM 2025 Pressure Differential (Pa)	HTM 03-01 Pressure Differential (Pa)
Recovery to corridor	-2		Neutral
Recovery to dirty utility	5		Positive

3.3.1 Conclusions

The pressure differentials **did not create** the correct cascade through the suite to maintain the hierarchy of cleanliness.

Note: SHTM 03-01 states that pressure differentials are not critical provided the desired airflow rates and the correct direction of air movement are achieved.

Low or high pressures may indicate deficiencies with pressure stabiliser settings, door seals or incorrect air volumes.

3.3.2 Recommendations

As part of improvements ensure the recovery is at neutral pressure to the corridor



3.4 NOISE LEVELS

Test criteria: SHTM 03-01 specifies maximum noise levels within recovery rooms.

Location	Measured Noise Levels dB(A)	HTM 03-01 Noise Limits dB(A)
Recovery room	38.0	40

3.4.1 Conclusions

Recovery area noise level was **within** the recommended limit.

3.4.2 Recommendations

No further action required. Re-verify within 12 months.



APPENDIX 1 – PROCEDURES – Detailed

Grille Airflow Volume Measurements

Airflow measurements at supply and extract grilles are determined using an electronic balometer. The balometer incorporates a measuring grid connected to a micromanometer and has an air capture hood which fits over the grille. The hood captures all of the air supplied or extracted by the grille and displays the volume of air flowing. Automatic compensation is provided to allow for the balometer's resistance to airflow (back-pressure compensation).

Each grille is measured in turn and the airflow volume recorded in l/s.

Air Change Rates

The room supply/extract volumes are converted from l/s to m³/hour and divided by the relevant room's volume. This gives the number of air changes per hour (AC/hr) for each room.

Pressure Differential Measurements

Pressure differentials in Pascals (Pa) are determined using a micromanometer. In order to measure the pressure across the doors a pitot tube is passed through the gap between or under the doors. This ensures the flexible tube is not trapped which can cause an incorrect reading.

Each pressure differential is measured in turn and the pressure recorded.

Noise Measurements

SHTM 03-01 requires noise levels to be tested using a Type 2 noise meter. For the avoidance of disputes, IOM uses Type 1 noise meters as they have a higher level of accuracy.

Although it is the noise level produced by the ventilation system that is being measured, equipment in the rooms or activity outside the rooms may increase sound levels thus rendering noise readings meaningless in relation to the ventilation system.

The noise meter is calibrated on site using an acoustic calibrator.



APPENDIX 2 – CALIBRATION CERTIFICATES

DRAFT



From: Currie, Brian [REDACTED] on behalf of Currie, Brian
Sent: 28 June 2019 08:21
To: Callum Tuckett [REDACTED] Roger Thompson RMT
 [REDACTED] Matthew Templeton [REDACTED]
Cc: Goldsmith, Susan [REDACTED]
 Wallace Weir [REDACTED] Bob
 Brown [REDACTED]; Darren Pike [REDACTED] David Wilson
 [REDACTED] Colin Grindlay [REDACTED] Henderson,
 Ronnie [REDACTED]; Davidson, Stuart X
 [REDACTED] Mackenzie, Janice
 [REDACTED] Graham, Iain [REDACTED]
 Davidson, Stuart X [REDACTED]
Subject: RE: RHCYP + DCN - Little France - Further IOM Issues Log dated 28 June 2019 - URGENT
Attachments: Operating theatre key issues_ IOM_ 280619.pdf

For the avoidance of doubt, this transmittal, all attachments and our ongoing discussions concerning ventilation proceed entirely without prejudice to our whole rights, remedies and pleas and cannot be referred to or relied upon by you in any circumstances whatsoever without our express consent.

Further to previous correspondence on this matter, please see further concerns from IOM below and attached.

Discuss further at 10.00am this morning.

The last few days have proved quite frustrating as there has been issues with plant, temperature control, access etc which has detracted from solid progress. Support on the BMS in the last couple of days has been less than ideal as David has been off and Mercury/Schneider seem to be doing work on the system so we haven't had a clear run at it. In addition we were advised that systems were set to run continuously during our testing but we are finding that systems are shutting down/going into background driven by occupancy sensors. When you are testing in the plant area the change in status is not always discernible.

As discussed we will be attending next week to hopefully finalise the work.

I wanted to discuss some of the site history as we are experiencing some unusual results. For example the theatre 32 UCV is now producing higher velocities than it did at commissioning with HEPA filter pressure drop being higher. I wondered if they had been re-commissioned or ?adjusted? prior to these validations?

Our testing is not complete but it also looks like the UCV theatres are not producing enough air changes in conventional mode (theatres 31 and 38 tested to date). The commissioning figures seen from H+V do not appear to have tested in those modes. Unfortunately it's not uncommon that switching modes can result in significantly different results with the canopies on and off.

We are concerned about the effectiveness of controls and the cause/effect on the surgeon's panel indicators. We have witnessed:

- AHU isolations where the canopy still runs. ie they are not interlocked.
- Extract fans tripped with no alarms on the panel
- Some motorised dampers not closing on plant shutdown/failure
- Clear evidence that temperature cannot be properly controlled in most theatres due to valve issues and the thermal wheels

As previously discussed the thermal wheels currently are not working well and represent an infection risk as they have been running at high speed so the purge section is negated and extract air is inevitably be being picked up in the supply air stream.

The shared DU rooms generally have two grilles which contribute to the total extract rate. The design anticipated that in the event of one system failing the second system would ramp up the extract to the DU to replace extract lost from the failed system. Upon testing this facility in theatres 32 and 33) it does not work.

The design figure for supply to prep rooms is 90 l/s when the SHTM is 100 l/s so not sure why this was.

We have been testing for a blocked filter scenario but not all systems have been tested to date. However, some systems do not have sufficient fan speed capacity to deal with a blocked filter scenario.

Finally, you will be aware of the ongoing issues with door actuators and doors in general. The door issues need to be addressed urgently as they will be a major irritation to users and could compromise system performance.

Meantime we continue to reserve our whole rights, remedies and pleas.

Regards

Brian

Brian Currie
Project Director - NHS Lothian

[Redacted signature block]

[Redacted signature block]



From: Currie, Brian
Sent: 25 June 2019 10:38
To: Callum Tuckett ([Redacted]); 'Roger Thompson RMT'; 'Matthew Templeton'; Goldsmith, Susan
Cc: 'Wallace Weir'; ([Redacted]); 'Bob Brown'; Darren Pike; David Wilson; 'Colin Grindlay'; Henderson, Ronnie; Davidson, Stuart X; Mackenzie, Janice; Graham, Iain; Davidson, Stuart X
Subject: RHCYP + DCN - Little France - IOM Issues Log dated 25 June 2019 - URGENT

For the avoidance of doubt, this transmittal, all attachments and our ongoing discussions concerning ventilation proceed entirely without prejudice to our whole rights, remedies and pleas and cannot be referred to or relied upon by you in any circumstances whatsoever without our express consent.

Please find attached first issues log just received from IOM.

This follows previous emails and a discussion at yesterday's Steering Group meeting.

We confirm our availability to participate in a telephone conversation on these matters at 10.00am this Friday and to meet before at IHSL's request.

We note Bob Brown's recent email to assist in these matters and we will advise availability of the Board's AE in due course.

We look forward to hearing from you at your earliest convenience.

Meantime we continue to reserve our whole rights, remedies and pleas.

Regards

Brian

Brian Currie
Project Director - NHS Lothian

[Redacted]

[Redacted]



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Operating theatre key issues.

Theatre 30 – Conventional

27 air changes per hour – meets SHTM.

Theatre grilles excessively out of balance (up to 33% above lowest)- can create dead zones in clean air paths

Dirty Utility low extract volume – 344 l/s vs required 410 (design 420). DU grille does not ramp up on failure of adjacent theatre plant.

Anaesthetic room extract air change rate low at 13.1 vs required 15.

Noise levels marginally above SHTM requirements in theatre, anaesthetic and dirty utility rooms.

Theatre 31- UCV theatre

Canopy passed all tests.

Air change rate in conventional mode – only 19 ach/hr vs required 25. Further investigations underway to check supply/extract volume and room pressures in conventional mode.

Prep room supply volume and air change rate below requirements 85 l/s and 9.4 ach vs required 100l/s and 10 ach/hr.

DU extract arrangements set out by designers to ramp up extract in the event of a failure of one system does not work.

Noise levels to theatre marginally above SHTM requirement by 0.9 dbA and anaesthetic room above by 3.8dbA and prep room by 4.5dbA.

Surgeon's panel RH gauge needs recalibrating (max tolerance allowed 5%)

Theatre 32 – UCV theatre

Canopy passed all tests.

Prep supply air volume low at 68 l/s (7ach/hr) vs required 100 l/s and 10ach/hr. (Design 90 l/s)

DU extract arrangements set out by designers to ramp up extract in the event of a failure of one system does not work.

Area still to be tested in conventional mode.

Noise levels marginally above SHTM requirements in theatre.

Theatre 33 – UCV theatre

Canopy 1m velocity readings failed test - has 4 cells below 0.2 m/s.

All quadrants on 2m velocity readings out of balance by more than +/- 6%. (92%, 116%, 80% and 111%). Canopy may need new HEPA filters as filter pressure drop is at 170pa vs usual new reading of 100-110pa).

Dirty utility extract rate slightly low at 396l/s vs required 410 (Design is 420). DU extract arrangements set out by designers to ramp up extract in the event of a failure of one system does not work.

Anaesthetic room supply and extract rates and air changes below requirements and design.

Prep room supply volume and air change rate below requirements 66 l/s and 6.4 ach vs required 100 l/s and 10 ach/hr.

Theatre 34 - Conventional

28 air changes per hour – meets SHTM.

Theatre grilles excessively out of balance (up to 21% above lowest) - can create dead zones in clean air paths.

Insufficient air in theatre to provide open door protection (733 l/s vs required 750 l/s). Theatre supply air volume below design and low level extract higher than design

DU extract arrangements set out by designers to ramp up extract in the event of a failure of one system does not work.

One blade on pressure stabiliser between anaesthetic room and corridor broken.

Weak pressure cascade from prep to corridor (23 pa vs required 25pa)

Anaesthetic room extract air change rate below requirements at 13.2 vs required 15.

Infestation of greenfly or similar to AHU inlet area.

Noise levels marginally above SHTM requirements in theatre.

Theatre 35 - Conventional

32.3 air changes per hour – meets SHTM but very high, wastes energy and could be uncomfortable for users.

Theatre grilles in balance.

Insufficient air in theatre to provide open door protection (722 l/s vs required 750 l/s). Theatre supply air volume correct but low level extract and scrub extract higher than design.

DU extract arrangements set out by designers to ramp up extract in the event of a failure of one system does not work.

Prep supply air volume low at 87 l/s vs required 100 l/s (Design 90 l/s)

Weak pressure cascade theatre to corridor (23.5 pa vs required 25pa)

Anaesthetic room extract air change rate below requirements at 13.1 vs required 15.

Noise levels marginally above SHTM requirements in theatre.

Theatre 36 – UCV theatre

Canopy passed all tests but quadrant 3 on the 2m velocity readings was a borderline pass at 106% of the average (max +/- 6%).

Dirty utility extract rate very low at 228 l/s vs required 410 (Design is 420). DU extract arrangements set out by designers to ramp up extract in the event of a failure of one system does not work.

Noise levels above SHTM requirements in theatre (3 dbA) and anaesthetic (=3.4dbA). Will deteriorate over time in theatre as canopy fans wear.

Theatre 37 – UCV theatre

UCV has one quadrant which is out of balance by 9% (max allowable is +/- 6%).

Dirty utility extract rate low at 306 l/s vs required 410 (Design is 420). DU extract arrangements set out by designers to ramp up extract in the event of a failure of one system does not work.

Anaesthetic room extract air changes low at 12 vs required 15.

Noise levels to theatre marginally above SHTM requirement by 1.3 dbA and anaesthetic room above by 4.7dbA.

Theatre 38 – UCV theatre

Canopy passed all tests.

22.5 ach/hr in conventional mode vs required 25. Very large theatre at 226m³.

Prep room supply air volume low at 80l/s (9.1 ach/hr) vs required 100l/s (10 ach/hr).

Dirty utility extract rate low at 306 l/s vs required 410 (Design is 420). DU extract arrangements set out by designers to ramp up extract in the event of a failure of one system does not work.

Anaesthetic room extract air changes low at 11.8 vs required 15.

Noise levels to theatre above SHTM requirement by 3.8 dbA and anaesthetic room above by 2.5dbA.

Theatre 39 – UCV theatre

UCV has one quadrant which is out of balance by 13% (max allowable is +/- 6%).

DU extract arrangements set out by designers to ramp up extract in the event of a failure of one system does not work.

Anaesthetic room extract air changes low at 11.8 vs required 15.

Initial tests suggest there is insufficient air in theatre in conventional mode to provide open door protection (719 l/s vs required 750 l/s). Further testing needed in conventional mode.

Noise levels to theatre marginally above SHTM requirement by 0.4dbA and anaesthetic room above by 1.6 dbA and prep by 1.1 dbA.

Water and ventilation issues in RHCYP and DCN

The testing and quality assurance work prior to the move into RHCYP/DCN is not yet sufficiently complete and demonstrating adequate assurance to support the finalised move date. This will be subject to daily work and checks this week. A final decision about the move of patients will need to be made by Wed 3 July.

Water quality

- Testing of outlets taking place with necessary corrective actions.
- The building commissioning standards for handover and occupation differ from the HPS guidance about testing regimes in particular areas where more vulnerable patients are (augmented care areas).
- This has resulted in some lack of clarity between estates and IC.

Ventilation for theatres, critical care and isolation rooms

- Air sampling carried out to date has been negative.
- The independent tester was on site at the end of last week and submitted a report on Friday morning outlining issues and faults with all 10 theatres.
- No written report on isolation or critical care areas has been received.
- A minimum of four theatres with fit for purpose ventilation are required for safe occupation.
- Any intrusive corrective engineering work will require replating of air samples (48 hour form sample to result)

A meeting was held on Friday 28 June internally between estates, execs (SG AMcM and TG) and RHCYP team (BC, ED, FM) to discuss the two issues and agree a plan to address them. Additional tests and results are expected this week for water quality in augmented areas with any appropriate corrective action undertaken

A second meeting was held between NHS L, IHSL and Multiplex and Bouyges, with a follow up call at 4pm after further discussion with engineering colleagues and the independent tester. It was agreed that from 1st July, all relevant engineers and sub contractors will work through on theatre at a time (starting at RHCYP end

Water quality: A brief paper summarising the testing regime, corrections and any consequences for safe patient care will be prepared when testing is complete and presented at HCG on 9 July

Ventilation: Twice daily conference calls will be held from 1st July will be held to maintain an overview of progress

TG/AMcM 01.07.19

From: McLaughlin C (Christine)
Sent: 10 July 2019 13:26
To: DG Health & Social Care; Connaghan J (John) (Health)
Cc: Healy M (Michael); Roche R (Rowena)
Subject: FW: critical care ventilation timelines
Attachments: RHCYP critical care ventilation issues ; RHCYP/DCN

Malcolm, John

Given your earlier concerns, does this provide you with the information that you needed. There were clearly a number of issues being managed including water and ventilation in several parts of the hospital.

In think this demonstrates more that the tight timeframe between inspection and occupation meant that there was no room for error at all and is probably one of the areas that will come through the audit work – at what point does this not seem realistic?

Can you let me know whether this provides what you need for the time being and I will go back to Tracey.

Christine

From: Gillies, Tracey [REDACTED]
Sent: 10 July 2019 12:25
To: McLaughlin C (Christine) [REDACTED]
Subject: FW: critical care ventilation timelines

From: Gillies, Tracey
Sent: 10 July 2019 12:13
To: 'christine.mclaughlin' [REDACTED]
Cc: Goldsmith, Susan; Executive, Chief; McMahon, Alex
Subject: critical care ventilation timelines

Dear Christine,

Following our meeting on the 9th July, you asked for some more detail about the period of time between 25 June and 1st July, as there remains concern that an opportunity for earlier escalation was missed. I am happy to provide more information as I am able in addition to the email provided on Saturday 6th July below.

I can confirm that the extent of the issue with paediatric critical care ventilation (4 air changes per hour not 10), and the fact that this could not be rectified was not understood until the end of the day on the 1st of July. As we have previously indicated, and you can see from the log of issues related to ventilation submitted by IOM the independent validation engineer on 25 June, which we supplied to you on the 6 July, there were emerging issues related to ventilation in theatres, isolation rooms and critical care.

I provide more detail below:

- Between 25 and 28 June, the onsite teams worked to understand what IOM had measured and what corrections could be made to all ventilation systems. My understanding is that the testing had taken place amid last minute engineering corrections and required meetings and checks to be clear about exactly what had been measured where.
- Additionally the methodology of a NPD project means that the design is provided to meet the specification of the contract rather than being held and owned by the users of the building. This meant that our project

team (representing the users) were constantly having to ask MPX and IHSL (the builders and owners) for details of the design rather than directly being able to reference this

- At the meeting on the 28 June at 10am, the priority issue as far as ventilation was concerned appeared to be theatres. The document tabled at that meeting was detail about the measurements in all 10 theatres indicating issues such that, at that time, none was ready for use. We concentrated our efforts on mobilising engineers to work together to test controls and rectify these issues. Our aim was to have 4 theatres (2 for DCN 2 for paed) fit for purpose for commissioning by 5 July at the latest.
- Our time line around this was also influenced by not knowing the extent to the work to be done (if any of the work had been intrusive- i.e. removing panels or grilles to access ducting, it may have required repeat air sampling- this had already been done and passed as clear at the existing level of ventilation but good practice would require it to be repeated after any intrusive work on a ventilation system. Repeat air sampling involves growth of bacterial plates, usually for a minimum of 48 hours to give a count of colonies).
- In summary, the morning meeting on 28th June involved discussion of water quality and ventilation in general but concentrated on the specifics in theatres. The afternoon call was to confirm theatre engineers could attend on Monday. It was acknowledged at this that no progress could be made over the weekend.
- On the morning of July 1st, Alex and I provided a briefing to Tim (who was on leave that day), attached
- By the afternoon of the 1st, the situation had changed, as you will see from the later email (attached)
- A conference call with legal advisors MacRoberts was arranged for the morning of 2nd July in the evening of the 1st, providing additional evidence that this issue had just been confirmed as material late on the 1st July.
- Tim returned to work on Tuesday 2nd July and he and other executive directors met ahead of the conference call with MacRoberts and escalated to the Director General immediately afterwards

I hope this provides some additional background which is useful

Tracey

Executive Medical Director
NHS Lothian

From: McMahon, Alex
Sent: 06 July 2019 13:04
To: Executive, Chief; Gillies, Tracey; Campbell, Jacquie; [REDACTED]; [Currie, Brian](#); [Graham, Iain](#); [REDACTED] Goldsmith, Susan
Subject: Fwd: NHS Lothian RHC&YP/ DCN - patient contact information and critical care ventilation timelines

John and colleagues as discussed this morning attached is patient contact numbers re re-booking patients. We will review this tomorrow morning but unlikely to be any significant change until Monday. Also attached is data from NHS 24 from contacts made yesterday.

In terms of the critical care ventilation issue and the timeline, what I can advise and as discussed using:

24th June Brian Currie, Project Director received notification from IOM

25th June Brian Currie received a report highlighting critical care vent issues amongst a longer list of working requiring to be done. This list was circulated to steering group members for information.

Between 25th and 28th June the project team undertook work to check the information against what had been contractually agreed. No escalation to Executive's took place during this time.

On the 28th June Susan Goldsmith, Tracey Gillies and I attended a meeting with the project team and others but the focus of that meeting was water quality and theatre ventilation. Critical care ventilation wasn't raised as an issue at that meeting.

1st July Brian Currie raised the issue re critical care ventilation with Tracey on the late afternoon post a 4.30 teleconference.

Evening of 1st July Tracey emailed Tim Davison and others to flag there was an issue.

Morning and afternoon of 2 July further review and escalation to amongst others Malcolm Wright and John Connaghan at SG.

The issue of the timeline for critical care ventilation testing prior to 24th June I will ask Brian Currie to confirm and let you know if this can be made available today or tomorrow, if not Monday. We can pick this and any other issues up at the 11 am teleconference tomorrow.

Alex

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From: [Gillies, Tracey](#)
To: [Executive, Chief](#)
Cc: [McMahon, Alex](#); [REDACTED]; [Goldsmith, Susan](#); [Graham, Iain](#); [Campbell, Jacquie](#); [Currie, Brian](#); [Curley, George](#); "[MACKAY, Judith \(NHS FIFE\)](#)"
Subject: RHCYP critical care ventilation issues
Date: 01 July 2019 18:52:05
Sensitivity: Confidential

Dear Tim,


This emerged today following testing by the independent validation engineer for ventilation on the site (IOM) . The main points are summarised below

I have discussed briefly with Susan and she advises obtaining urgent legal advice and I have asked Iain G to arrange a call for early tomorrow morning.

The points below have been commented on by those at the discussion this afternoon, and there are points to clarify and get further information on.

- IOM have tested critical care ventilation in RHCYP in 4 bedded and single rooms
- It delivers 4 air changes at balanced or slight negative pressure in the multiple occupancy 4 bedded room and single rooms in critical care. The 19 isolation rooms outside critical care are not affected
- The required standard as per SHTM 03-01 Appendix 1 (version 2 February 2014) for Critical Care areas is 10 air changes and less than 10 air changes per hour may facilitate airborne spread of viruses more than if 10 was achieved. Further advice on the likely impact of air change reduction is required.
- the only known way to improve air changes with the current plant is to accept positive pressure ventilation (i.e. increasing further the opportunity for spread primarily of pathogens with airborne transmission e.g. respiratory viruses between individuals :staff, visitors and patients in 4 bedded rooms) A request has been asked of MPX to verify the maximum capability of the existing plant while maintaining current pressure regimes.
- it is expected that a bigger plant would be required to deliver the correct air changes – the team are identifying what potential for existing system capacity enhancements might be (i.e. ramping up the existing air handling plant) and / or within the constraint of the existing ducting (so it would only be the external plant affected). The question has also been asked of MPX to assess what would be required to increase to 10 air changes/hr
- this leads us to question whether the space is fit for purpose
- If occupied now, there is risk to patients, visitors and staff of airborne virus transmission (?how much) and difficulties in correcting (would probably require a decant) Team to contact external experts for advice
- if not occupied now, move needs postponed

Tracey

From: [Gillies, Tracey](#)
To: [Executive, Chief](#)
Cc: [Campbell, Jacquie](#); [McMahon, Alex](#); [Watters, Elaine](#); [Graham, Iain](#)
Subject: RHCYP/DCN
Date: 01 July 2019 08:51:03
Attachments: 

Dear Tim

Alex and I went with Susan to follow up on the water quality and ventilation issues on Friday- attached is a briefing and we can give you more detail as required. There is still a lot of work to do is the summary position. There will be regular calls and one of us will dial into these.

Tracey

Water and ventilation issues in RHCYP and DCN

The testing and quality assurance work prior to the move into RHCYP/DCN is not yet sufficiently complete and demonstrating adequate assurance to support the finalised move date. This will be subject to daily work and checks this week. A final decision about the move of patients will need to be made by Wed 3 July.

Water quality

- Testing of outlets taking place with necessary corrective actions.
- The building commissioning standards for handover and occupation differ from the HPS guidance about testing regimes in particular areas where more vulnerable patients are (augmented care areas).
- This has resulted in some lack of clarity between estates and IC.

Ventilation for theatres, critical care and isolation rooms

- Air sampling carried out to date has been negative.
- The independent tester was on site at the end of last week and submitted a report on Friday morning outlining issues and faults with all 10 theatres.
- No written report on isolation or critical care areas has been received.
- A minimum of four theatres with fit for purpose ventilation are required for safe occupation.
- Any intrusive corrective engineering work will require replating of air samples (48 hour form sample to result)

A meeting was held on Friday 28 June internally between estates, execs (SG AMcM and TG) and RHCYP team (BC, ED, FM) to discuss the two issues and agree a plan to address them. Additional tests and results are expected this week for water quality in augmented areas with any appropriate corrective action undertaken

A second meeting was held between NHS L, IHSL and Multiplex and Bouyges, with a follow up call at 4pm after further discussion with engineering colleagues and the independent tester. It was agreed that from 1st July, all relevant engineers and sub contractors will work through on theatre at a time (starting at RHCYP end

Water quality: A brief paper summarising the testing regime, corrections and any consequences for safe patient care will be prepared when testing is complete and presented at HCG on 9 July

Ventilation: Twice daily conference calls will be held from 1st July will be held to maintain an overview of progress

TG/AMcM 01.07.19

From: Gillies, Tracey
Sent: 10 July 2019 12:13
To: [REDACTED]
Cc: Goldsmith, Susan; Executive, Chief; McMahon, Alex
Subject: critical care ventilation timelines
Attachments: RHCYP critical care ventilation issues ; RHCYP/DCN

Dear Christine,

Following our meeting on the 9th July, you asked for some more detail about the period of time between 25 June and 1st July, as there remains concern that an opportunity for earlier escalation was missed. I am happy to provide more information as I am able in addition to the email provided on Saturday 6th July below.

I can confirm that the extent of the issue with paediatric critical care ventilation (4 air changes per hour not 10), and the fact that this could not be rectified was not understood until the end of the day on the 1st of July. As we have previously indicated, and you can see from the log of issues related to ventilation submitted by IOM the independent validation engineer on 25 June, which we supplied to you on the 6 July, there were emerging issues related to ventilation in theatres, isolation rooms and critical care.

I provide more detail below:

- Between 25 and 28 June, the onsite teams worked to understand what IOM had measured and what corrections could be made to all ventilation systems. My understanding is that the testing had taken place amid last minute engineering corrections and required meetings and checks to be clear about exactly what had been measured where.
- Additionally the methodology of a NPD project means that the design is provided to meet the specification of the contract rather than being held and owned by the users of the building. This meant that our project team (representing the users) were constantly having to ask MPX and IHSL (the builders and owners) for details of the design rather than directly being able to reference this
- At the meeting on the 28 June at 10am, the priority issue as far as ventilation was concerned appeared to be theatres. The document tabled at that meeting was detail about the measurements in all 10 theatres indicating issues such that, at that time, none was ready for use. We concentrated our efforts on mobilising engineers to work together to test controls and rectify these issues. Our aim was to have 4 theatres (2 for DCN 2 for paed) fit for purpose for commissioning by 5 July at the latest.
- Our time line around this was also influenced by not knowing the extent to the work to be done (if any of the work had been intrusive- i.e. removing panels or grilles to access ducting, it may have required repeat air sampling- this had already been done and passed as clear at the existing level of ventilation but good practice would require it to be repeated after any intrusive work on a ventilation system. Repeat air sampling involves growth of bacterial plates, usually for a minimum of 48 hours to give a count of colonies).
- In summary, the morning meeting on 28th June involved discussion of water quality and ventilation in general but concentrated on the specifics in theatres. The afternoon call was to confirm theatre engineers could attend on Monday. It was acknowledged at this that no progress could be made over the weekend.
- On the morning of July 1st, Alex and I provided a briefing to Tim (who was on leave that day), attached
- By the afternoon of the 1st, the situation had changed, as you will see from the later email (attached)
- A conference call with legal advisors MacRoberts was arranged for the morning of 2nd July in the evening of the 1st, providing additional evidence that this issue had just been confirmed as material late on the 1st July.
- Tim returned to work on Tuesday 2nd July and he and other executive directors met ahead of the conference call with MacRoberts and escalated to the Director General immediately afterwards

I hope this provides some additional background which is useful
 Tracey

Executive Medical Director
 NHS Lothian
 [REDACTED]

[REDACTED]

From: McMahon, Alex
Sent: 06 July 2019 13:04
To: Executive, Chief; Gillies, Tracey; Campbell, Jacquie; [REDACTED]; Currie, Brian; Graham, Iain; [REDACTED] Goldsmith, Susan
Subject: Fwd: NHS Lothian RHC&YP/ DCN - patient contact information and critical care ventilation timelines

John and colleagues as discussed this morning attached is patient contact numbers re re-booking patients. We will review this tomorrow morning but unlikely to be any significant change until Monday. Also attached is data from NHS 24 from contacts made yesterday.

In terms of the critical care ventilation issue and the timeline, what I can advise and as discussed using:

24th June Brian Currie, Project Director received notification from IOM

25th June Brian Currie received a report highlighting critical care vent issues amongst a longer list of working requiring to be done. This list was circulated to steering group members for information.

Between 25th and 28th June the project team undertook work to check the information against what had been contractually agreed. No escalation to Executive's took place during this time.

On the 28th June Susan Goldsmith, Tracey Gillies and I attended a meeting with the project team and others but the focus of that meeting was water quality and theatre ventilation. Critical care ventilation wasn't raised as an issue at that meeting.

1st July Brian Currie raised the issue re critical care ventilation with Tracey on the late afternoon post a 4.30 teleconference.

Evening of 1st July Tracey emailed Tim Davison and others to flag there was an issue.

Morning and afternoon of 2 July further review and escalation to amongst others Malcolm Wright and John Connaghan at SG.

The issue of the timeline for critical care ventilation testing prior to 24th June I will ask Brian Currie to confirm and let you know if this can be made available today or tomorrow, if not Monday. We can pick this and any other issues up at the 11 am teleconference tomorrow.

Alex

From: Gillies, Tracey [REDACTED]
Sent: 01 July 2019 18:52
To: Executive, Chief
Cc: McMahon, Alex; [REDACTED] Goldsmith, Susan; Graham, Iain; Campbell, Jacquie; Currie, Brian; Curley, George; 'MACKAY, Judith (NHS FIFE)'
Subject: RHCYP critical care ventilation issues
Sensitivity: Confidential

Dear Tim,

This emerged today following testing by the independent validation engineer for ventilation on the site (IOM) . The main points are summarised below

I have discussed briefly with Susan and she advises obtaining urgent legal advice and I have asked Iain G to arrange a call for early tomorrow morning.

The points below have been commented on by those at the discussion this afternoon, and there are points to clarify and get further information on.

- IOM have tested critical care ventilation in RHCYP in 4 bedded and single rooms
- It delivers 4 air changes at balanced or slight negative pressure in the multiple occupancy 4 bedded room and single rooms in critical care. The 19 isolation rooms outside critical care are not affected
- The required standard as per SHTM 03-01 Appendix 1 (version 2 February 2014) for Critical Care areas is 10 air changes and less than 10 air changes per hour may facilitate airborne spread of viruses more than if 10 was achieved. Further advice on the likely impact of air change reduction is required.
- the only known way to improve air changes with the current plant is to accept positive pressure ventilation (i.e. increasing further the opportunity for spread primarily of pathogens with airborne transmission e.g. respiratory viruses between individuals :staff, visitors and patients in 4 bedded rooms) A request has been asked of MPX to verify the maximum capability of the existing plant while maintaining current pressure regimes.
- it is expected that a bigger plant would be required to deliver the correct air changes – the team are identifying what potential for existing system capacity enhancements might be (i.e. ramping up the existing air handling plant) and / or within the constraint of the existing ducting (so it would only be the external plant affected). The question has also been asked of MPX to assess what would be required to increase to 10 air changes/hr
- this leads us to question whether the space is fit for purpose
- If occupied now, there is risk to patients, visitors and staff of airborne virus transmission (?how much) and difficulties in correcting (would probably require a decant) Team to contact external experts for advice
- if not occupied now, move needs postponed

Tracey



**Hearing commencing 26 February 2024
Bundle 6 – Documentation relating to the IOM report**

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