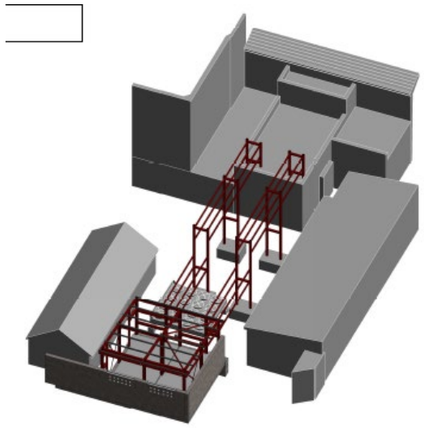
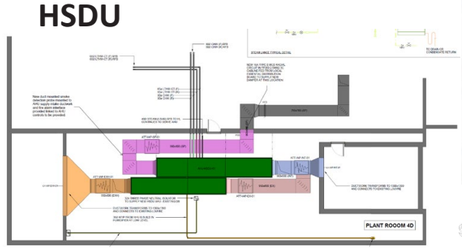
Logistics

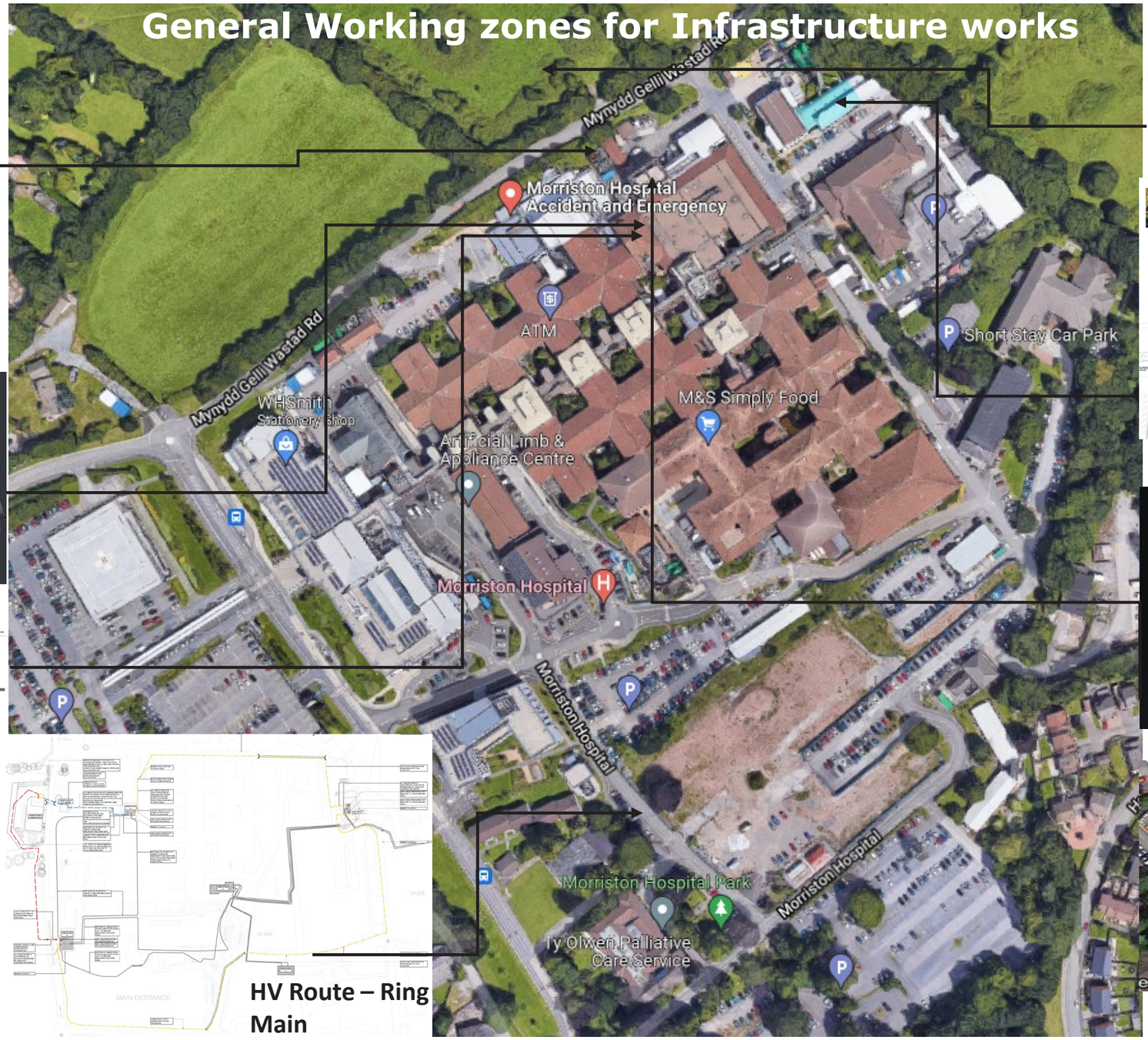


LV Switchroom & Gantries

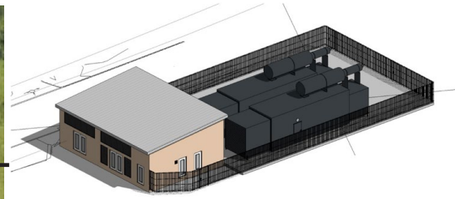
HSDU



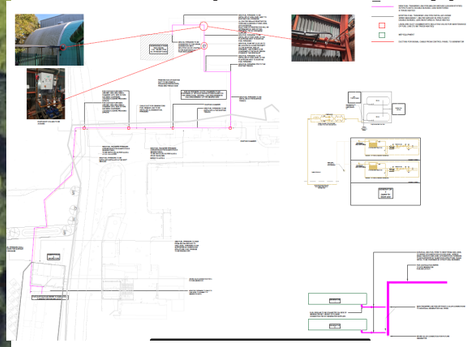
Plantroom 4D



HV Route – Ring Main

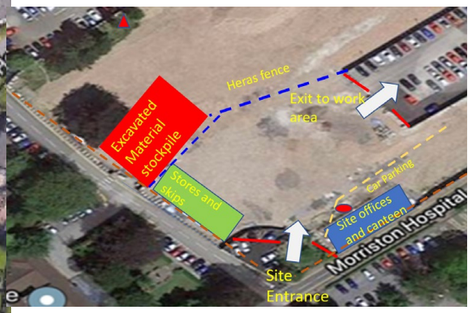


Substation 6 (Main Site Setup)



Boiler House – Fuel Line Route

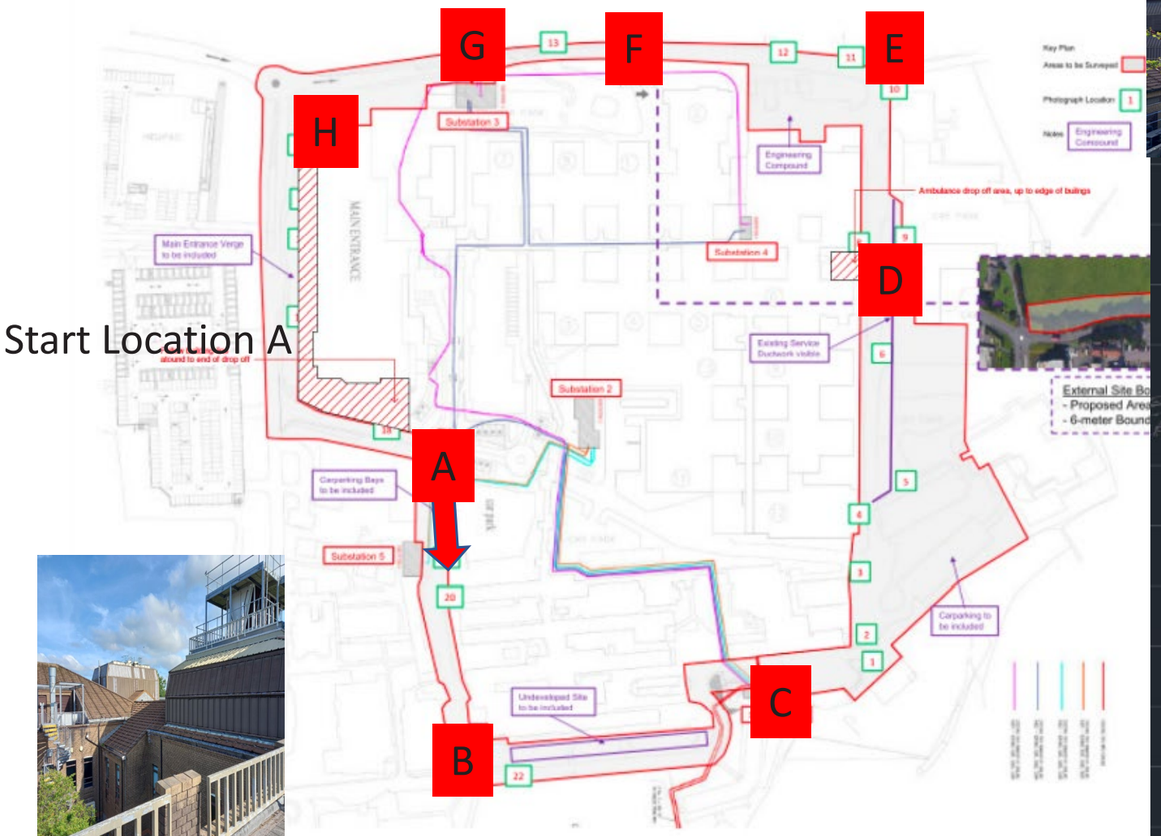
Plantroom 5b & 5c



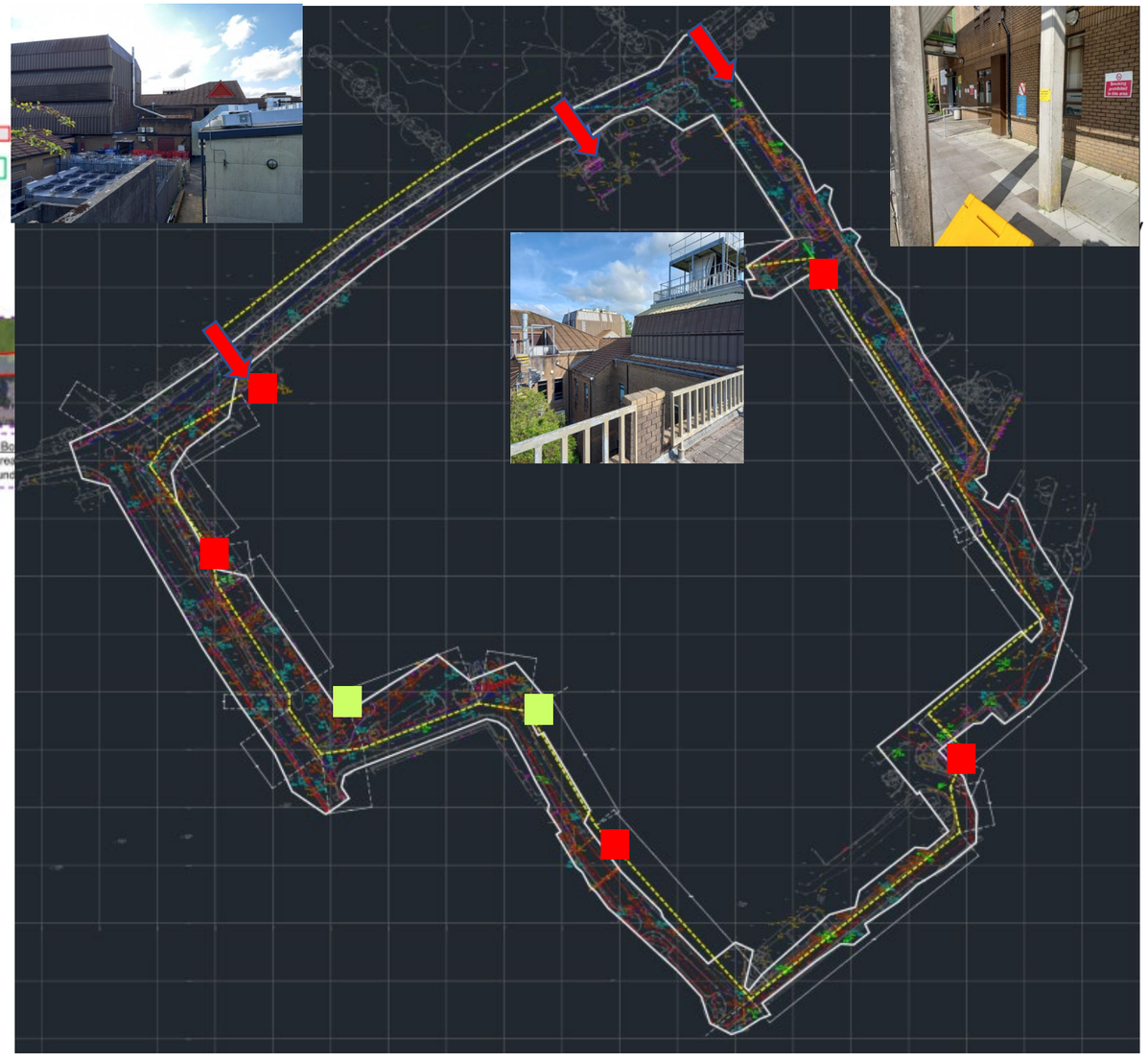
Initial Site Setup – Bottom

General working area plan HV works

HV Works Weeks 1-42 APX 750m 18LM /week Installation Rate. Installed in 250m Sections



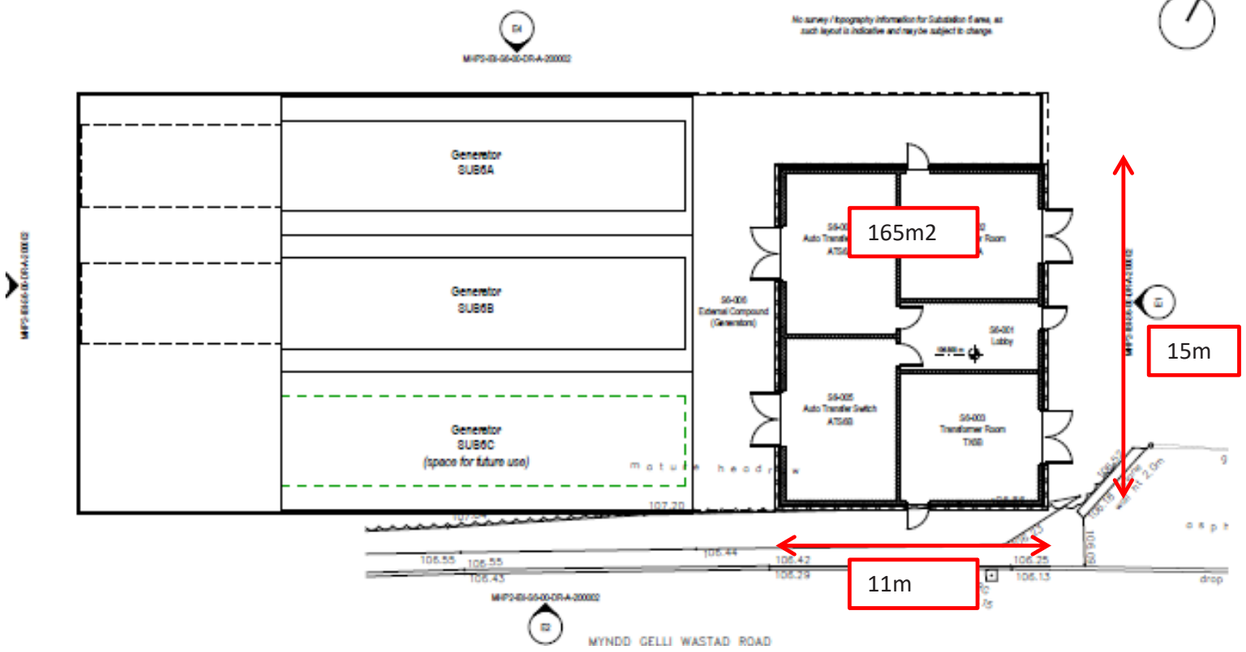
Start Location A

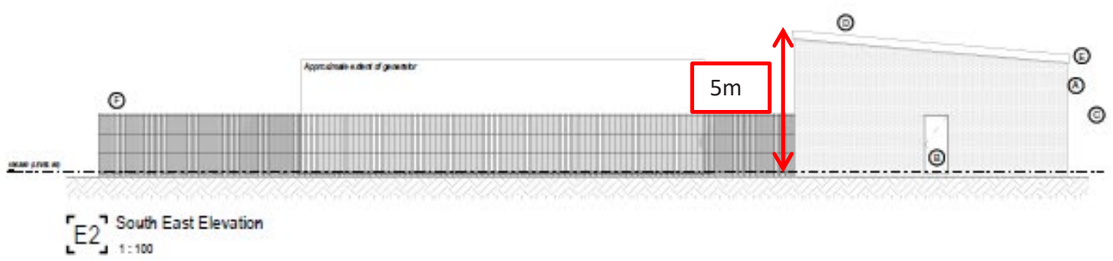


Morriston Hospital Infrastructure Project
Substation 6 Works Weeks 1-48

Weeks 1-14 Cut And Fill including Substructures
Weeks 15-19 Superstructure Works
Weeks 20-35 Building Envelope Works
Weeks 28-46 Internal Works including M&E installations

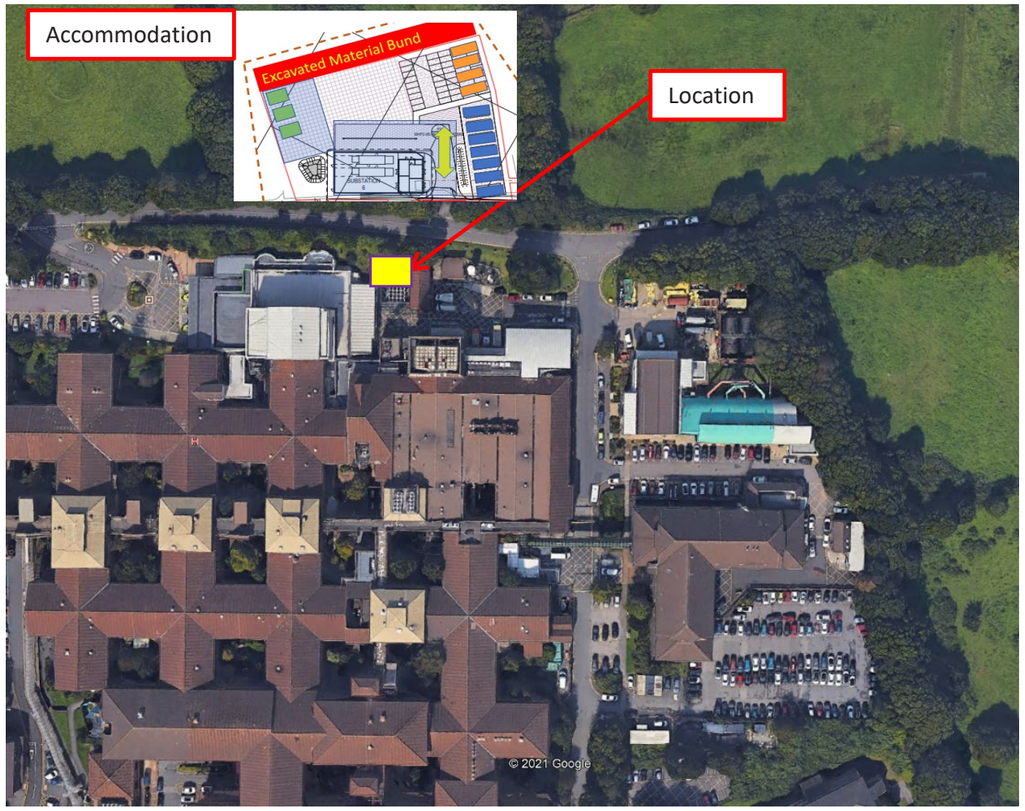
External Plant Enclosure works Weeks 19-39
External Finishes including Tarmac Weeks 41-49

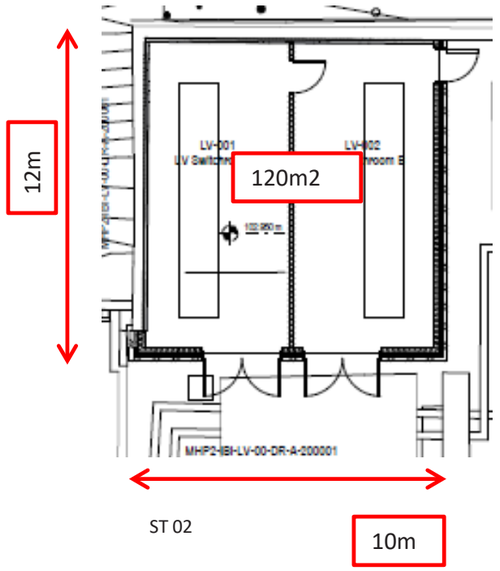




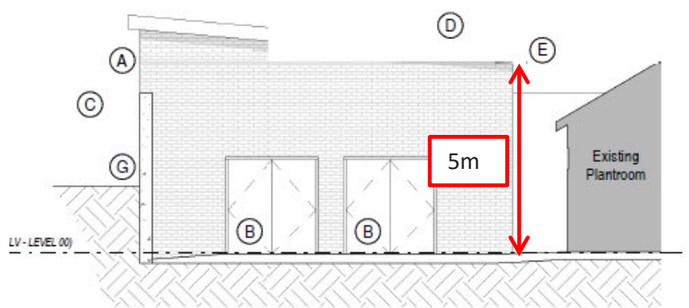
Morriston Infrastructure Project
LV Switch Room Building

LV Switchroom Works Weeks 4-35
Weeks 4-7 Demolition and preparation works
Weeks 7-35 (29 weeks) Building Works including M&E installations



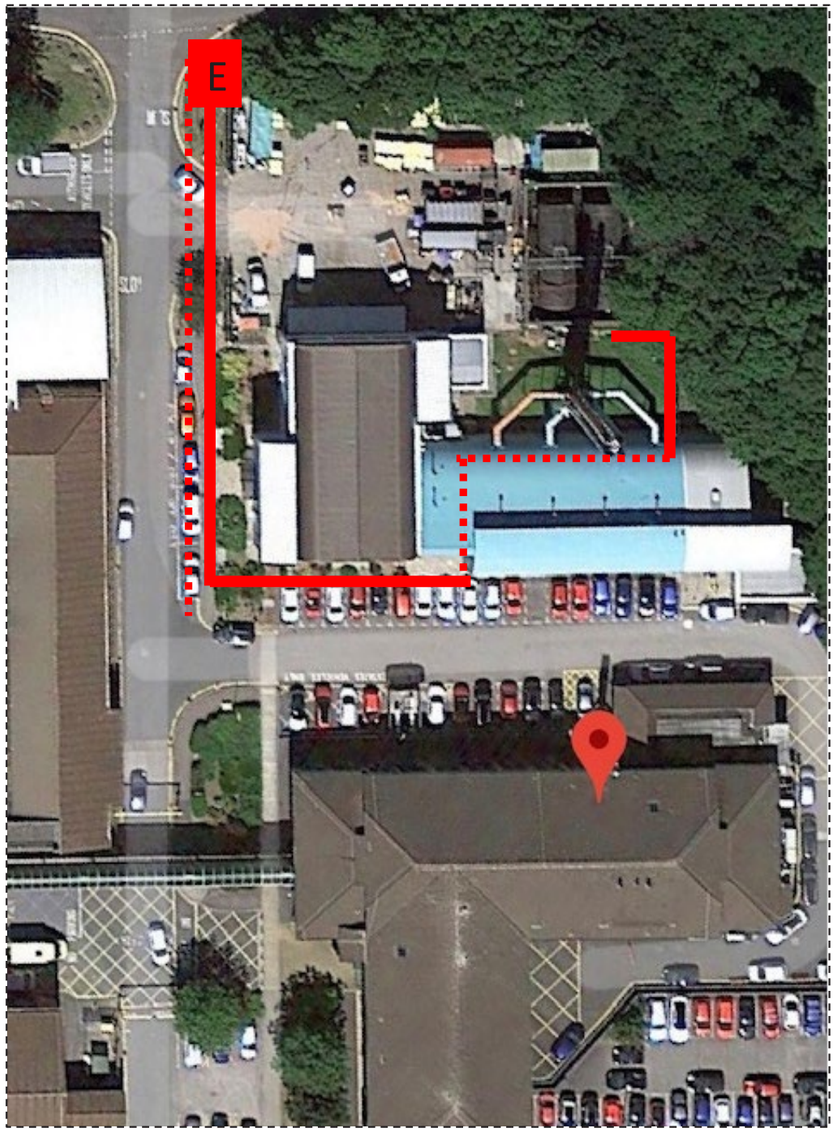


ST 02



Morriston Infrastructure Project
New Fuel Line Installation From Estates Building to new Generator 6 Building Including 2 road Crossings
Weeks 6-31

- New Fuel Line 241m Long
- Installation Rate of 5m /day through Existing Building and Ducts
- Installation rate 10m /day where Excavation required.



Fuel line in underground duct.

Underground duct to be surveyed, Asbestos /services to be known prior to installation.

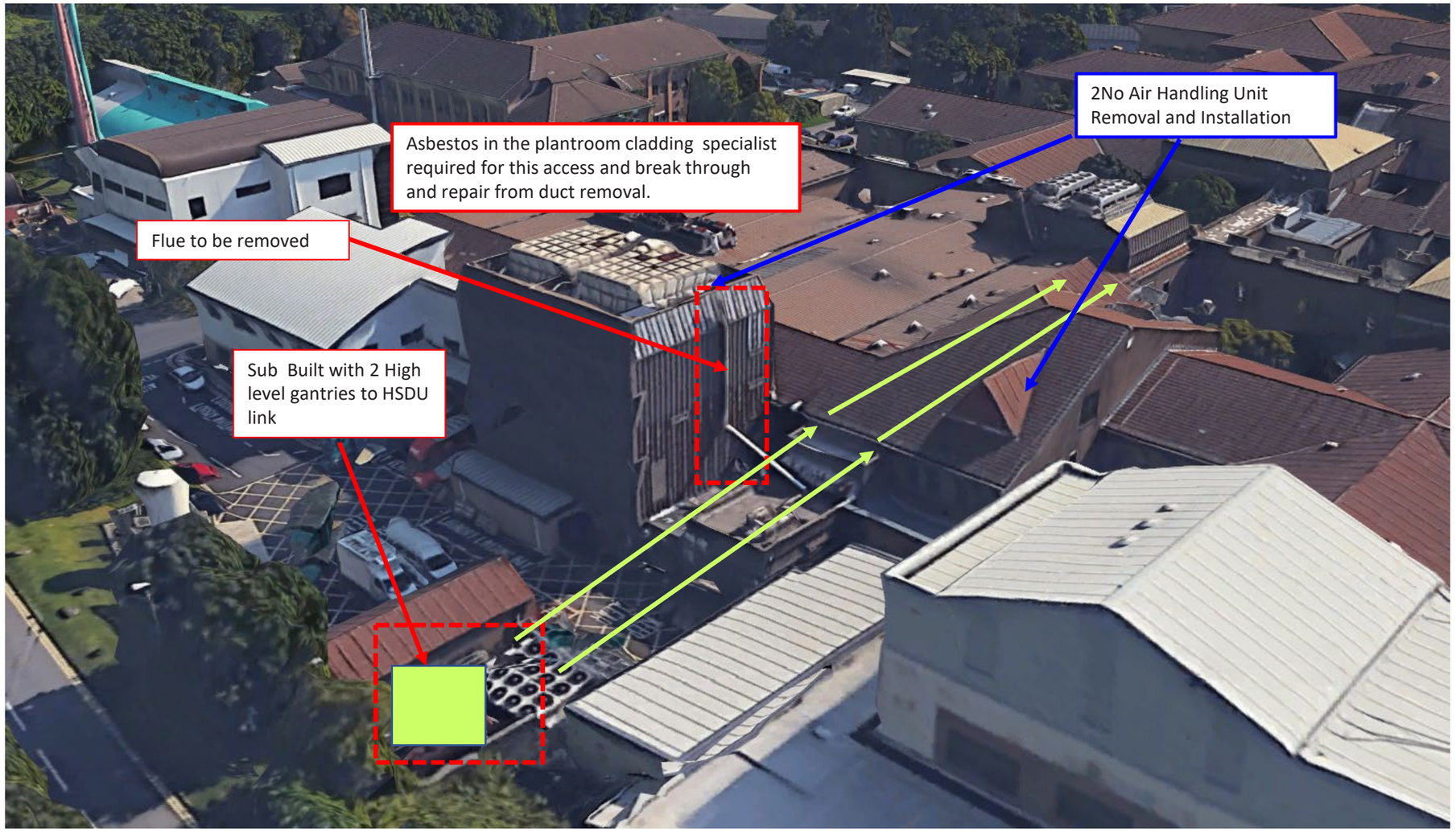
Pedestrian route during Fuel line install

Fuel line through Estates Building

Morriston Infrastructure Project
HSDU Supply and extract duct replacement Weeks 5-46 (42Weeks)

- Weeks 5-14 Erection of Scaffolding and Hoists
- Weeks 14-16 Plant room 4D AHU Strip out
- Weeks 17-46 Ceiling and Ductwork Removal and installation of New.

Morriston Infrastructure Project
Flue Removal and Infrastructure Route through the hospital including AHU replacements.



Morriston Infrastructure Project

Access Scaffolding for cable Installation

Access /crash deck as discussed with protected walkway underneath (30 Weeks)

H 01 Hoist Tower & Hoist (30 Weeks)

ST 03 Haki Stairs (30 Weeks)

2 No 4m long Services Towers with removable inside boards (31 Weeks)

ST 04 Haki Stairs (31 Weeks)

ST 05 Haki Stairs (31 Weeks)

H 02 Hoist Tower & Hoist (14 Weeks)

Gantry walkway protection Scaffold 52m long for Staff walkway for Bins and Gas. (40 Weeks) Protected Access to Dirty Laundry also required.

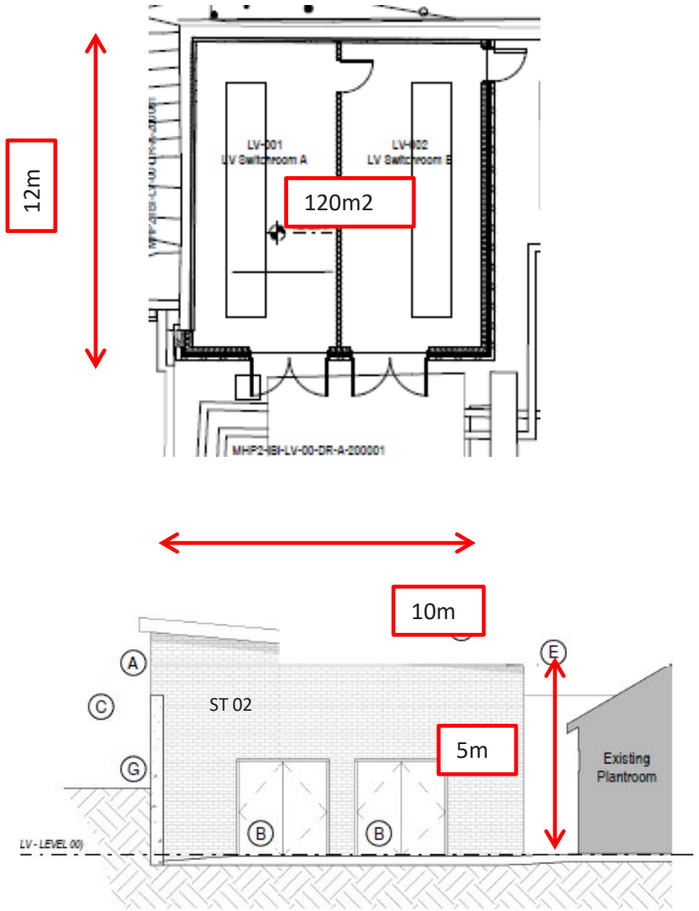
Internal Scaffold 16m long x 1m wide for AHU Install (20 Weeks) NOTE scaffold on first floor

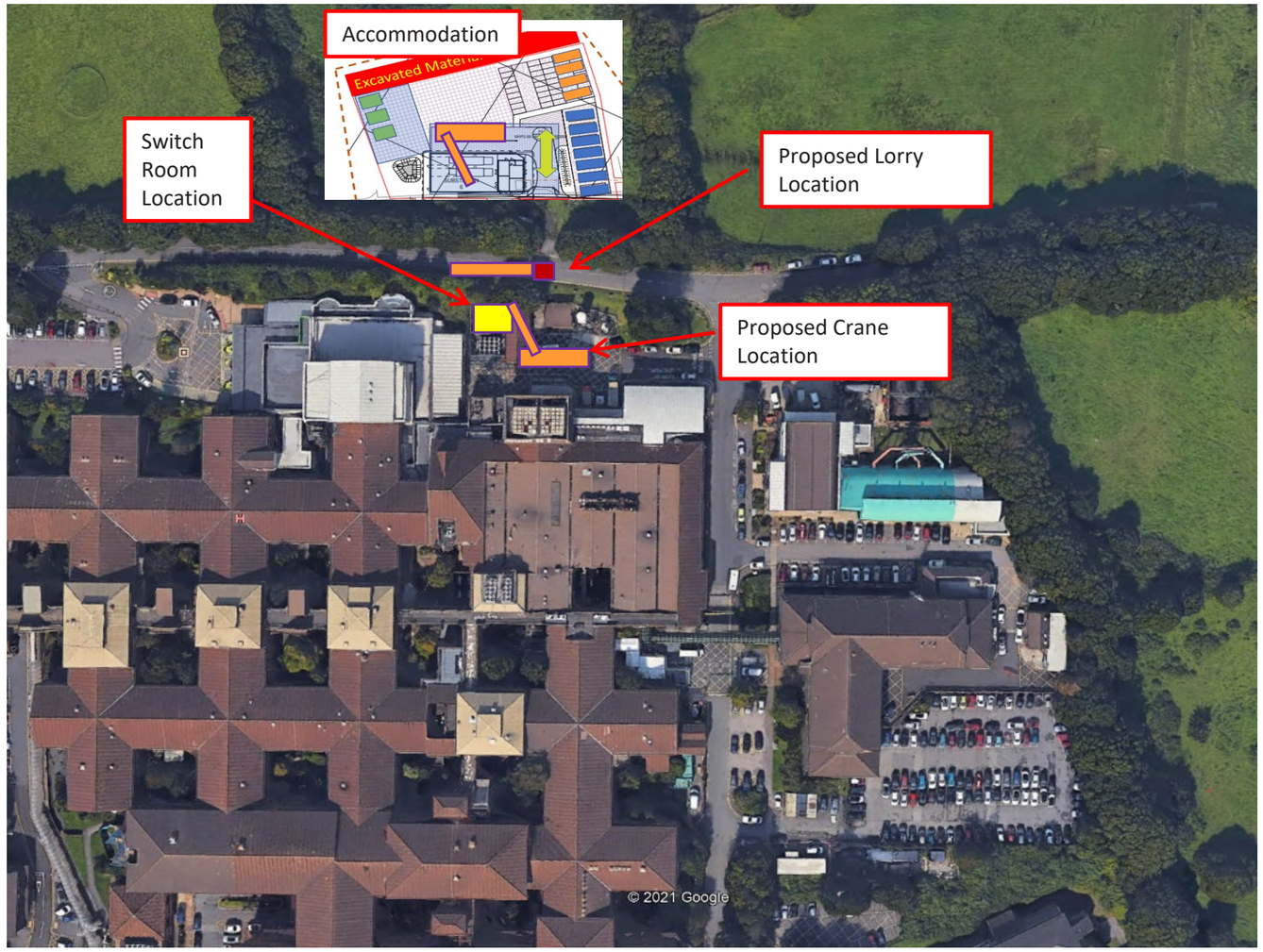
Internal Scaffold 16m long x 1m wide for AHU Removal (20 Weeks) NOTE scaffold in 2nd floor roof void

Additional scaffold for wall mounted cables. Scaffold 15m long (30 Weeks) full hoarding protection required to sub area including roof.

Skip/ Wagon Position

Morriston Infrastructure Project
LV Switch Room Building
Possible Crane Location and supply Vehicle





LV Switchroom Works Weeks 4-35
Weeks 4-7 Demolition and preparation works
Weeks 7-35 (29 weeks) Building Works including M&E installations
Gantry installed following scaffold removal from MEWPS or amended scaffold.

MORRISTON HOSPITAL - INFRASTRUCTURE WORKS

9A: TECHNICAL COMPLIANCE MEETINGS

minutes

mace

Morriston Environmental Modernisation Ph 2 – Technical Compliance Group Meeting No. 07					
Date:	8th September 2021	**Time:**	14:00	**Location:**	Teams

Attendees:	Mark Gapper (MG)	Head of Engineering and Project Director	SBUHB
	Craig Davies (CD)	Capital Planning Project Manager	SBUHB
	Des Keighan (DK)	Asst. Director of Estates	SBUHB
	Liza Powell (LP)	Estates	SBUHB
	Phill Holmes (PH)	Estates	SBUHB
	Scott Matthews (SM)	Associate Project Manager	Mace
	Ashley Hollington (AH)	Project Manager	Mace
	Stephen Winterbourn (SW)	SCP Project Lead	Kier
	Matthew Williams (MW)	Design Manager	Kier
	Adam Rowbotham (AR)	SCP M&E Manager	Kier
	Mark Williams (MW)	Architect (Via SCP)	IBI
	Stephen Rowlands (SR)	M&E Consultant (Via SCP)	Aecom
	Jacob Loh (JL)	M&E Consultant (Via SCP)	Aecom
	Pete Thomas (PT)	M&E Consultant (Via SCP)	Aecom
	Iwan Watkins (IW)	M&E Consultant (Via SCP)	Aecom
	Adam Miezejewski (AM)	M&E Consultant (via SCP)	Aecom
	John Fereedan (JF)	Structural Consultant (via SCP)	RVW
	Stephen Rees (SR)	Electrical Engineer	NWSSP-SES
	Anthony Goddard (AG)	Electrical Engineer	NWSSP-SES
	Anthony Pitcher (AP)	Fire Engineer	NWSSP-SES

Apologies:	Mark Phillips – Estates SBUHB Simon Russell – Electrical Engineer NWSSP-SES Peter Stanton – Contract Manager Kier David Buick – M&E Consultant Aecom
Circulation:	Invitees, apologies and: Ian Bailey – HBCA, Gleeds
Meeting Aim:	To review the Stage 3 Design Report

DISCUSSION POINTS			
No.	**Item**	**Who**	**By**
1.	**Introductions and welcome** None required		

minutes

mace

2.	**Apologies for Absence** Apologies were recorded as above.		
3.	**Review of Stage 3 Design Report**		
3.1.	AH introduced the meeting stating the objective was to receive a presentation of the Stage 3 Design Report from Kier and to identify any queries or comments for further discussion or confirmation.		
3.2.	MW introduced the presentation explaining that he would lead and would defer to members of the Design Team for specific technical elements		
4.	**Queries/Comments Raised**		
4.1	Buzz bars, although the Health Board are content with the manufacturer the specification/s were requested by CD for review	MW	
4.2	MW confirmed that the external doors are stainless steel		
4.3	PT confirmed that there are three spare ducts within each bank of twelve ducts between the SS6 and the switch room		
4.4	PT confirmed that the two fibre routes are on the same floor but within separate corridors. CD to confirm if one route is to be taken via a separate floor.	CD	
4.5	CD raised the issue of surface water draining into cable pits and connecting ducts. MW/SW confirmed that this would be reviewed with the Stage 4 works.	MW	
4.6	PT confirmed that SS6 had both external lighting and CCTV but no task lighting		
4.7	AG queried the oil storage for the new generators and, following a discussion, PT agreed to provide a data sheet detailing the amount of storage together with several scenarios to assist the Health Board	MW	
4.8	The proposed hardstanding for the crane was discussed and the sequencing of installing a new generator and removing one for repair. MW/SW to review proposal, crane sizing and to confirm any amendment. Current crane sized to position a complete containerised generator in one lift.	MW	
4.9	ATS breakers, PT confirmed that the proposal is to have a castell key control arrangement, details are included within the Stage 3 drawings.		
4.10	Potential oil leak from the transformers, solution to be reviewed in Stage 4		

minutes mace

4.11	A query was raised regarding the transformer ventilation and grille locations, this will be reviewed against the manufacturers details. The suggestion of a three quarter ceiling being installed to assist air movement will be reviewed.		
4.12	The proposed two site set ups was discussed and will be reviewed as part of the Stage 4 works		
4.13	The area of asphalt within the permanent works was discussed and a further review of the drawings will be undertaken to clarify the extent of hardstanding.		
4.14	The potential for including electric vehicle charging points was discussed. The Health Board to give an indication of the potential requirement which will be reviewed by the Design Team.	CD	
5.0	**Next Steps**		
5.1	Actions as identified above to be reviewed and responses issued to confirm actions/inclusions within Stage 4 works		
5.2	Action Tracker to be updated and reviewed to close out issues impacting Stage 4 works		

NEXT MEETING

Date:	**Time:**	**Location:**
Meeting Aim:		

minutes mace

Morriston Environmental Modernisation Ph 2 – Technical Compliance Group Meeting No. 04

Date:	12 May 2021	**Time:**	14:00	**Location:**	Teams

Attendees:	Mark Gapper (MG)	Head of Engineering and Project Director	SBUHB
	Christine Thomas (CT)	Clerk of Works	SBUHB
	Des Keigham	Asst. Director of Estates	SBUHB
	Ashley Hollington (AH)	Project Manager	Mace
	Stephen Winterbourn (SW)	SCP Project Lead	Kier
	Adam Rowbotham (AR)	SCP M&E Manager	Kier
	Joshua Ferriman (JF)	SCP Design Manager	Kier
	Mark Williams (MW)	Architect (Via SCP)	IBI
	David Buick (DB)	M&E Consultant (Via SCP)	AECOM
	Stephen Rowlands (SRo)	M&E Consultant (Via SCP)	AECOM
	Simon Russell (SRu)	Lead Electrical Engineer	NWSSP-SES
	Stephen Rees (SRe)	Electrical Engineer	NWSSP-SES
	Anthony Goddard (AG)	Electrical Engineer	NWSSP-SES

Apologies:	Scott Matthews – Associate Project Manager Mace Craig Davies – Capital Planning Project Manager SBUHB Anthony Pitcher – Fire Engineer NWSSP-SES
Circulation:	Invitees, apologies and: Liza Powell – Estates, SBUHB Ian Bailey – HBCA, Gleeds
Meeting Aim:	Technical Compliance Group Meeting No. 03 – review SS 6 alternative location

DISCUSSION POINTS			
No.	**Item**	**Who**	**By**
1.	**Introductions and welcome** None required		
2.	**Apologies for Absence** Apologies were recorded as above.		
3.	**Previous Minutes/Matters Arising**		
3.1.	Previous minutes accepted		

minutes mace

3.2.	(4.3) SR advised of comments previously raised by NWSSP-SES in relation to the original BJC. CD to provide a copy of the previous BJC, BJC costings and scrutiny comments. **CD has provided summary of costs but not the BJC itself**	CD	Ongoing
3.3.	A query was raised as whether the new generators were to sync with the mains supply. The Health Board will consider and respond.	UHB	Ongoing
4.	**Project Status**		
4.1	Project is in the design stage, reviewing the requirements of the relocated Sub-Station 6, alternative routes for the new HV cabling are being investigated and surveys of the HSDU.		
5.	**Design**		
5.1.	During the Progress Meeting Nr.3, held on the 5th May, several decisions had been made to enable the design to advance. The SCP had been requested to present their proposals for the Substation 6, Switchroom and HV cable routing at this Technical Compliance meeting for discussion and agreement. (Refer to attached Aecom presentation for further details). The meeting reviewed the information presented and the follow was agreed: 1. HV routes, subject to the results of site surveys to confirm accessibility, the HV routes detailed within the presentation were agreed 2. HV cable size, 185 mm dia. cables are to be installed to form the new ring main 3. The LV Switchroom is to be located on the existing oil tank base within the delivery yard without additional generator connection points.		
5.2.	Drawings detailing the intended architectural treatment for the Substation and Switchroom were reviewed in outline. These will be commented on in conjunction with the Stage 2 Design report.		
5.1.1	HSDU, a draft report with photographs had been prepared and was being reviewed. The final report will be issued to the UHB by the 21st May	SCP	21/05/2021
5.1.2	The Stage 2 design report was being finalised and would be received by the UHB on the 28th May	SCP	28/05/2021
6.	**Any Other Business**		
6.1.	None		

minutes mace

NEXT MEETING		
Date: 9th June 2021	**Time: 14.00**	**Location: Teams**
Meeting Aim: Regular Technical Compliance Group Meeting		

minutes

mace

Morriston Environmental Modernisation Ph 2 – Technical Compliance Group Meeting No. 07					
Date:	13 August 2021	**Time:**	15:00	**Location:**	Teams

Attendees:	Craig Davies (CD)	Capital Planning Project Manager	SBUHB
	Mark Phillips	Estates (LV AP)	SBUHB
	Sharon Williams (SW)	Infection Control	SBUHB
	Jason Oliver (JO)	Estates	SBUHB
	John Prendergast	Environ. Management & Engineering	SBUHB
	Ashley Hollington (AH)	Project Manager	Mace
	Stephen Winterbourn (SW)	SCP Project Lead	Kier
	William Matthew (WM)	SCP Design Manager	IBI
	Adam Mierzejewski	M&E Consultant (Via SCP)	Aecom
	David Buick (DB)	M&E Consultant (Via SCP)	Aecom
	Simon Russell (SRu)	Electrical Engineer	NWSSP-SES
	Anthony Goddard (AG)	Electrical Engineer	NWSSP-SES
	Stephen Rees (SR)	Electrical Engineer	NWSSP-SES
	Dylan Evans (DE)	Mechanical Engineer	NWSSP-SES

Apologies:	Mark Gapper – Head of Engineering and Project Director SBUHB Liza Powell – Estates SBUHB Des Keighan (DK) - Asst. Director of Estates SBUHB Adam Rowbotham (AR) – SCP M&E Manager Kier Mark Williams (MW) - Architect (Via SCP) IBI Jacob Loh (JL) - M&E Consultant (Via SCP) Aecom Rob Daniel (RD) – Support Services SBUHB Lori Bissmire (LB) – Head of Sterile Services SBUHB Deborah Fountain (DF) – HSDU SBUHB Anthony Pitcher (AP) – Fire Engineer NWSSP-SES
Circulation:	Invitees, apologies and: Ian Bailey – HBCA, Gleeds
Meeting Aim:	Technical Compliance Group Meeting No. 03 – review SS 6 alternative location

DISCUSSION POINTS			
No.	**Item**	**Who**	**By**

minutes

mace

1.	**Introductions and welcome** All attendees introduced themselves as new representatives were present		
2.	**Apologies for Absence** Apologies were recorded as above.		
3.	**Previous Minutes/Matters Arising**		
3.1.	Previous minutes accepted		
3.2.	HTM 03-01 had recently been updated [within June] and Kier/Aecom are still waiting for information from a manufacturer to identify the impact of the revision.	MW/AM	
4.	**Project Status**		
4.1	Project has completed Design Stage 2 and has commenced Design Stage 3.		
5.	**Design**		
5.1.	HSDU – the main agenda item was a review of the proposed works within the HSDU and the impact upon the existing equipment		
5.1.1	SW gave an overview of the proposed works stating that the original working assumption was that all existing plant would be decommissioned for the period of the intended works. Through discussions the UHB have stated that their preference is to maintain the existing plant in operation due to the potential for contamination. This was discussed later in the meeting		
5.1.2	The scope of the proposed works was outlined: - The existing Air Handling Unit is to be removed and the ventilation system upgraded to current standards. A drawing outlining the ductwork to be replaced was shared for discussion. - Existing ceiling grids are to be replaced. Flexible ductwork to be replaced with rigid ductwork connections. - The fire strategy for the HSDU area is to be upgraded to conform with standards - Existing fire dampers within non-fire walls are to be removed and replaced with new ductwork - The existing ceiling of the HSDU area will be removed to give access for the works, to be replaced upon completion - Some existing services cross existing ductwork and may need to be disconnected to allow replacement of the ductwork - The full extent of any disconnection or diversion of any existing service above the ceiling will not be known until full access is available following the ceiling removal.		

minutes

mace

5.1.3	JP confirmed that HSDU will not supply services to patient areas for the duration of the works, and enquired if the existing equipment could be left running in a "background" mode as decommissioning presents issues of water stagnation and potential equipment seizure if left for any period. The endoscopy plant being particularly susceptible. SW enquired if the equipment could be operated on a reduced cycle to maintain a minimum working state to reduce this risk. JP stated that the HDSU services were known to be unavailable during the contract works but that decommissioning presented a serious issue.		
5.1.4	SW stated that in removing the existing ceiling dust would become an issue and may impact the existing equipment. The equipment would be protected to reduce this risk and confirmed that area would not be completely clean through the contract period whilst installing the new installations.		
5.1.5	JP enquired if the UHB staff could enter the formed contractor site area to operate the equipment as required, which could be out of hours to minimise the impact upon the contracted works. SW stated that as Kier were responsible for the formed site area any access by a third party had to be accompanied by a Kier representative.		
5.1.6	It was agreed that to assist Kier with the equipment type and location within the HSDU area a schedule of the equipment would be collated by the UHB stating the minimum use requirements to maintain operation [time cycles of use) together with the minimum supply requirements [can plant be operated using only a cold-water feed to maintain performance rather than the full cycle requirements] and a drawing issued detailing the location of each piece of equipment. E.g., can the existing washers operate using cold water with the drier fans only operates for a few minutes, the washer disinfector could be run on a rinse cycle [would require a new configuration]. The UHB were to review the possibility of removing the endoscopy equipment from this area and moving to storage to reduce any risk to the equipment.	CD/JP	
5.1.7	The existing fire alarm was to be reviewed together with the temporary alarm to be installed by Kier to ensure that correct notification of any incident is maintained.	SW	
5.1.8	MP informed the meeting that the ceiling within the Sterilisation area contained asbestolux board.		
5.1.9	A review of the existing power and water supplies to the existing plant to confirm that they remain and not require rerouting because of the works.		

minutes
mace

5.1.10	JP stated that although not the preferred option if it was deemed essential to decommission all existing equipment within the HSDU area this would be reviewed by the UHB.		
6.	**Any Other Business**		
6.1.	Cable routing option confirmed by CD following discussions with Stephen Rees (NWSSP) – Service Yard routing as proposed Option 3, two gantries one Essential and one non-essential. Building routing as Kier proposed Option , cables to run internally with separation as practicable, retaining the existing Substation 4 supplies to Plantroon 4C [disconnected and retained for possible future use] **The Technical Compliance meeting confirmed its agreement to the cable routing options tabled by CD**		
6.2.	A low-level extract within the endoscopy area was discussed following incidents and updated installations being undertaken at other hospital locations. Peracetic acid spillages result in hazardous situations for staff. A low level extract system is required to remove the fumes which is seen as the solution. AM and DE to review and propose a solution for acceptance.	AM/DE	

NEXT MEETING

Date: 8th September 2021 **Time: 15.00** **Location: Teams**

Meeting Aim: Regular Technical Compliance Group Meeting

minutes

mace

Morriston Environmental Modernisation Ph 2 – Technical Compliance Group Meeting No. 03					
Date:	14 April 2021	**Time:**	15:00	**Location:**	Teams
Attendees:	Mark Gapper (MG)	Head of Engineering and Project Director			SBUHB
	Christine Thomas (CT)	Clerk of Works			SBUHB
	Ashley Hollington (AH)	Project Manager			Mace
	Stephen Winterbourn (SW)	SCP Project Lead			Kier
	Adam Rowbotham (AR)	SCP M&E Manager			Kier
	Joshua Ferriman (JF)	SCP Design Manager			Kier
	Mark Williams (MW)	Architect (Via SCP)			IBI
	David Buick (DB)	M&E Consultant (Via SCP)			AECOM
	Stephen Rowlands (SRo)	M&E Consultant (Via SCP)			AECOM
	Simon Russell (SRu)	Lead Electrical Engineer			NWSSP-SES
	Stephen Rees (SRe)	Electrical Engineer			NWSSP-SES
	Anthony Pitcher (AP)	Fire Engineer			NWSSP-SES

Apologies:	Des Keighan – Assistant Director of Estates, SBUHB Craig Davies – Capital Planning Project Manager SBUHB Antony Goddard – Electrical Engineer NWSSP-SES Anthony Pitcher – Fire Engineer NWSSP-SES
Circulation:	Invitees, apologies and: Liza Powell – Estates, SBUHB Ian Bailey – HBCA, Gleeds
Meeting Aim:	Technical Compliance Group Meeting No. 03 – review SS 6 alternative location

DISCUSSION POINTS			
No.	**Item**	**Who**	**By**
1.	**Introductions and welcome** None required		
2.	**Apologies for Absence** Apologies were recorded as above.		
3.	**Previous Minutes/Matters Arising**		
3.1.	Previous minutes accepted		

minutes

mace

3.2.	(4.3) SR advised of comments previously raised by NWSSP-SES in relation to the original BJC. CD to provide a copy of the previous BJC, BJC costings and scrutiny comments. **CD has provided summary of costs but not the BJC itself**	CD	Ongoing
3.3.	LV variances report to be produced and workshop arranged with Health Board	Mace	Closed
4.	**Project Status**		
4.1	Project is in the design stage, reviewing the requirements of the relocated Sub-Station 6. Alternative routes for the new HV cabling are being investigated. HSDU, access for surveys was progressing with costs agreed		
5.	**Design**		
5.1.	Sub-Station 6		
5.1.1	The Project Board had confirmed acceptance of the revised location of SS6 [over the road].		
5.1.2	A report detailing options for the location of the switchgear had been issued for review recommending use be made of the existing oil tank slab [Option 4], Health Board to confirm option acceptance	UHB	
5.1.3	A proposed layout of SS6 was discussed together with the number and location of cable routes crossing the road. The layout was generally accepted with further alterations to be incorporated. The risk of cable routes being dug up/damaged due to future works was discussed and relevant protection measures will be included in the design.		
5.1.4	The size and positioning of the switch room was to be reviewed to maximise the existing oil tank slab.	Kier	
5.1.5	A Stage 2 Report was to be issued in early May detailing the design progress for review and comment.	Kier	
5.1.6	The team were requested to consider SS6 for clinical use [include a second generator] – this cost must be a separate element for agreement. The BJC cost would include a second ATS to enable this second generator to be installed at any point.	Kier	
5.2.	HV (ring)		

Classification: Unclassified
Ref: 38001 - Morriston EMP2 Technical Compliance Meeting - 14 April 2021 - Minutes.docx
Date: 04/02/2022
Owner: Mace

Not Confidential - External

minutes

mace

5.2.1	Possible cable routes had been agreed and were to be surveyed to determine the location of underground services. The number and type of services discovered will impact the final cable routing.		
5.2.2	Cable route survey costs had been collated and forwarded for review and agreement.		
5.2.3	For design purposes the new cables would be sized based upon the longest route and reviewed once the route is confirmed.		
5.2.4	Information regarding the current electrical loadings and the forecast requirement was identified for review. Current information suggests an excess of load against the incoming supply. It was agreed that a workshop would be arranged to review all information requirements.	Mace	
5.2.5	Solar farm, the output from this installation was required to inform the total supply available to the hospital. A G99 application had been made in 2020 and would be forwarded by the Health Board for information	UHB	
5.3.	HSDU		
5.3.1	An initial meeting with UHB representatives had taken place with access dates being arranged to gather information.		
6.	**Any Other Business**		
6.1.	A query was raised as whether the new generators were to sync with the mains supply. The Health Board will consider and respond.	UHB	
6.2.	Mace to update meeting invite and attendance list		

NEXT MEETING

Date: 12th May 2021 **Time: 15.00** **Location: Teams**

Meeting Aim: Regular Technical Compliance Group Meeting

minutes

mace

Morriston Environmental Modernisation Ph 2 – Technical Compliance Group Meeting No. 06

Date: 14 July 2021 **Time:** 15:00 **Location:** Teams

Attendees:			
	Mark Gapper (MG)	Head of Engineering and Project Director	SBUHB
	Des Keighan (DK)	Asst. Director of Estates	SBUHB
	Mark Phillips	Estates	SBUHB
	Ashley Hollington (AH)	Project Manager	Mace
	Stephen Winterbourn (SW)	SCP Project Lead	Kier
	Adam Rowbotham (AR)	SCP M&E Manager	Kier
	Mark Williams (MW)	Architect (Via SCP)	IBI
	Jacob Loh	M&E Consultant (Via SCP)	AECOM
	Adam Miezejewski	M&E Consultant (Via SCP)	AECOM
	Simon Russell (SRu)	Electrical Engineer	NWSSP-SES
	Anthony Goddard (AG)	Electrical Engineer	NWSSP-SES
	Kieran Howells	Engineer [Via SCP]	Whiteheads
	Tim Lockett	Engineer [Via SCP]	Whiteheads

Apologies:	Craig Davies – Capital Planning Project Manager SBUHB Liza Powell – Estates SBUHB Stephen Rees – Electrical Engineer NWSSP-SES David Buick – M&E Consultant Aecom
Circulation:	Invitees, apologies and: Liza Powell – Estates, SBUHB Ian Bailey – HBCA, Gleeds
Meeting Aim:	Technical Compliance Group Meeting No. 03 – review SS 6 alternative location

DISCUSSION POINTS			
No.	**Item**	**Who**	**By**
1.	**Introductions and welcome** None required		
2.	**Apologies for Absence** Apologies were recorded as above.		
3.	**Previous Minutes/Matters Arising**		
3.1.	Previous minutes accepted		

minutes

mace

3.2.	A query was raised as whether the new generators were to sync with the mains supply. The Health Board will consider and respond.	UHB	Ongoing
4.	**Project Status**		
4.1	Project has completed Design Stage 2 and has commenced Design Stage 3.		
5.	**Design**		
5.1.	HSDU		
5.1.1	It was confirmed that a site visit was to take place on the 15th July to review existing equipment, identify connection points for new installation works and to investigate further the possible routing of both HV and LV cables between SS6 and SS$ and generator 4.		
5.1.2	The HSDU survey report was presented by SW to identify the proposed works within this area		
5.1.3	Fire Dampers: • Some existing fire dampers are required to be upgraded to Fire/smoke dampers • All existing fire dampers identified as being redundant are to be removed • Following receipt of the fire strategy drawings a survey is required to confirm that noted firewalls are constructed to the soffit of the floor above • A site visit will enable the location of existing control panels to be confirmed • Fire dampers are required in hazard areas, other areas to have fire/smoke dampers • The existing stabilisers require upgrading • All comments made regarding the Stage 2 Design Report will be included within the Stage 3 design		

minutes

mace

5.1.4	General Issues: • Ductwork flexible connections will be replaced with solid ductwork connections • Electrical, it was confirmed that no electrical replacement works had been included within the proposed scope of work • Emergency lighting, some existing fittings do not have LED units fitted, this would be reviewed by the Health Board and confirmed if to be included within the scope of work • Existing lux levels, these would be reviewed and the Health Board informed of the results • Medical gases, any required diversion of the existing installation would be identified for discussion • Fixed machines and continual operation throughout the contract period, to be reviewed during site visit on the 15th July and a proposal forwarded for discussion • Ductwork, all existing ductwork would be cleaned, additional clips added where required and access panels inserted as needed • Existing ceiling tiles will be removed to enable access and replaced upon completion of the works • Existing lighting controls above ceiling to remain in position • Fire detection system, no works are being undertaken to the existing system, position to be reviewed with AP.		
5.1.5	Items for investigation: • Evidence of a water leak [possible heating pipework] on ceiling tiles • Any identified redundant services to enable removal from ceiling space • Existing auto fan unit and associated ductwork to enable removal		
5.1.6	Additional survey works: • An above ceiling survey was required to establish existing fire compartmentation. The Health Board requested that a single survey be carried out to encompass all further investigative works required to minimise the impact, cost and time to gather information.		
6.	**Any Other Business**		
6.1.	HDM 301 had recently been updated [within June] and Kier/Aecom are waiting for information from a manufacturer to identify the impact of the revision.	SW/AM	

NEXT MEETING

Classification: Unclassified
Ref: 38001 - Morriston EMP2 Technical Compliance Meeting - 14 July 2021 - Minutes
Date: 15/07/2021
Owner: Mace

minutes

mace

Date: 11th August 2021	**Time: 15.00**	**Location: Teams**
Meeting Aim: Regular Technical Compliance Group Meeting		

minutes

mace

Morriston Environmental Modernisation Ph 2 – Technical Workshop				
Date:	20 April 2021	**Time:** 16:00	**Location:** Teams	
Attendees:	Mark Gapper (MG)	Head of Engineering and Project Director		SBUHB
	Craig Davies	Capital Planning Project Manager		SBUHB
	Ashley Hollington (AH)	Project Manager		Mace
	Stephen Winterbourn (SW)	SCP Project Lead		Kier
	Adam Rowbotham (AR)	SCP M&E Manager		Kier
	Joshua Ferriman (JF)	SCP Design Manager		Kier
	David Buick (DB)	M&E Consultant (Via SCP)		AECOM
	Stephen Rowlands (SRo)	M&E Consultant (Via SCP)		AECOM
	Iwan Watkin	E Engineer		AECOM
	Simon Russell (SRu)	Lead Electrical Engineer		NWSSP-SES
	Stephen Rees (SRe)	Electrical Engineer		NWSSP-SES
Apologies:				
Circulation:	Invitees			
Meeting Aim:	Review of Information requirements			

DISCUSSION POINTS			
No.	**Item**	**Who**	**By**
1.	**Introductions** The workshop objective was to review the recently issued RFI's from Kier and to agree what information was still required/actions to be taken		
2.	(**E) 001 Please supply the Asbestos report and survey information for anticipated work areas** Confirmed that all information required at this time had been received		
3.	**(E) 002 The chilled water schematics to assist with checking the flow/capacity - new system will utilise the existing Installation** Agreed that a site visit would be held to locate connection points and review the existing system	UHB/Kier	
4.	**(E) 003 Fire strategy plans for the applicable existing work areas** Confirmed that details of fire strategy are required for design purposes [reinstatement and the like]. Information currently being reviewed by Shared Services and would be forwarded upon receipt	UHB	

minutes mace

5.	**(E) 004 Confirmation of current site load study and indication of future expansion requirements with applicable load study calculations** Discussion regarding the existing load information, future loads following hospital expansion and the incoming supply took place; some queries regarding total load values was raised. A further meeting between the UHB and Kier/Aecom was arranged for wk/com 26th April to discuss: 1. The existing information 2. The future expansion allowances 3. Possible further surveys to determine design requirements 4. Use of existing equipment 5. Solar PV input	UHB/Kier	
6.	**(E) 005 Confirmation of PV cable route and entry onto UHB site** Confirmed that PV routing information had been received. Further information regarding the G99 Certificate would be issued by the UHB	UHB	
7.	**(E) 006 Confirmation of Solar PV connection into Sub-Station 1 and applicable loadings required** A site visit to view Sub-Station 6 and information from G99 certificate to confirm loadings from PV supply [design of new HV ring]	UHB/Kier	
8.	**(E) 007Confirmation of incoming supply capacity to hospital site** Confirmation that information had been received		
9.	**(E) 008 Confirmation of the radar scope and results carried out for the PV cable routing for review** Confirmation that information had been received		
10.	**(E) 009 The ITT Work Specification stated that Schedule of Preferred Suppliers (to be agreed). Can this be reviewed with the agreed specification to be confirmed for incorporation into design and costing** Schedule to be forwarded to UHB for confirmation of acceptance	Kier	
11.	**Any Other Business**		
	The site HV Appointed Person to be confirmed by the UHB – SSE stated as being the external company that carries out this function	UHB	

minutes mace

Morriston Environmental Modernisation Ph 2 – Technical Compliance Group Meeting No. 08

Date:	3rd November 2021	**Time:**	14:00	**Location:** Teams

Attendees:	Craig Davies (CD)	Capital Planning Project Manager	SBUHB
	John Prendergast	Environ. Management & Engineering	SBUHB
	Jason Oliver	Estates	SBUHB
	Sharon Williams	Infection Control	SBUHB
	Lori Bissmire	Head of Sterile Services	SBUHB
	Mark Philips	Estates	SBUHB
	Deborah Fountain	HSDU	SBUHB
	Philip Griffiths		SBUHB
	Robert Baker		SBUHB
	Susan Forbes		SBUHB
	Ashley Hollington (AH)	Project Manager	Mace
	Stephen Winterbourn (SW)	SCP Project Lead	Kier
	Matthew Williams (MW)	Design Manager	Kier
	Mark Williams (MW)	Architect (Via SCP)	IBI
	David Buick (DB)	M&E Consultant (Via SCP)	Aecom
	Jacob Loh (JL)	M&E Consultant (Via SCP)	Aecom
	Pete Thomas (PT)	M&E Consultant (Via SCP)	Aecom
	Stephen Rees (SR)	Electrical Engineer	NWSSP-SES
	Anthony Goddard (AG)	Electrical Engineer	NWSSP-SES
	Anthony Pitcher (AP)	Fire Engineer	NWSSP-SES

Apologies:	Mark Gapper (MG) - Head of Engineering and Project Director SBUHB Des Keighan (DK) – Asst. Director of Estates SBUHB Simon Russell – Electrical Engineer NWSSP-SES Peter Stanton – Contract Manager Kier Adam Miezejewski – M&E Consultant Aecom Adam Rowbotham (AR) – M&E Manager Kier
Circulation:	Invitees, apologies and: Ian Bailey – HBCA, Gleeds
Meeting Aim:	To review outstanding issues for Stage 4 Completion

DISCUSSION POINTS			
No.	**Item**	**Who**	**By**

minutes

mace

1.	**Introductions and welcome** None required		
2.	**Apologies for Absence** Apologies were recorded as above.		
3.	**Actions from Previous Minutes**		
3.1.	Buzz bars, technical specification/s to be forwarded to Health Board for review		
3.2.	Fibre routes have been agreed		
4.	**Project Status**		
4.1	MW gave an overview of the project: -approximately one week from completion of the Stage 4 design - Regular site meetings are being held with Whiteheads on-site to review/close out issues - Cable routes are being checked for location and potential obstructions - Buzz bar and LV routes are being developed - Section 50 application is being developed/Section 278 application is being reviewed - Fuel line road crossing is being reviewed - Workshops have been held with Security, Fire and ICT Departments		
5.0	**Specific Issues for Review**		
5.1	• The Cause and Effect documentation for the area surrounding the proposed LV switchroom location to be issued to Kier for review and updates identified Health Board to issue up to date documents to Kier including zone diagrams		
5.2	• Confirmation if the Engineers Compound is standalone or integrated into the main fire alarm system The compound is integrated into the existing system		
5.3	• HSDU, is void detection required Void protection is not required		
5.4	• HSDU, issues were identified with the existing fire stopping, are these to be addressed as part of the proposed works All existing firewall are, from survey results, complete. Any additional work to be reviewed as identified during construction. Horizontal fire strategy documents and details of existing roof space fire detection to be forwarded to Kier for information.		

minutes
mace

5.5	• Boundary treatment to the road, fencing and access into the Substation 6 area to be confirmed Proposed fencing and gates are palisade, gates to be included at access to site with secure locking to be agreed. The charging point area is to have external lighting for safe access/use together with identified muster point. Vehicular access area to site is not lit externally but pedestrian access is by external lighting from the building		
5.6	• Substation 6, intruder alarms, screech alarms fitted to non-electric doors, is an intruder alarm required for Substation 6 and where would the signal be directed Screech alarms to be fitted as detailed [mains power], no intruder alarm required		
5.7	• WiFi, heatmaps to Substation 6 and LV switchroom to be provided by SBUHB Heatmaps not required for Stage 4 report, location of datapoints to be confirmed		
5.8	• Connectivity into LV switchroom to be confirmed by SBUHB Design includes requirements		
5.9	• MHP2 074 Site set up, SBUHB/Kier to have a meeting to discuss logistics and set-up – have further discussions been held and any firm agreement been reached? Details of proposal to be issued by Kier for review [diagrams and narrative]		
5.10	• MHP2 095, Kier are requesting confirmation that a pressure cascade drawing is required Detail required and to be forwarded by Kier		
5.11	• MHP2 096, Low level extract is provided within HSDU 07, Endoscopy decontamination, is it also required within HSDU 06 [dirty side of washing area]? HSDU 07 - Possibility of local boosted extract was discussed, example to be forwarded by SBUHB. Possibility of dedicated extract to be reviewed by SBUHB. Note impact upon fire alarm system [MCP operated] if extract via general system. Agreed that no extract system is required within HSDU 06.		
5.12	• MHP2 100, Confirmation that the plug-in generator has a manual start only Manual start to be confirmed by SBUHB		
5.13	• MHP2 124, A comment stating that the ring main unit RN2D should be fitted with a voltage presence indicator system and earth current passage indicator flags, Kiers response is that this is not understood to be part of the original scope Agreed that this would be included within the design		

minutes

mace

5.14	• MHP2 129, A comment stating that LED panels should show the current state of the generators [on/off], the Kier response states that breaker status LED panels are to be installed in each of the ATS rooms and the LV switchrooms. These will have a schematic representation of all breakers associated with Substation 6 demonstrating their status and position, is this acceptable? The generator condition is to be visible within the ATS rooms, a mini repeater panel will be included to display information.		
5.15	A query regarding communication links had been raised prior to the meeting - *The basis of design for the ICT system connectivity to site network is via fibre optic only. Is there any requirement for copper connectivity?* SBUHB have responded as follows: "would need a backup telephone handset in here. Therefore we will need a minimum of a 10 pair CW1308 …. running back from the comms cabinet in the new substation to the PABX room. There is no need for a secondary link as we have with the fibre back to the Tempest Hub room."		

NEXT MEETING

Date: 12th November 2021	**Time:** TBC	**Location:**
Meeting Aim: To review the Stage 4 Design Report		

Meeting Notes

Morriston Infrastructure Phase 2 - Fire Strategy Meeting (Stage 4)

Date of meeting:	05 October 2021	**Time:**	11:30am
Location:	Teams		
Attendees:	Matthew Williams, Steve Winterbourn, Ashley Hollington, Craig Davies, Pete Thomas, Anthony Pitcher, Liza Powell, Bleddyn Rees		
Apologies for absence:	Mark Williams		

Objectives

- To review and close out all fire related items to be fully design into Stage 4.

Item Ref	Agenda item	Owner/Action
1	Fire Strategy for new works to be developed to align with existing Site strategies. Change of Fire Strategy may impact on MEP design.	HTM compliance L1 system – smoke detector coverage in Sub 6 rooms locally. No significant changes to the stage 3 design intent. **No further action required**.
2	HB have advised a review of fire alarm system provider is being undertaken. Currently there is provision for new panels and connection to site wide system. Full discussion on functionality, cause & effect and specification requirements required with HB. Fire Strategy development also required to understand requirements.	The existing Static fire alarm systems are being upgraded across the NHS estates. Advanced panels are being used to replace the Static systems, any new fire alarm system installed **must be** open protocol. It was advised that Kier and Design Team are to proceed with the advanced panel system which is set to be introduced to the existing wider hospital soon. **Action**: AECOM to provide advanced panels system within technical specifications for Stage 4 sign off.

Agenda	Morriston Infrastructure Phase 2 - Fire Strategy Meeting (Stage 4)	
Date of meeting:	05 October 2021	**Time:** 11:30am
3	Emergency lighting to - Points of assembly - Internal lit signage - Coverage of points of interest	Sub 6 – refuse point is a requirement for compliance. Agreed to be located to the North Eastern point of the new carriageway around Sub 6. LV Switchroom – Locate nearest refuse point. No need for maintained emergency lighting (AP). Ensure lux levels are sufficient to identify exit point to be checked and confirmed by AECOM. **Action**: IBI to indicate refuse points on plan. AECOM to check and conform emergency lighting strategy and general lighting levels are HTM compliant as a minimum (included in Stage3).
4	A specific item identified during Stage 3 and question has been raised to the team for confirmation of requirements. Fire suppression (gas, powder, water mist etc) to be agreed if required.	There is currently no fire suppression proposed to both Sub 6 and LV switchroom, there is no specific requirement from a compliance perspective. AP noted that this would give more resilience to the hospital and would beneficial if it could be installed? CD noted that the N+1 backup does add another layer of resilience so there is adequate back up but still agreed a suppression system would be beneficial. The detailing of the fire suppression in relation to the cooling louvre to the façade to be review by AECOM. It was agreed that the suppression system “is a nice to have”. Mist suppression currently specified to generator housing (built in). noted. **Action**: Kier to budget costs for including fire suppression to S6 and LV switchrom with input of high level spec requirement from AECOM.
5	Generator enclosures are missing fire detection. Fire equipment in generator enclosure should fully communicate with all other fire equipment on site	Noted. Alarm beacons should be added externally to the generator units if there do not come as standard. Proposed generator fire detection information to be issued by AECOM to NWSSP/SBUHB for review. **Action**: AECOM to review and include in

Agenda	Morriston Infrastructure Phase 2 - Fire Strategy Meeting (Stage 4)	
Date of meeting:	05 October 2021	**Time:** 11:30am
6	WHTM 06-01 states the following - ‘Designers and the Electrical Safety Group (in conjunction with the healthcare premises’ Fire Safety Adviser, the local authority’s fire officer and a specialist fire consultant) should carry out a full risk assessment, to address the form of suitable firefighting equipment and precautions’. Please can this be progressed to inform the requirements prior to commencement of Stage 4 so any agreed measures can be incorporated?	Fire and false link for generators. Interface unit with detection within generator area. Signal from new building and full addressability to indicate where the detection has been activated. New panels within Substation, interface with generators? New fire alarm panels to be position in lobby within Sub 6. Wall construction confirmed to be masonry. Design code compliant. Break glass missing from single door on front elevation. This has been noted previously and will be amended within Stage 4. **Action**: AECOM to check all stage 3 information is inline with the above.
7	Can the existing cause and effect for the nearby areas to the proposed new LV switchroom is issued by SBUHB for review by the design team? This can be developed with the fire strategy (RFI (E) 018), but if the new proposed buildings need to integrate into the existing fire alarm system then we will need to update the existing cause and effect for the nearby departments/areas. It has been discussed that the existing Static fire alarm system is being reviewed by SBUHB. Any developments on this will need to inform the Stage 4 design.	No initial thoughts to coincide with the existing cause and effect – AP to check existing zoning to adjacent areas and issue onto Kier. Is engineer compound standalone? LP/AP to check and confirm back to Kier. See notes above regarding Static system. Action: NWSSP/SBUHB to issue on eixsitng cause and effect information to Kier.

Agenda Morriston Infrastructure Phase 2 - Fire Strategy Meeting (Stage 4)

Date of meeting: 05 October 2021 **Time:** 11:30am

8	AoB	1. AP noted the door swings to LV switchroom need to be reviewed/handed. **Action**: To be coordinated through Stage 4. 2. Ceiling void detection – MW stated this is currently not within this proposed scheme but highlighted that from the HSDU survey the ceiling void varies dramatically in size due to the layout of plantrooms and roofs above. AP confirmed that it would be beneficial to include this as part of the scheme proposals to review exiting strategy and possibility to risk asses out the need for void detection. Kier are to progress with the baseline design (without void detection works) unless instructed otherwise. **Action**: SBUHB/Mace to instruct on determination? 3. Fire Stopping – MW flagged issues with existing fire stopping through HSDU. Currently not within the scope/brief of Kiers works. Action: SBUHB/Mace to instruct on determination (same time as above)? 4. MW presented HDSU fire wall findings following survey. 30min hazard rooms need to be tweaked and reissued but conclusion was that all fire walls were as noted on SWSSP original mark up which formed the basis of the Stage 3 ventilation design. Action: MW to amend fire wall DWG and reissue to all. 5. Note: No existing fire escape from back of outpatients – LP noted. 6. Note: MW to issue matterport and images above ceiling from HSDU visit. 7. Note: IBI/Kier to issue fire strategy drawings to be issued to all for final approval at the end of Stage 4. 8. Note: If the ceiling void detection works is implemented into scheme then Kier will need the risk assessment to be undertaken by project fire engineer (Zeta).

Minutes

Morriston Infrastructure Phase 2 - ICT Strategy Meeting (Stage 4)

Date of meeting: 08 October 2021 **Time:** 11:30am

Location: Teams

Attendees: Matthew Williams, Steve Winterbourn, Ashley Hollington, Craig Davies, Pete Thomas, Mark Williams, Jacon Loh, Lenny Hellings, John Furreedan (RVW), Gareth Evans (SBUHB)

Apologies for absence:

Objectives

- To review and close out all ICT related items to be fully design into Stage 4.

Item Ref	Agenda item	Owner/Action
1	No reference to ICT system. Discussions required with HB ICT representative as to what is required. Wall mounted cabinet previously included with 2 fibre connections. One from each resilient location on site. Number of fibres etc. to be agreed with IT. The current provision has been developed in accordance with the SBUHB Design Brief which states the allowance required i.e. Server cabinet as located on the drawings. In the next Design stage we will either engage with HB ICT / seek acceptance of the statement in the Stage 2 report: SBUHB ICT dept. expected to determine requirements – Contractor to facilitate with electrical supplies etc,	ICT cabinet in the new substation 6.

Minutes Morriston Infrastructure Phase 2 - Fire Strategy Meeting (Stage 4)

Date of meeting: 05 October 2021 **Time:** 11:30am

		Cabinet sizes – 1m2 minimum size. 42U cabinet preferred. Floor mounted rather than wall mounted on a plinth (brick/blockwork on flat).
2	Check IT cabinet power requirements with HB ICT spec.	Resilience points. UPS in bottom of cabinet by SBUHB. One number double power nearby. No network required from an ICT perspective.
3	ICT fibre optic cable routing. Proposed routes shown for fibre optic cabling. Subject to ceiling void survey by WHBS and Kier to assess feasibility of installation.	Infrastructure – two separate routes. To be progressed on different levels. Data or LV trays or containment to be utilised in existing corridor routes. Blown fibre tubing with 4 cores. Possible for 8 core? Cabling within standard ICT spec. Fire protection for the fibre cable – currently proposed to go on trays at high level. GE requested that the fibre cables can be boxed in metal casing. Box spec to be reviewed. Kier/WBS to review existing tray above corridor ceiling on ground and First floor. Avoid transformer rooms into ICT cabinet. Can a route straight into the IT cabinet be found rather than bringing the cables through the substations.
4	SBUHB ICT dept. expected to determine requirements – Contractor to facilitate with electrical supplies etc, and may impact on MEP design.	WiFi to both sub 6 and LV switchroom. Heatmap to be undertaken by SBUHB. Data from LV to run back to Sub 6 IT cabinet. External grade CAT 6. Agree connectivity into the LV switchroom to be agreed by GE (SBUHB).

Minutes

Morriston Infrastructure Phase 2 - Security Strategy Meeting (Stage 4)

Date of meeting: 06 October 2021 **Time:** 11:30am

Location: Teams

Attendees: Matthew Williams, Steve Winterbourn, Ashley Hollington, Craig Davies, Pete Thomas, Mark Williams, Paul Krause, Simon Lockley, Bleddyn Rees.

Apologies for absence: John Furreedan (RVW).

Objectives

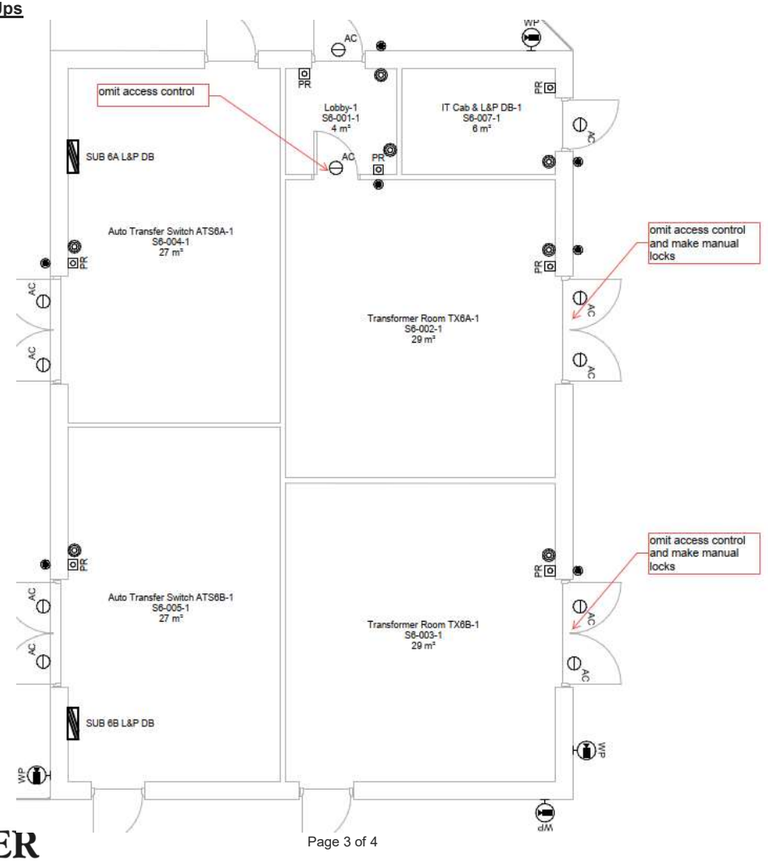
- To review and close out all security related items to be fully design into Stage 4.

Item Ref	Agenda item	Owner/Action
1	Level of security to be agreed e.g. architectural manual locks, access control etc.? The recommendations may impact on MEP design both internal and external.	Separate system for security to Substation – sub divide is with states. Salto system currently being used, this will need to be integrated with the existing Salto to be used. External doors for entry to be access controlled (Salto) for both Sub 6 and LV switchroom. Green break glass for emergency egress. Doors fail safe (maglocks to drop out). Existing substation doors on manual key operation.
2	A Stage 3 design has been provided and this is to be reviewed during the Stage 3 review process. Comments will be incorporated as required to inform an agreed provision at the outset of Stage 4 and to form the basis of the Stage 4 design. Intruder Alarm system requirements require confirmation. Details of expansion of the CCTV or other security systems as mentioned in client comments MHP2-046 require client review of allowance in Stage 3 design.	Fire doors to be on alarm – preferred to be alarmed. Inner lobby do not to be AC – manual key lock. Suited cylinders to be checked by CD. Master suite with sub suites if required to be specified by IBI. North gate to be suited same as access control arrangement into LV rooms. Review spec of lock/handles etc. Potential maintenance issue? Existing gates access lock being used?

Minutes	Morriston Infrastructure Phase 2 - Fire Strategy Meeting (Stage 4)	
Date of meeting:	05 October 2021	**Time:** 11:30am
3	Security to include CCTV expansion, Salto locks, adequate external lighting etc.	Perimeter coverage to the building – linked into existing network. Focused viewing to cover all boundaries confirmed by PT. Monitoring – to be linked back to estates. HIK cameras to be used within the existing HIK system. Linked back tot both security and estates? View only. CCTV to cover the ECV area to be included. AECOM to review and update CCTV layout.
4	External lighting – Lighting for security?	Building mounted lights – movement sensored. No external lighting outside of the fenced area. Street lighting to the junction and substation 6 – along borderline? AECOM to review and include in Stage 4. AECOM to review current lighting calculation based on Stage 3 and review any enhancements required. LV switchroom currently has external building mounted lights.
5	Boundary Treatments – Fencing, access into Sub 6 from MGW Road?	Boundary treatment around the road works to be reviewed at a latter date. To be confirmed by SBUHB.
6	Building protection – EVC's to Sub 6, bollards to service yard to protect gantry crossings.	Bollard protection to gantry crossing within service yard. Current laundry access into dirty laundry room – external doors. Review current access and potential location of bollards.

Minutes	Morriston Infrastructure Phase 2 - Fire Strategy Meeting (Stage 4)	
Date of meeting:	05 October 2021	**Time:** 11:30am
	AoB	**Intruder Alarms** – where will the alarm be set too? Is intruder alarms required to Sub 6 doors? No existing IA to other substations within hospital boundary. Staffing and control measures discussed. Existing issues of break ins nearby to the hospital. Local screech alarms to non-electronic doors, SBUHB to advise differently? Access from MGW Road to new sub 6 junction – gates/barrier to be provided off highway. Offset form road to allow safe pull in of service vehicles to be reviewed.

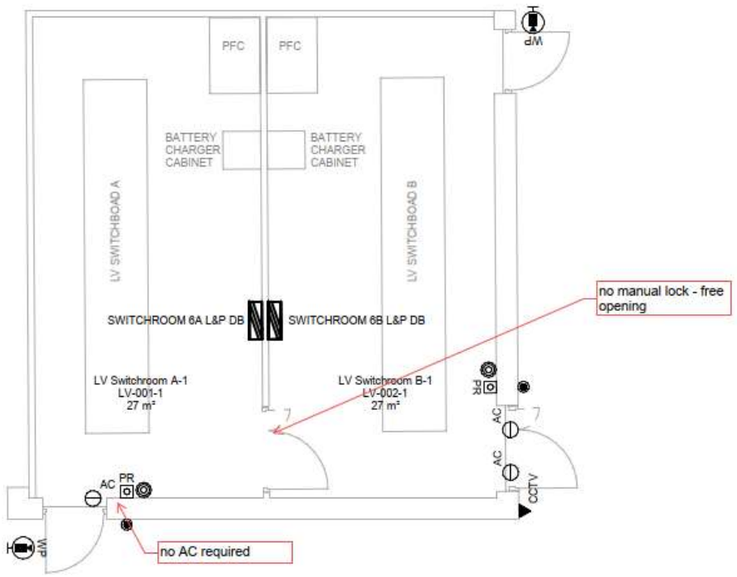
Sub 6 Mark Ups



Minutes Morriston Infrastructure Phase 2 - Fire Strategy Meeting (Stage 4)

Date of meeting: 05 October 2021 **Time:** 11:30am

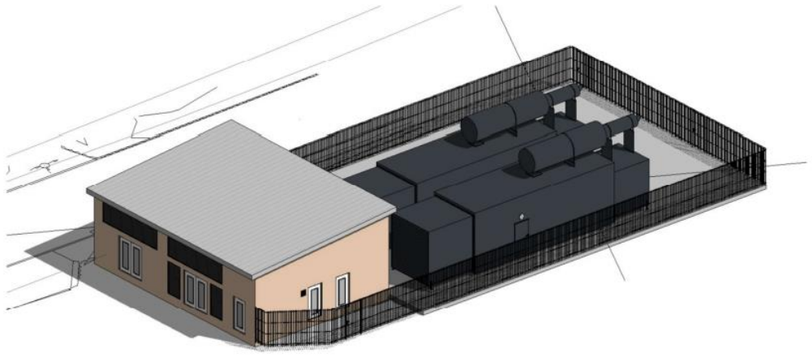
LV Switchroom Mark Ups



MORRISTON HOSPITAL - INFRASTRUCTURE WORKS

10A: FIRE REPORT

Design Note



Kier Morriston Hospital

Morriston Hospital

Estates Department

Swansea

SA6 6NL

Version 1
18th January 2022

DOCUMENT CONTROL & NOTES

Company Details:

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Report Details:

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Date:	18th January 2022
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Notes:

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Document History:

Issue	Date	Amendment Details	Author	Checked
D1	18/01/2022	Initial draft for review	LW	
V1		Version for Release to Client		

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1. Scope and Objectives

Zeta Compliance Services Ltd (ZCS) has been appointed by Kier Construction to complete a desk top design review with reference to the proposed works commencing in July at Morriston Hospital, Swansea. The proposed works include the introduction of a new substation and associated switch room. Additionally, there are changes being made to the existing air handling units within the 'HSDU' building, within plant rooms 4D, 5C and 5B. Furthermore, a trench is being dug around the full perimeter of the hospital (approx. 900m.) and changes are being made to some electrical services i.e., Wi-Fi cables entering the HSDU building from the new switch room.

2. Building Description

The new substation and switch room will be single storey structures, constructed from mostly brickwork exterior walls, aluminium standing seam roof and profiled aluminium soffit and facias and concrete flooring.

The switch room will comprise of 120min fire resisting walls adjacent to existing structures with steel FD60s door sets. The new substation will comprise of 120min fire resisting walls adjacent to external walls and 60min fire resisting walls/door to internal rooms within substation.

Both buildings are being built in accordance with Approved Document B and the applicable HTM guides. From the design plans available and assessment attached as an appendix to this document there appears to be ground floor level escape doors discharging to ultimate safety within the recommended travel distances for both buildings.

The site is in the planning stage with works with the construction phase due to commence in July 2022. Once the enabling works have been carried out the structure will be constructed. It is advised that at that stage this FRA is updated to ensure compliance.

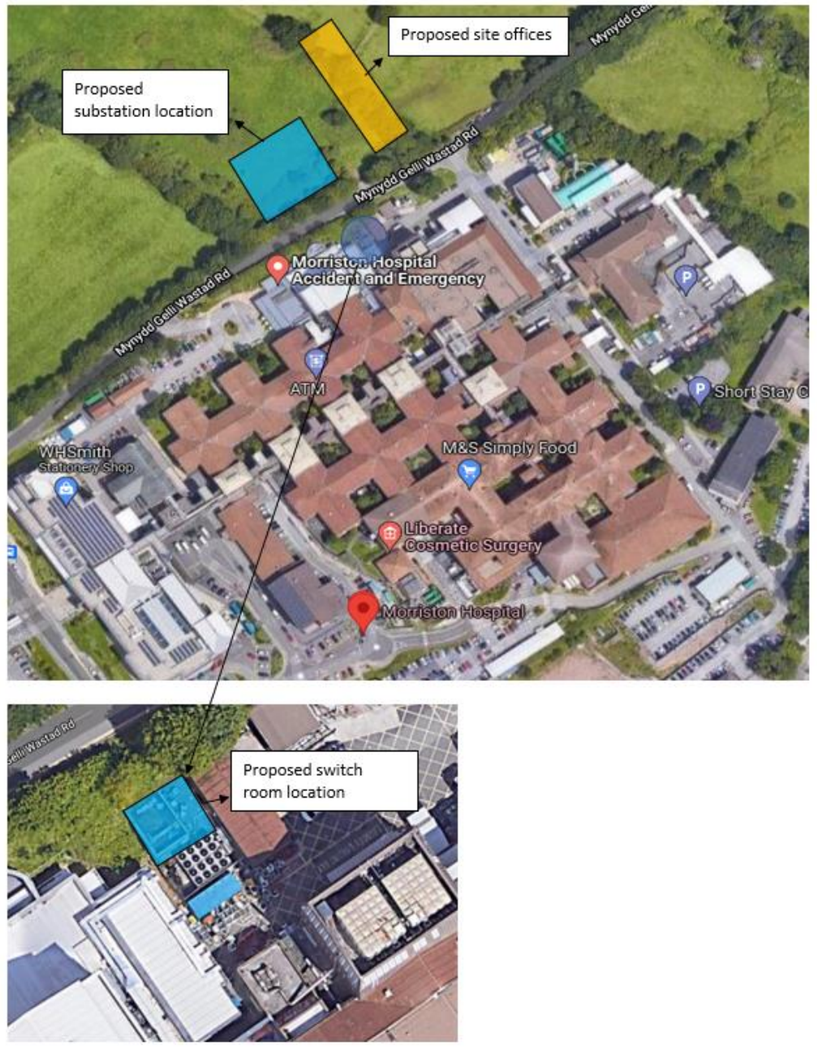

Figure 1: Satellite view of the proposed site.

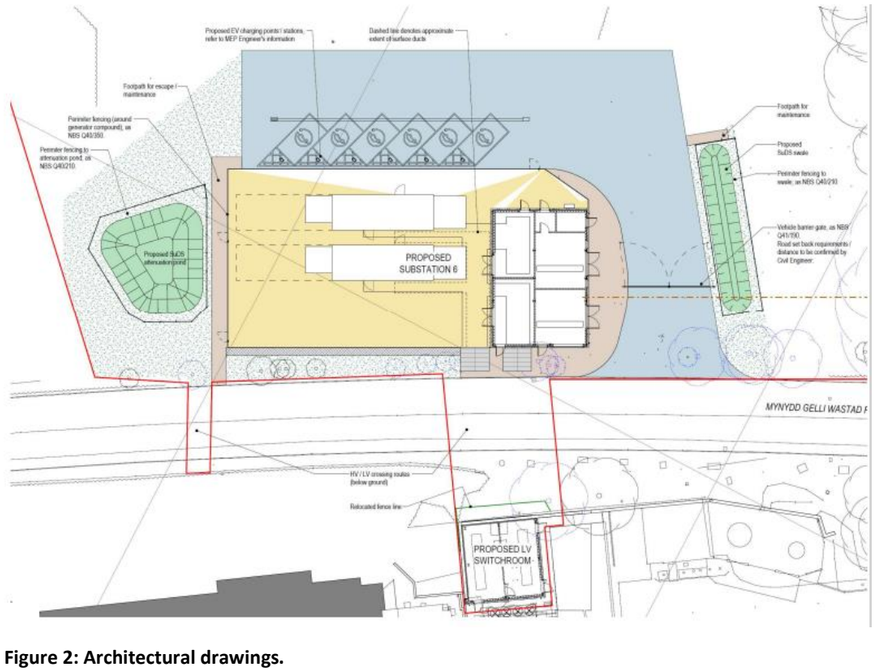

Figure 2: Architectural drawings.

3. Means of Escape

The general philosophy for the means of escape for occupants within the building is that there is satisfactory means of giving warning of a fire and that means of escape and travel distances are limited in order to facilitate a timely and safe exit from the building for all occupants in case of fire. The principles of the evacuation strategy for this building are that in the event of a fire people can turn their back on the fire and make their way to a final exit without assistance from other occupants or fire fighters.

The construction site will operate a simultaneous evacuation on operation of any manual call point or where provided, fixed detection.

The substation is being constructed on an existing farmland plot of land. The substation will have simple means of escape via multiple perimeter access and egress doors, providing this building with sufficient travel distances.

The single storey switch room is being constructed on an existing plot of land, in an enclosed area next to the existing cooling fans and engineering store building. The existing cooling fans and stores building are remaining as they are at current date. The building will have a total of three escape doors in the final structure, however for the purposes of means of escape from the site while it is constructed, 2 final escape doors have been agreed with project management and highlighted in Appendix A. The two escape doors will utilise an already existing escape route down the side of the engineering building, leading to a final exit gate. The other escape route by the cooling fans will require the introduction of a new final exit gate being installed in the already existing perimeter fencing, with appropriate footing steps to be provided.

It was also discussed that a trench is due to be dug around the full perimeter ring road for the hospital. Project management highlighted the fact that the trench will pass through areas which are considered means of escape from the hospital. It must be ensured that suitable foot bridges and access ramps are made available at each point where this trench passes through a means of escape from the hospital. These ramps must be suitable to be used by persons utilising wheelchairs.

Phase 1 - As the buildings are classed as a semi-open structure

As the buildings are constructed and there are openings within the buildings, travel distances should be within the recommended 18m allowance for dead end travel and 100m for alternative as a semi open structure given under HSG168.

Storage of combustible materials should be kept to a minimum with minimal ignition sources (any hot works must be strictly controlled). Any smoke from a fire, which itself should be of a reasonable size, should be able to vent externally and therefore tend not to compromise the means of escape.

Travel distances should be within the recommended 18m allowance for dead end travel and 100m for alternative as a semi open structure given under HSG168.

Phase 2 - Once the building is enclosed

Before the buildings are enclosed, the travel distances should be within the recommended 18m allowance for dead end travel and 45m for alternative for the enclosed structure given under HSG168.

The travel distances on the proposed fire strategy floor plans indicate that a single direction of travel will not exceed 9m in either building at any phase of the construction work and within the completed buildings. This is code compliant with approved document B which allows 9m in a single direction of travel for plant rooms.

See escape strategies for each building in Appendix A.

HSDU Ventilation means of escape

The HSDU ventilation task involves the removal and installation of new ventilation plant and equipment, mainly within plant room 4D. This plant room is situated on the first-floor level and the means of escape strategy for workers within this area has been considered as part of this design note.

It was discussed with project management that there will be three available means of escape from plant room 4D. One involves the already existing protected external spiral stairwell, whilst the other two include the introduction of a scaffolding platform and haki stairwell from the service yard which will be used as access and hoist point as well as an escape route.

To protect the means of escape from the external scaffolding, paragraphs 206 to 207 of HSG168 should be followed. To summarise these points, ensure that either of the two following options are provided:

1. The external wall against which the stairway is erected should be imperforate and afford a nominal period of 30 minutes' fire resistance for 9m vertically below the stairway/ladder and 1.8m either side and above, as measured from the external stair/ladder treads. Or;
2. Position the haki stairwell at least 1.8m from any openings from the existing hospital building.

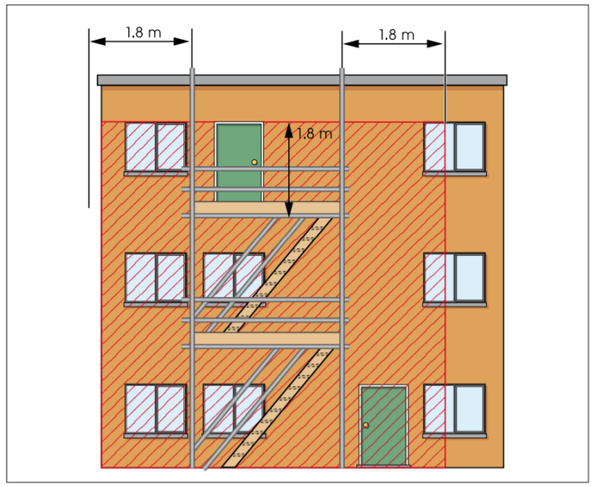

Figure 4: Image displaying the fire resistance zone required for temporary haki stairwells against an existing building.

Another key factor to take into consideration is the existing means of escape arrangement from plant room 4D includes travel distances which would not be code compliant to building regulations today with particular mention of the separate compartment room within this plant room which will be occupied as part of this refurbishment project. To ensure travel distances are considered adequate, it is recommended to only occupy this compartment room whilst there are no plant and machinery blocking the escape routes within plant room 4D. This was discussed and agreed with the project manager on site.

Any shared escape routes as part of this project with the active hospital must be used in preauthorised agreeance with the hospital fire officer. Workmen must not obstruct any escape routes from the active hospital at any time during the project without a risk assessment and authorisation from the hospital fire officer.

4. Fire Alarm System

The construction site will provide a WES wireless fire alarm system consisting of manual call points and electronic sounders as a means of warning to site occupants. The base station is to be fixed within the main office TAU with fire points with manual call points to be adequately sited on site.

As the switch room is being constructed directly on the active hospital site, automatic heat detection is recommended to be installed as soon as the structure has a roof and is protected from weather. A wireless electronic sounder and flashing beacon is recommended to be placed in the 24/7 occupied reception for the adjacent building (Out of Hours GP building). This will alert the staff within this building of any fire alarm activations during this project.

See: Appendix A for general guidance of location for fire points and detection.

The HSDU ventilation building is provided with an existing BS5839-1 fire alarm system which will remain active during the scheduled works. Although the plant room areas are mostly provided with heat detectors, some isolations will be required to the existing smoke detectors to prevent unwanted false alarms. Any isolation of these detectors must be scheduled with a preauthorised permit process and must be re activated overnight with full agreeance of the hospital fire officer.

5. Compartmentation

The adjacent engineering stores building directly next to the plot of land where the proposed switch room is to be constructed has ventilation louvres within the façade facing the new switch room. As a result, a fire on the construction site will have implications for the part remaining under normal occupation and vice versa, which to address will require co-ordination of the general fire safety requirements. If possible, it is recommended to provide temporary fire stopping to these louvres to prevent a fire originating in either site impacting the other occupation. If this cannot be achieved due to complications with blocking the louvres then this may be accepted as both parts have their own independent general fire safety provisions, e.g., fire detection/fire warning arrangements and means of escape with the understanding that a fire may cause significant building damage to both parties.

In regard to the works undertake within the existing hospital site, any penetration through a fire compartment, such as the routing of electrical and mechanical services, must also provide the same level of fire resistance as the compartment walls and floors that it penetrates. To ensure integrity is maintained - fire dampers, fire resistant mortars, fire batts, pipe wraps, collars, fire-resistant gap fillers and sealants, collectively known as fire stopping products and systems shall be used. Any works of this nature should be carried out by a competent, third-party accredited contractor.

Temporary fire stopping may be required to protect haki stairwells. See: 'Means of Escape'.

6. Fire Exit Signage

Fire exit signage should be provided in locations that are easily visible and clear for all staff to identify their nearest escape route from all areas. The signage of fire escape routes and other fire safety signage should generally be in accordance with Paragraphs 214 to 220 of HSG168 and BS 5499-4 [9] (as appropriate).

Escape signage should typically be located 2m above floor level, with internationally recognised pictograms used to ensure that these will be understood by all workers, including those for whom English is not their first language. Fire escape plans should be provided at strategic points around the site, such as at fire points, identifying escape routes. They should be updated on a regular basis, so as to align with the development of the construction site.

Temporary fire exit signage will need to be installed and continually reviewed throughout the project. The location of the fire exit signage is identified on the mark up floor plan as recommendations, in Appendix A.

7. Manual Fire Fighting Equipment

Portable extinguishers are to be provided consisting of a minimum of two (one of each type; water / foam and CO2). Where a transformer is located, a CO2 fire extinguisher should be within 10m. See: Appendix A for general guidance for location of fire points.

8. Emergency Lighting

In the event of a fire within the building, it is very unlikely that the power to the normal light circuit would be lost in the early stages while the occupants are escaping. This should be provided in the form of task lighting incorporating emergency escape lighting. The temporary emergency lighting is specified in accordance with Paragraphs 252 to 260 of HSG168.

The lights should be checked and tested on a weekly basis by a competent person. Testing of the lighting should be undertaken at a time of minimum risk (i.e., when the site is unoccupied), as time will typically be needed for the system batteries to recharge after testing. Low heat lighting will be used within the site.

Competency of Author

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The Institute of Fire Safety Managers IFSM Tier 2 Competent Fire Risk Assessor (CFRAR) 2022

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- BSc (Hons) Fire and Leadership Studies Advanced
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- NEBOSH National Certificate in Fire Safety and Risk Management
- Associate Member of the Institution of Fire Engineers
- Member of the Institute of Fire Safety Managers
- Tier 2 – IFSM Competent Fire Risk Assessors Register (CFRAR)

Fire Report

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Appendix A: Fire escape plans and fire precaution guidance

Figure 1: Switch room

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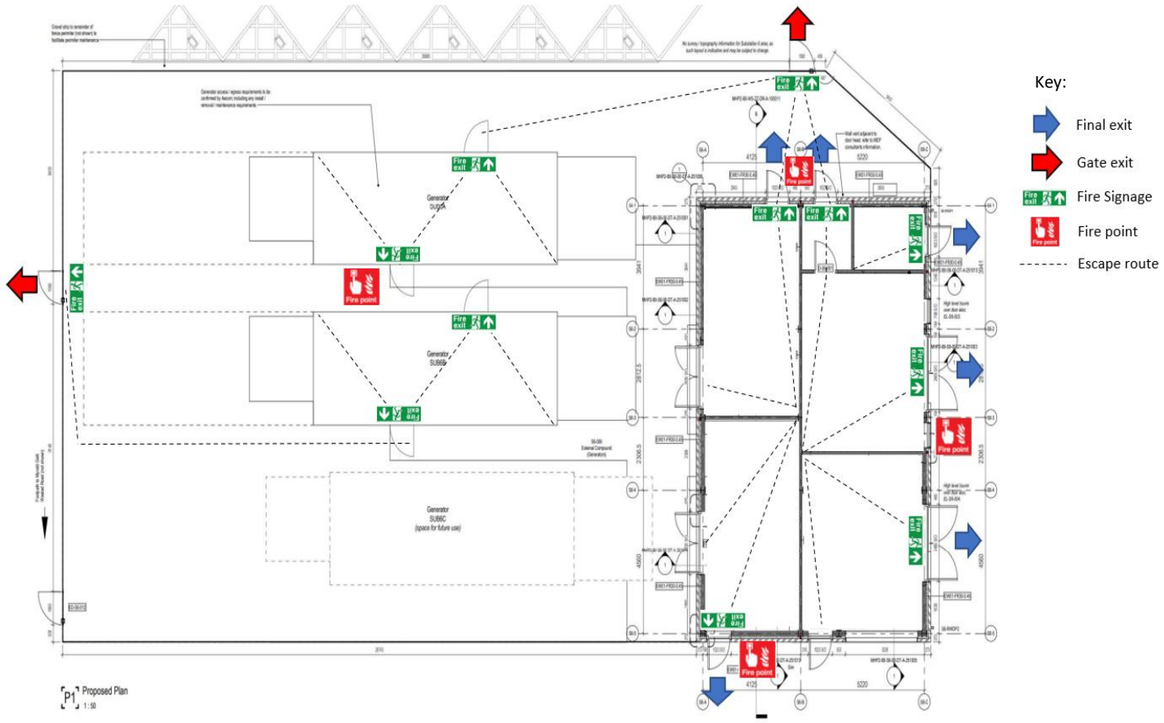

Figure 2: Substation

Photographs

Photo 1 – Overview of the current land where the switch room is due to be constructed.

Photo 2 – Overview of the current means of escape arrangement.

Photo 3 – Overview of the agreed placement of a secondary escape from the enclosed area.

Photo 4 – Ventilation louvres in the existing building directly facing where the switch room will be constructed.

Photo 5 – Overview of the current means of escape arrangement from plant room 4D.

Quality Assurance Statement

All reasonable skill and care have been taken in the preparation of this report.

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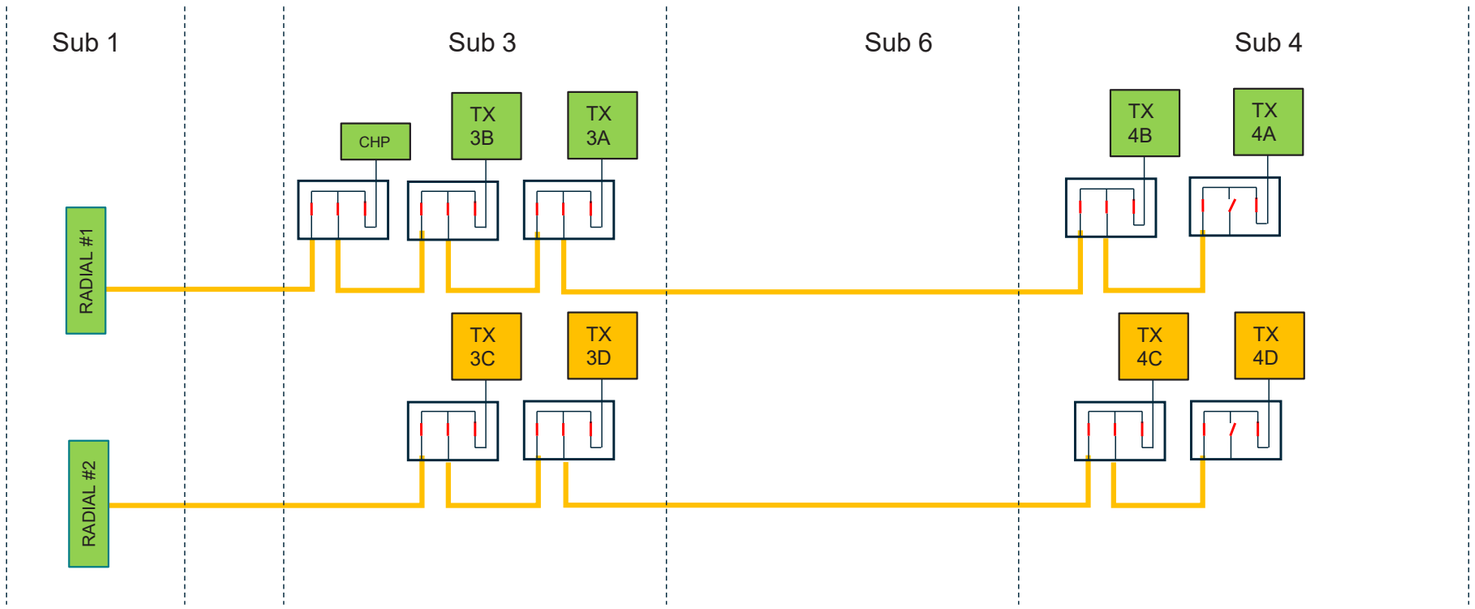
Title:	Fire Safety Consultant	Head of Fire Risk Management

MORRISTON HOSPITAL - INFRASTRUCTURE WORKS

11A: HV RING MAIN SWITCHING STRATEGY

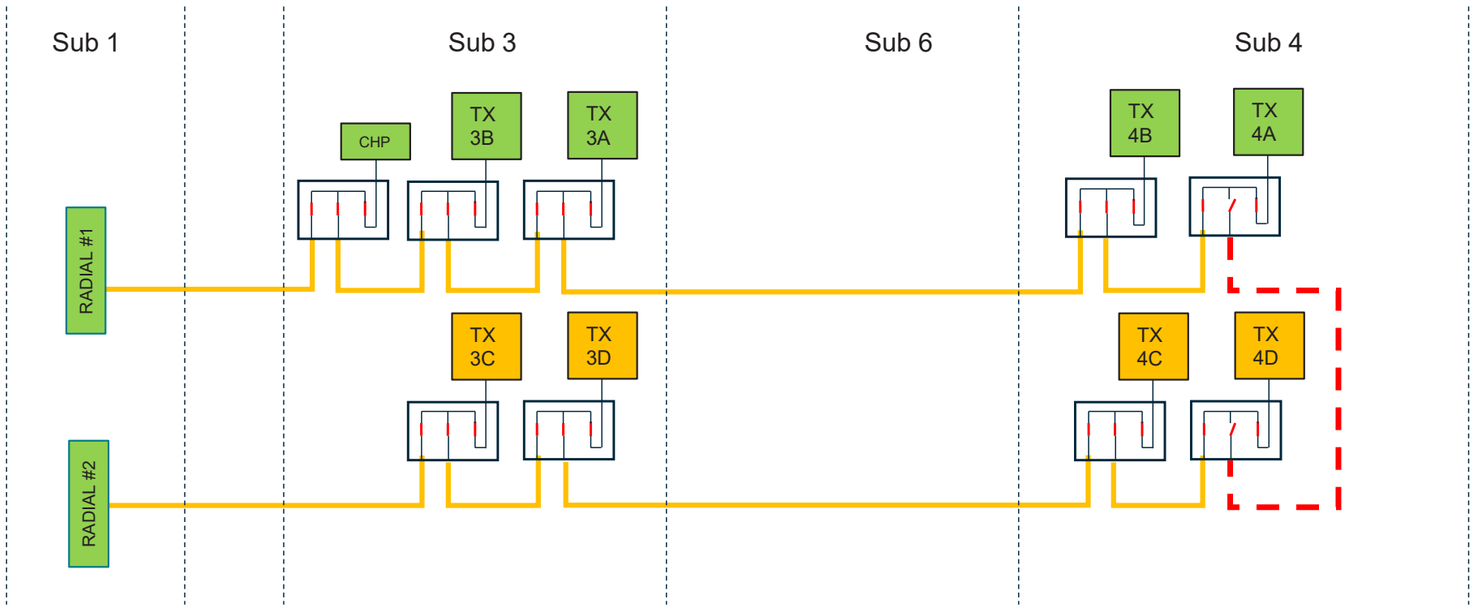
Morriston Hospital – HV Connections

Existing Layout



Morriston Hospital – HV Connections

Link between RMU 4A and 4D installed

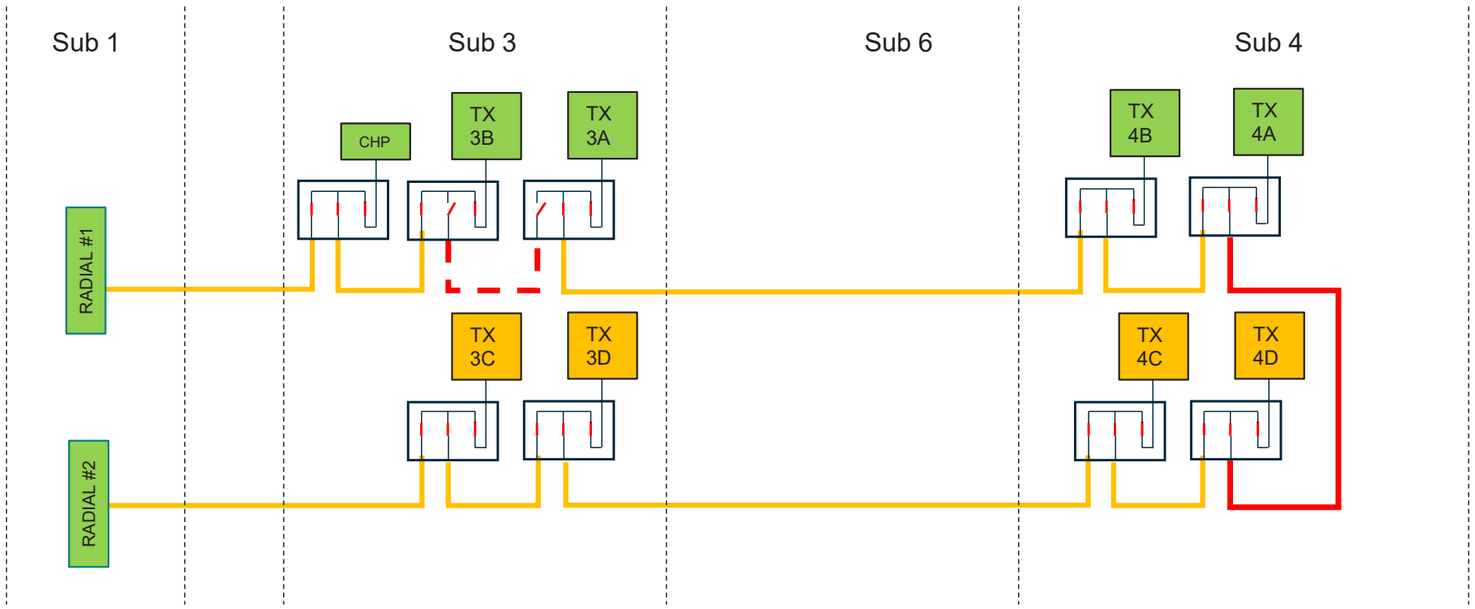


- System is now a ring main we now have resilience to allow 1 side of the transformers to be shut down
- 2 days Labour to carry out connections safely to 4A and 4D

Morriston Hospital – HV Connections

Link between RMU 3A and 3B upgraded (temporary)

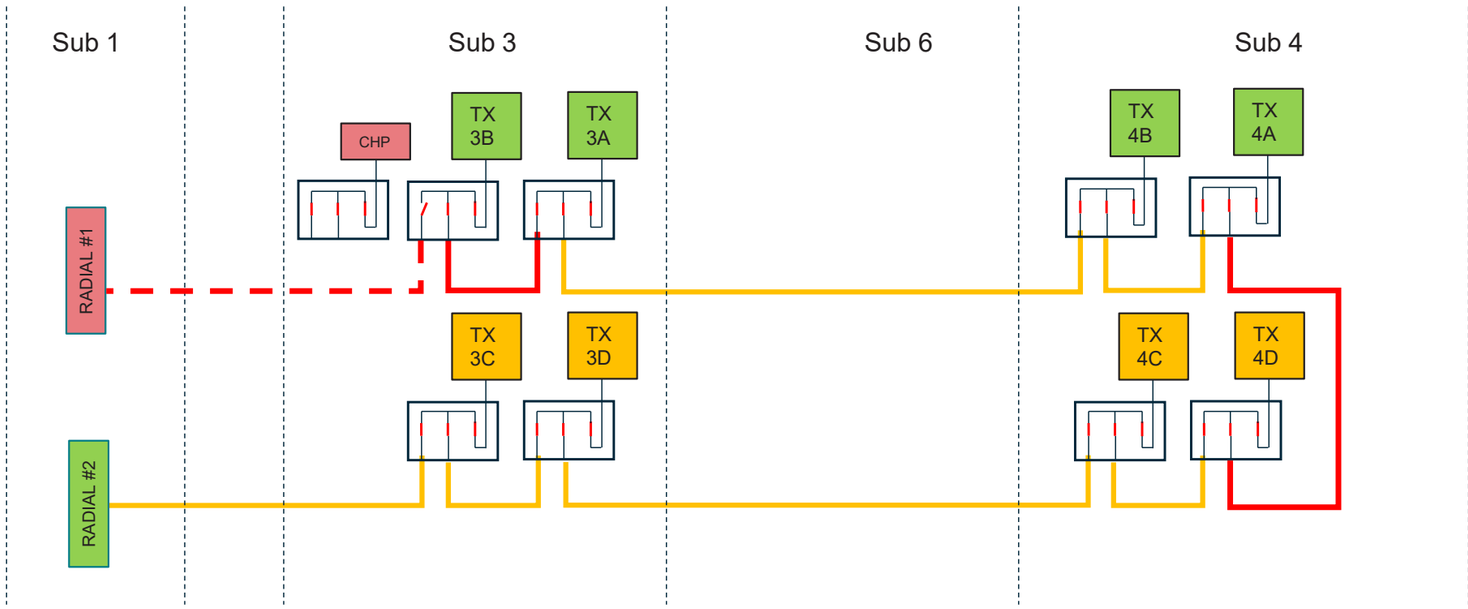
- 2 Days Labour to carry out the works safely to 3B and 3A



Morriston Hospital – HV Connections

Leg between SS 1 and RMU 3B installed

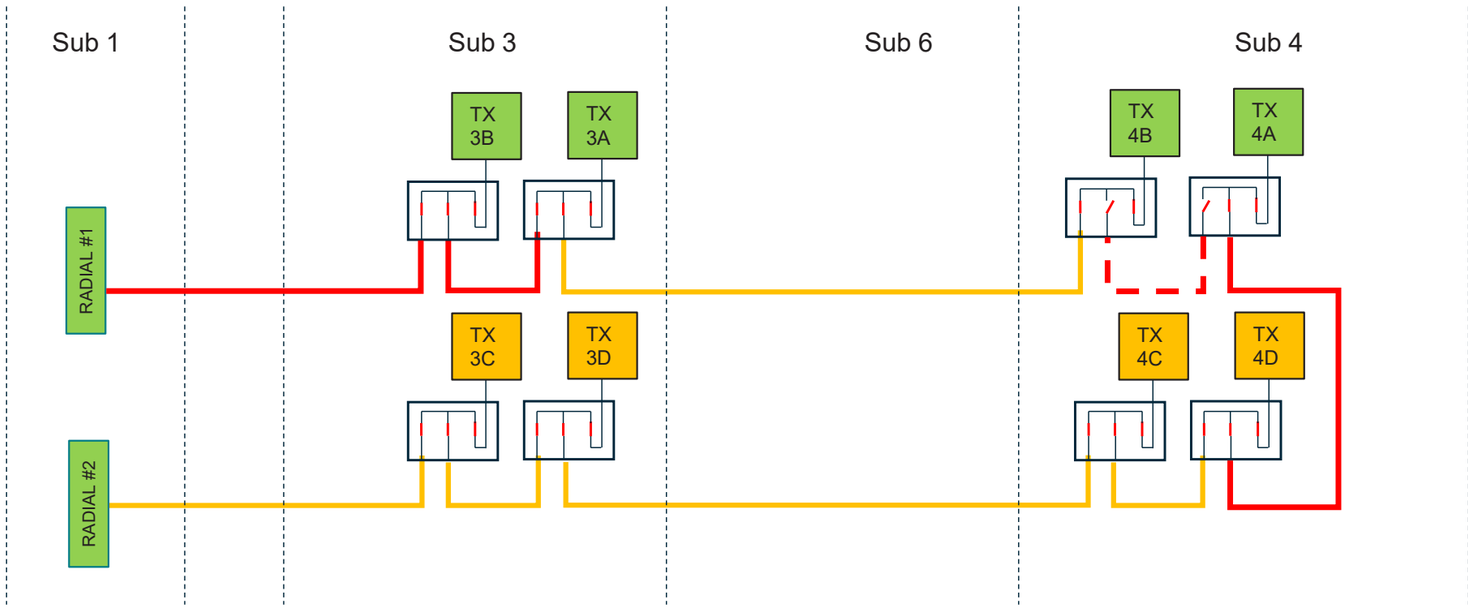
- CHP RMU Removed
- 2 Days Labour to carry out the works safely to Sub 1 and 3B



Morriston Hospital – HV Connections

Link between RMU 4A and 4B installed

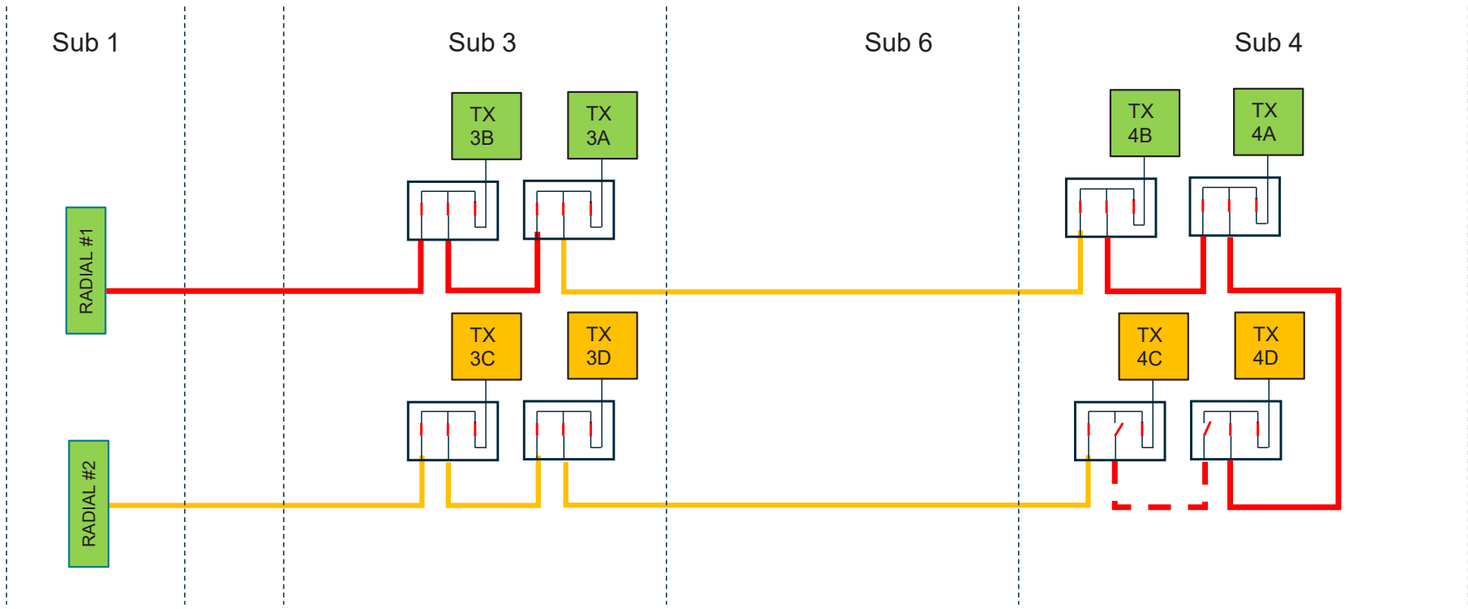
- 2 Days Labour to carry out the works safely to 4B and 4A



Morriston Hospital – HV Connections

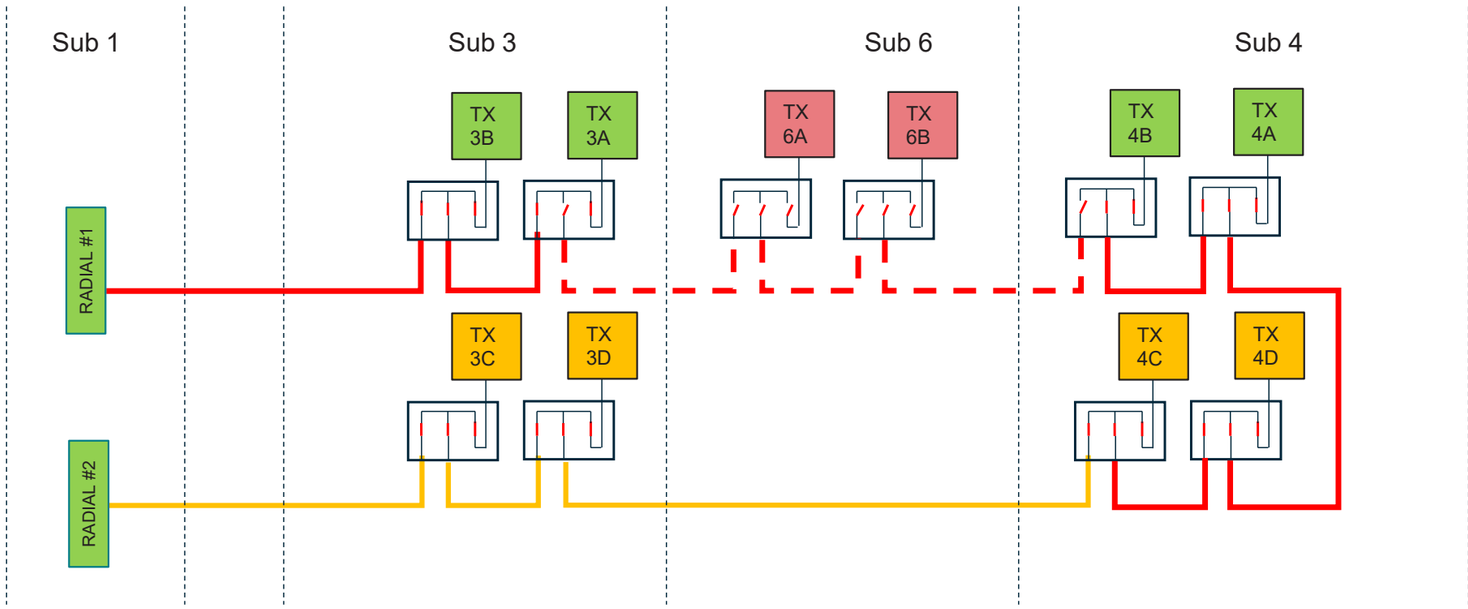
Link between RMU 4C and 4D installed

- 2 Days Labour to carry out the works safely to 4C and 4D



Morriston Hospital – HV Connections

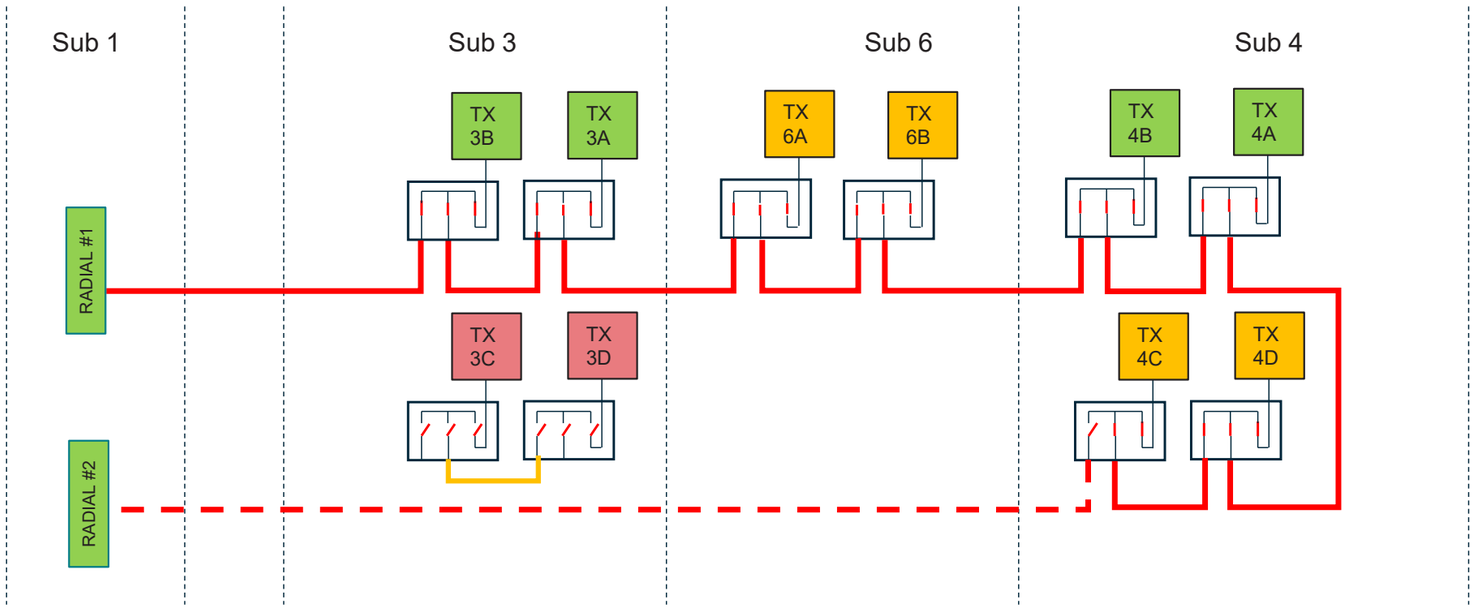
TX 6 (A&B) connected



- 4 Days Labour to carry out the works safely to 6A and 6B no impact to isolations of ring main at this time
- 2 Days Labour to carry out the works safely to 3A and 4B
- 6A and 6B now powered up and isolated on outgoing circuits

Morriston Hospital – HV Connections

Leg between SS 1 and RMU 4C installed



Existing HV Cables (Live)

Existing HV Cables (Isolated)

New HV Cables (Live)

New HV Cables (Isolated)

TX 3C Transformer on load

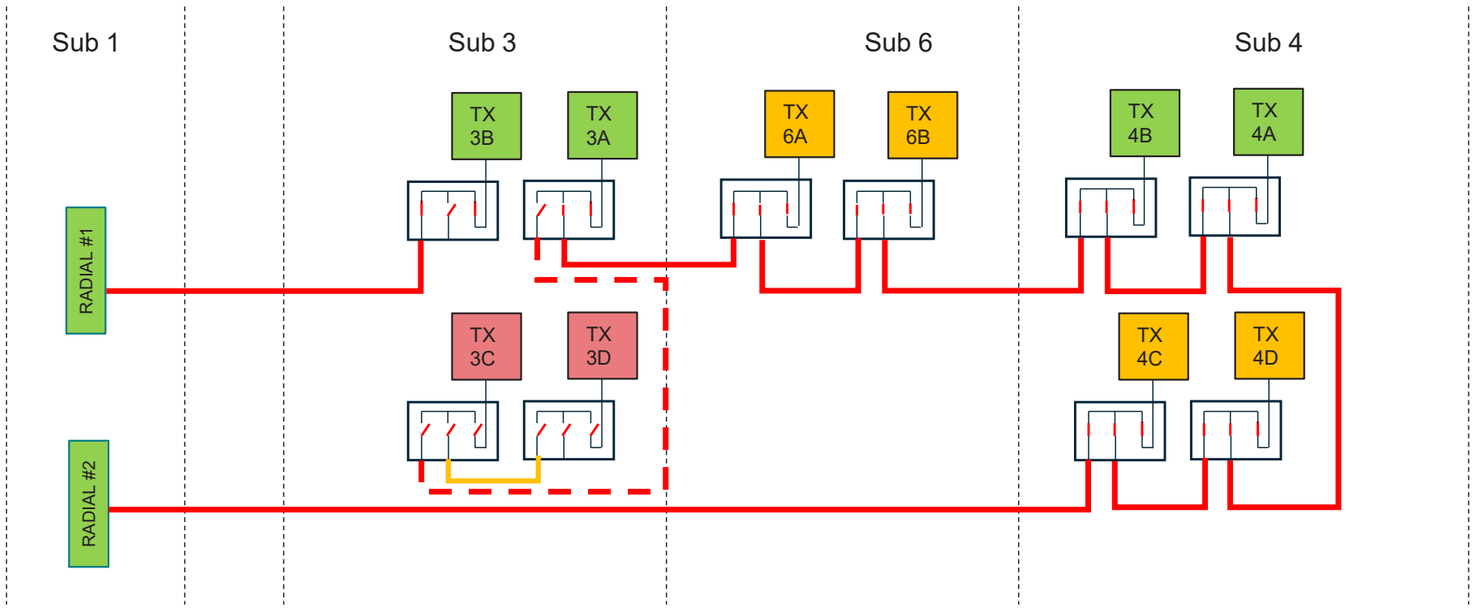
TX 3C Transformer unavailable

TX 3C Transformer not on load

- 2 days labour to carry out the works safely to Sub-station 1 and 4C
- Run standby generator in idle for LV Panels fed via 3C and 3D Transformer
- Standalone standby generator in attendance for Sub 3 ????

Morriston Hospital – HV Connections

Link between 3A and 3C installed

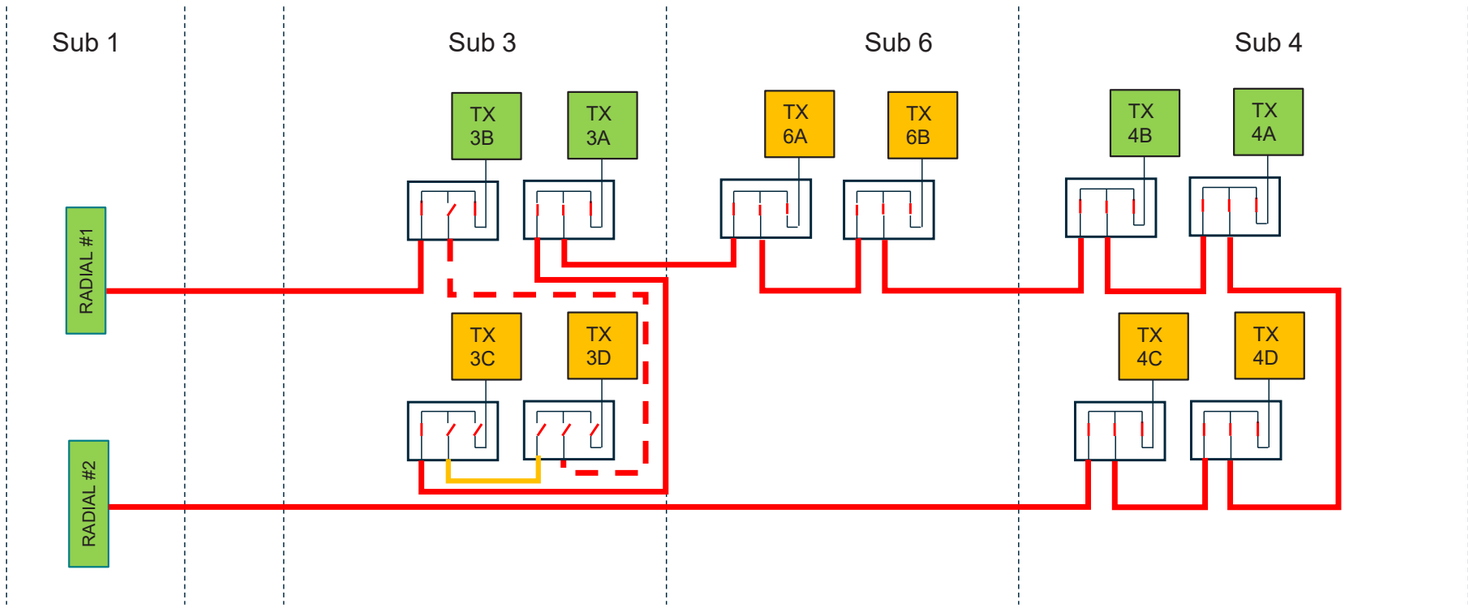


- Link between 3A and 3B removed
- TX 3C and 3D both available as soon as link completed. (2 pairs to carry out works)
- 2 Pairs 1 Day Labour to carry out the works safely to 3A and 3C

Morriston Hospital – HV Connections

Link between 3B and 3D installed

- 2 Days Labour to carry out the works safely to 3B and 3D



Existing HV Cables (Live)

Existing HV Cables (Isolated)

New HV Cables (Live)

New HV Cables (Isolated)

TX 3C — Transformer on load

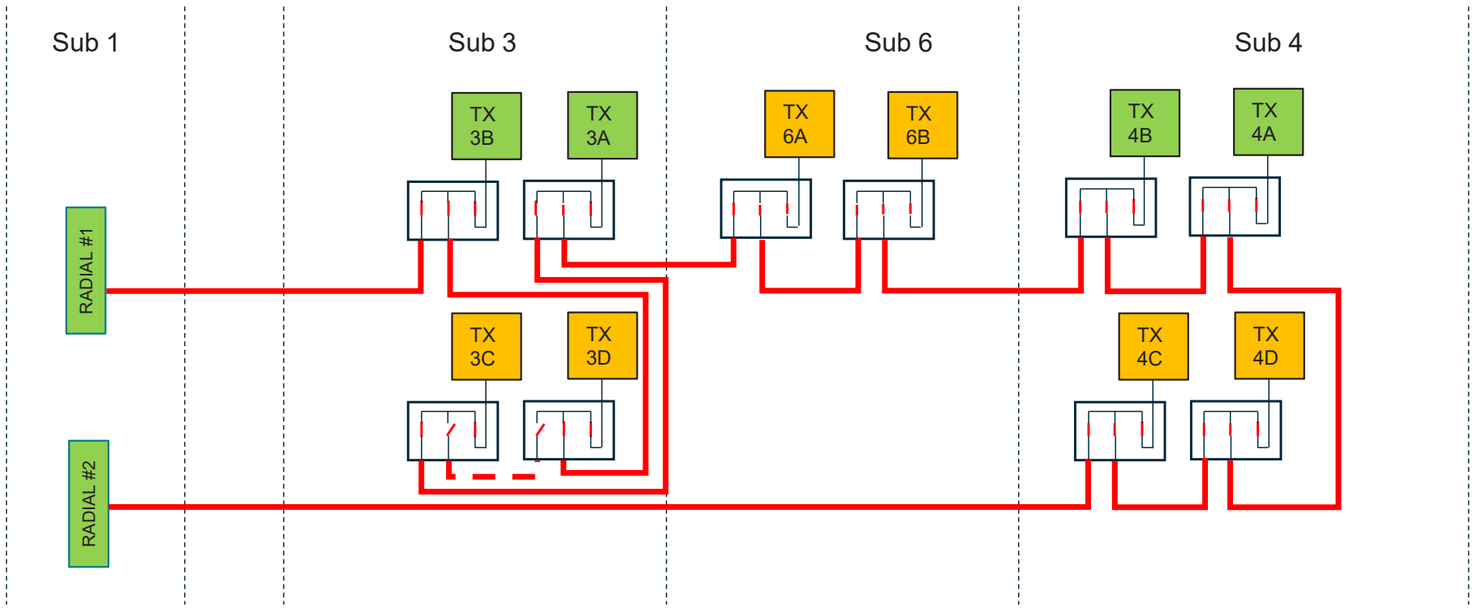
TX 3C — Transformer unavailable

TX 3C — Transformer not on load

Morriston Hospital – HV Connections

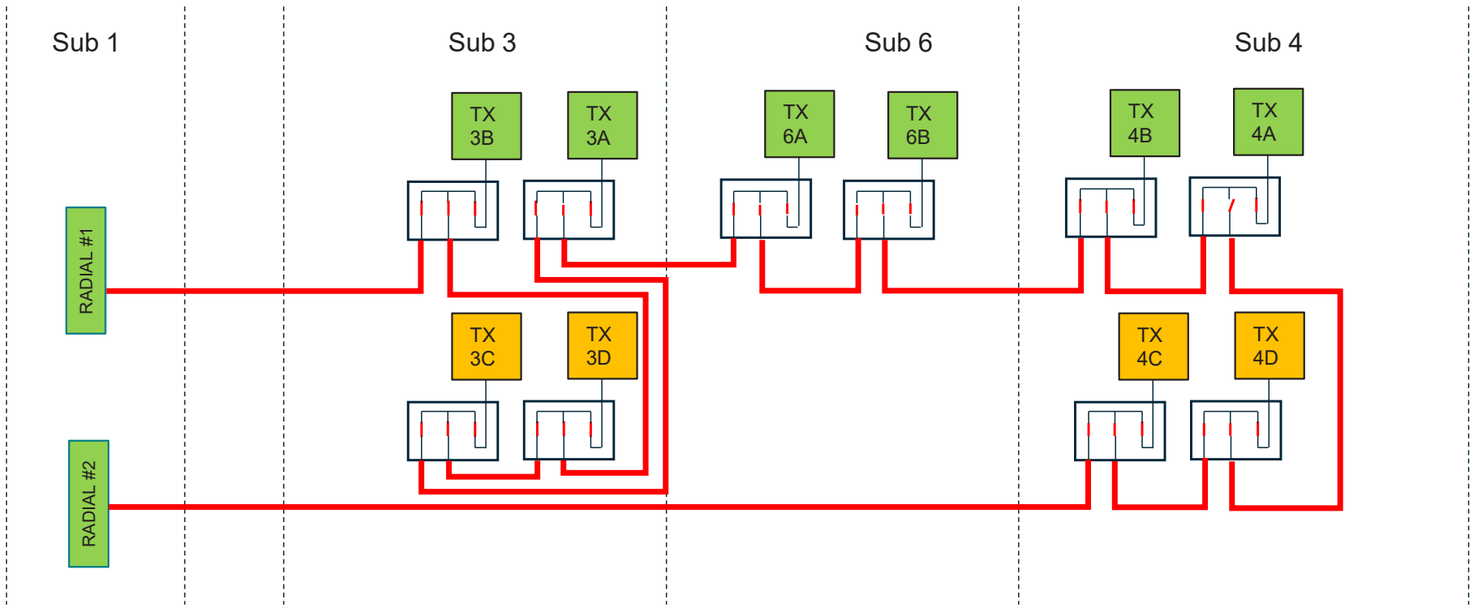
Link between 3C and 3D replaced

- 2 Days Labour to carry out the works safely to 3C and 3D



Morriston Hospital – HV Connections

System Complete



- System left as new complete ring
- 26 working days for 2 men to complete change-over switching safely