VITAL ENERGI UTILITIES LIMITED



VC50564 The Christie NHS Foundation Trust

CDM CONSTRUCTION PHASE PLAN

50564-VE-SW-ZZ-HS-PM-XX01

Revision C.11

Carbon Energy Fund Project

Vital Energi Headquarters, Century House, Roman Road, Blackburn, Lancashire, BB1 2LD

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APPROVAL

The signatures below certify that this CDM Construction Phase Plan has been reviewed and accepted, and demonstrates that the signatories are aware of all the requirements contained herein and are committed to ensuring their provision.

	Name	Signature	Position	Date
Prepared By	Jordan Frith		Project Manager	15.02.2021
Reviewed By	Gary McKiernan		Head of Construction	15.02.2021
Approved By				

AMENDMENT RECORD

This document is reviewed to ensure its continuing relevance to the systems and process that it describes. A record of contextual additions or omissions is given below:

Revision	Date	Comments / Amendments
C.01	10/02/2021	Whole document review
C.02	10/07/2021	Whole document review
C.03	11/08/2021	Whole document review (John Farren added to Section 4.2 & 4.3)
C.04	01/09/2021	Whole Document review
C.05	08/11/2021	Whole Document review and update following city council comments
C.06	07/01/2022	Whole document review and further update following City Council comments regarding noise.
C.07	14/02/2022	Whole document review and further update following Trust comments 19th Jan 22
C.08	31/03/2022	Whole Document Review
C.09	15/05/2022	Whole Document Review
C.10	15/07/2022	Whole Document Review
C11	24/08/2022	Inclusion of maximum noise levels

DISTRIBUTION RECORD

Copy	Issue To / Holder's Name	Organisation	Position
C.04	Jack Muddiman 1/09/21. (Trust review and comments received 06/09/21)	Trust	Health & Safety Manager
C.05	David Lawless 10/11/2021 10:18 (MCC review and	MCC	Planning Officer

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	comments received 30/11/2022)		
C.06	David Lawless 12/01/2022 15:53	MCC	Planning Officer
C.06	Jack Muddiman 13/01/2022 (Trust review and comments received 19/01/22)	Trust	Health & Safety Manager
C.07	Jack Muddiman 14/02/22	Trust	Health & Safety Manager
C.08	Jack Muddiman 01/04/22	Trust	Health & Safety Manager
C.09	Jack Muddiman 15/05/22	Trust	Health & Safety Manager
C.10	Bernard Flanagan 15/07/22	Trust	Estates Manager
C.11	David Lawless 24/08/22	MCC	Planning Officer

COMPANY PROPRIETARY INFORMATION

The electronic version of this document is the latest revision. It is the responsibility of the individual to ensure that any paper material is the current revision. The printed version of this CDM Construction Phase Plan is uncontrolled, except when provided with a document reference number and revision.

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1. Introduction

As required by the Construction (Design & Management) Regulations 2015, Vital Energi CDM Construction Phase Plans are established for each project to identify significant hazards and the specific organisation/arrangements to be implemented to eliminate or reduce risks to protect the environment and protect people in accordance with current legal requirements, Company procedures and management systems.

As the Principal Contractor, we will:

- Address the health and safety issues likely to be involved in the management of the construction phase.
- Plan, manage and monitor the construction phase, providing adequate resources and competent site management that is appropriate for the risks envisaged during the project.
- Provide contractors with the necessary information about the project that they need in order for them to carry out their work safely and without risk to health.
- Facilitate co-ordination, cooperation and communication between contractors on the site
- Provide information on any temporary works.

2. Revision and Update

The CDM Construction Phase Plan is a working document and shall be used as a reference when planning and executing work and to control of Safety, Health, Environment and Quality (SHEQ) issues during the lifecycle of the project. It is the responsibility of the Project Team in conjunction with the Regional SHEQ Manager to develop and produce this plan using all relevant site-specific information pertaining to significant hazards taken from the Contract Specification, Customer Requirements and Pre-construction information.

This plan is subject to ongoing review and revision as part of a continual improvement process that is an inherent part of all effective SHEQ management systems. The management measures detailed in this document will be monitored on an ongoing basis via field observations and first party audits to assess their effectiveness and application.

Project Team, other Vital Energi personnel, Client and regulatory representatives are encouraged to provide feedback and input to the document so that procedures can be updated and improved, as necessary, to achieve the best quality outcome.

Note 1: CDM Construction Phase Plan developed in conjunction with the Project Quality Plan, Project Environmental Plan and the Commissioning Plan.

*Note 2: Vital Energi Utilities Limited and Client referred to as '**Vital Energi**' and '**The Christie**' respectively within this document.*

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3. Project Details

3.1 Location

The Christie Hospital
Wilmslow Rd,
Manchester
M20 4BX

3.2 Scope of Works

The main works are set out below:

1. **Decommissioning, removal and disposal of the following:**

1.1. the Existing 1.4MWe CHP generator set and its enclosure, silencers, inlet and outlet ventilation attenuation, 2 off lubrication oil tanks, heat rejection radiator, LTHW heat recover and control system in accordance with the Programme;

1.2. the 2 off existing fuel oil tanks serving the existing Energy Facilities Building;

1.3. 1 off duplex softener, 2 off gas oil pumps and 3 off forced ventilation fans and ductwork;

1.4. 45m of existing steam mains located within room 50/-1/1, and 75m of condensate mains located within rooms 26/-1/2 and 50/-1/1from the tunnels service duct;

1.5. all redundant equipment within plantroom 32;

1.6. Asbestos from the Authority Estate as in accordance with the recommendations of the Acorn Refurbishment Survey dated 20/05/2019 and with reference to drawing PQ/649/LAY/001 rev 02 “Asbestos Survey Information” in relation to service ducts:

2. **Civil works**

2.1. Energy Facilities Building internal office improvements including decoration and ventilation improvements;

2.2. Pressure washing and removal of waste from the CHP lube oil tank areas of the Energy Facilities Building;

2.3. 1 off 2m x 2m opening within what will be the redundant bund area

2.4. 1 off low level 2m x 4m opening in the Energy Facilites Building wall at the rear of the steam header;

2.5. 2 off louvre panels to be installed within the Energy Facilities Building;

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2.6. To improve access to the water treatment room 33/0/25;

2.6.1. 1 off single door opening between room 33/0/25 and the existing fuel oil tank bund area including lockable access door;

2.6.2. 1 off access stairs from area 33/0/26 (Existing CHP lube oil tank area) to the existing bund area;

2.7. Removal of the existing forced ventilation system and the sealing of the associated roof openings;

2.8. To facilitate the removal of redundant equipment and the installation of the New Equipment forming part of the Works;

2.8.1. Removing of the roof level ventilation plenum and sections of the roofs support steel including the provision of temporary weather proofing;

2.8.2. Modifications to the roof level ventilation plenum to increase its height by 1.5m to avoid recirculation of hot air leaving the Energy Facilities Building into the New CHP Engine's enclosure;

2.8.3. Reinstatement of the roof and roof level ventilation plenum;

2.9. 1 off electrically operated access lift to improve access to the boiler floor from corridor 3/0/34 during the installation and operation phases;

2.10. All necessary civil bases, penetrations, fire stopping and weather proofing to accommodate the New Equipment;

2.11. Painting of the Energy Facilities Building floor.

2.12. Creation of a support structure located on the Energy Facilities Building roof to accommodate the 2.7MWe New CHP Engine heat rejection radiator;

2.13. Removal of the existing waste compound at the rear of the Energy Facilities Building and the making good of the ground below; (for the avoidance of doubt the Company will not be responsible for removing any pre or existing Contamination in this existing waste compound area);

2.14. Removal of the Existing CHP Engine's lube oil tank compound brick wall;

2.15. 1 off civil base for 2.7MWe New CHP Engine;

2.16. Reinforcement of the existing fuel oil bund wall as necessary to support the weight and dynamic forces generated by the 2.7MWe New CHP Engine;

2.17. 1 off gate to provide secure access to the fuel oil tank area from the courtyard at the rear of the Energy Facilities Building;

2.18. Sealing up of the double door from corridor 33/0/34 to the waste compound area;

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2.19. 1 off civil base for the chimney serving the 2.7MWe New CHP Engine;

2.20. Installation of bollard protection for the 2.7MWe New CHP Engine;

2.21. Modifications, reinforcement and making good as necessary the Energy Facilities Building floor following the removal of the Existing CHP Engine and to accommodate the new 4,000 kg/hr composite steam boiler;

2.22. Replacement of the existing gas kiosk and modifications to the base of the existing National Grid Natural Gas kiosk;

3. Energy Facilities Building works:

3.1. 1 off gas fired reciprocating New CHP Engine (acoustically treated) having a nominal output of 2.7MWe generating at 6.6kV, including the CHP System;

3.2. Conversion of the existing composite steam boiler to a conventional steam boiler;

3.3. 1 off composite steam boiler supplied by either Byworth or Cochran (exhaust gas and conventional fired (gas/gas oil) 1 off 33m high free-standing chimney complete with horizontal flue connecting to the new composite steam boiler; incorporating an access platform and stainless steel liner;

3.5. 1 off CHP exhaust gas heat exchanger to recover CHP exhaust heat in the form of primary LTHW;

3.6. Connection of the new composite steam boilers fired side exhaust to the existing composite steam boilers CHP heat recovery flue;

3.7. 1 off 1.8MW steam to primary LTHW plate heat exchanger;

3.8. Primary LTHW works comprising installation of new flow and return headers, 2 off primary LTHW pumps (duty/standby complete with VSDs), 1 off pressurisation unit, controls and interconnecting pipework between the new equipment located within the Energy Facilities building;

3.9. Steam improvement and modifications comprising;

3.9.1. 1 off steam header to be located in room 26/-1/5;

3.9.2. 1 off 150mm internal nominal bore steam main from the Energy Facilities Building to the new steam header located within room 26/-1/5;

3.9.3. 1 off 100mm internal nominal bore steam main from the new steam header located within room 26/-1/5 to the existing steam main within service duct 30/-1/3;

3.9.4. 1 off 150mm internal nominal bore steam main from the new steam header located within room 26/-1/5 to the existing steam main located within service duct 50/-1/2;

3.9.5. 1 off 150mm internal nominal bore steam main from the existing steam main located within service duct 50/-1/2 to the existing steam main located at the south east end of service duct 32/-1/3 and

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3.9.6. Modifications to the existing steam mains to allow all of the steam distribution system to operate at 7.0barg steam pressure;

3.10. Condensate and primary LTHW improvements comprising;

3.10.1. 1 off condensate receiver to be located adjacent to the north west end of the link corridor;

3.10.2. 1 off condensate main from the new condensate receiver to the existing condensate header which serves the existing condensate receiver CRU SS-500-CM102;

3.10.3. 1 off condensate main from the existing condensate receiver CRU SS-500-CM102 to the Energy Facilities Building;

3.10.4. replacement of the condensate mains section which serves Mould plantroom only and

3.10.5. the testing of the existing primary LTHW pipework wall thickness at location prone to erosion and the replacement of any section where erosion is unacceptable;

3.11. 2 off 5,000ltr hotwells (formed as one tank with an internal baffle plate), each complete with all necessary sparge vent and water connections;

3.12. Conversion of 1 off existing hotwell to a break water tank

3.13. 1 off duplex water softener, chemical water treatment tanks, complete with all interconnecting pipework.

3.14. Boiler feedwater system comprising of pump farm (3 off boiler feed water pumps fitted with VSDs) complete with all interconnecting pipework.

3.15. Replacement of the existing National Grid Natural Gas meter let-down station and kiosk that supplies the Energy Facilities Building with a single stream metered let-down station having a supply capacity of 16MW at a meter outlet pressure of 290mbar.

3.16. Modification to the existing gas distribution system within the energy building and connection to the new 2.7MWe chp engine and the new 4000 kg/hr composite boiler

3.17. 2 off bunded distillate class D oil storage tanks having a total capacity of 120,000 litres complete with all level detection, alarms remote fill point and all interconnecting pipework.

3.18. Blowdown system, complete with all interconnecting pipework and blowdown vessel

4. <u>Plantroom 32 Works</u>

4.1. Secondary flow and return headers;

4.2. 1 off pressurisation unit and expansion vessels;

4.3. Duty/ standby circulation pumps to each of the existing heating circuits;

4.4. 1 off 1.8MW primary LTHW to secondary LTHW plate heat exchanger;

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4.5. 2 off 3.0MW steam to secondary LTHW plate heat exchanger including connection to the steam, condensate and new secondary LTHW flow and return headers;

4.6. 1 off 400kW primary LTHW to DHW circuit pre-heat plate heat exchanger;

4.7. Connection of the New Equipment and Continuing Equipment to the existing mains water, steam, condensate, primary LTHW, secondary LTHW, heating and DHW services and

4.8. 1 off LV distribution board, including connection from the existing plantroom supply, to the New Equipment and Continuing Equipment;

5. Old Plantroom 26 Works

5.1. 1 off 750kW primary LTHW to heating circuit pre-heat plate heat exchanger;

5.2. Connection of the New Equipment to the existing primary LTHW and heating circuits and LV cabling connection from the existing plant control panel in 26/-1/5 to the New Equipment;

6. ECM Works

6.1. Lighting Upgrades comprising of;

6.1.1. Upgrade of 3,000 of internal light fittings as detailed in Appendix 1 to this Schedule 3. The replacement of "Like for Like" light fittings for any fittings included in Appendix 1 upgraded by the Authority prior the Works will be, with the agreement of the the Authority, excluded and omitted from the scope of Works and the Guaranteed Savings and costs will be adjusted accordingly. Refer to Appendix A – Luminaire Schedule

6.1.2. Measuring the existing lighting lux level at 100 representative points from different areas and using this information to populate the existing lighting lux level on to Appendix 1 to this Schedule 3 along with the required lighting lux level as detailed in the latest CIBSE Lighting Guide LG02 for Hospital & Healthcare premises.

6.1.3. If the existing lighting lux level does not match the lighting lux level as detailed in the latest CIBSE Lighting Guide LG02, then the Trust shall subject to the provisions of the Reviewable Design Data process select one of the following options:

- Replacement of the existing light fitting with a fitting which meets the existing lighting levels; or
- Replacement of the existing light fitting with a fitting which has an increased lighting lux level to suit the CIBSE Lighting Guide LG02, with the company notifying the Authority if such replacement would amount to a Variation, or;
- Replacement of the existing light fitting with a fitting which has a decreased lighting lux level to suit the CIBSE Lighting Guide LG02, with the company notifying the Authority if such replacement would require a Variation Enquiry to be submitted by the Authority

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6.1.4. Where an existing fitting, which is being replaced, includes emergency lighting functionality, the replacement fitting will include an integrated emergency unit of the same functionality as the luminaire it replaced;

6.1.5. Replacement fittings will have a design / maintenance criteria of L70/B10 at 60,000 hours where; L70 = light output of 70% of its initial level, and B10 = 10% of the LEDs have failed to meet operational expectations, and in accordance with CIBSE Lighting Guide LG02 shall have a colour rendering appropriate for the area in which they are to be installed;

6.1.6. Where the presence of asbestos prevents the replacement of a light fitting the existing fitting will be upgraded with new bespoke internal components and diffusers whilst leaving the existing fitting base intact and undisturbed;

6.2. Insulation Upgrades comprising of;

6.2.1. Upgrades to the thermal insulation of pipework, flanges, pipe fittings and valves across the Authority Estate in the areas detailed in Appendix 2 to this Schedule 3;

6.3. BEMS Upgrades & Optimisation comprising of;

6.3.1. Secondary heating distribution system improvements

6.3.2. BEMS optimisation Works

6.3.3. Replacement of 4 off air handling unit fans with EC fans

6.3.4. Replacement of 27 off chiller condenser fans with EC fans

6.3.5. Replacement of 17 of the steam traps within the confines of the existing steam distribution system;

6.4. Installation of 1 off 84kWp solar photovoltaic (PV) array and associated equipment to be located on the roof of block 32 connected to the SCADA system via the Authority's BEMS

6.5. Electrical works including:

6.5.1. 1 of synchronising breaker complete with generator protection, and G99 relays located within the same location as the Existing CHP synchronising breaker complete with HV cabling from the synchronising breaker and the New CHP Engine;

6.5.2. Installation of 1 off LV switchboard (1600A rated form 4b type 6) which shall;

6.5.3. Supply the existing Energy Facilities LV switchboard located within the Energy Facilities Building;]

6.5.4. Supply the New CHP Engine ancillary equipment;

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6.5.5. 1 of SCADA system for the monitoring, data collection and alarm handling in relation to the Energy Facilities;

6.5.6. Meters, of suitable fiscal quality and accuracy, and as a minimum to meet the standards of accuracy determined by the CHP QA, to include;

- 2 off gas meters (New CHP Engine and boiler/steam raising facilities); (pressure / temperature compensated);
- 1 off gas oil meter (boiler/steam raising facilities);
- 1 off LTHW primary meter, located at the Energy Facilities Building;
- 1 off LTHW meter, for the New CHP Engine heat generated;
- 1 off LTHW meter, for the New CHP Engine's exhaust heat generated;
- off steam meters (existing boilers and hotwell); (pressure / temperature compensated);
- 1 off steam meter (new composite boilers); (pressure / temperature compensated);
- 3 off feedwater meters (existing boilers);
- 1 off feedwater meter (new composite boiler);
- 3-off cold-water meters (Energy Facilities Building supply, hotwell make-up and primary LTHW pressurisation unit make-up);
- 1 off CHP Generated Electricity meter;
- 1 of New CHP Engine parasitic electricity meter;
- 2 off HV export meters;

6.5.7. Data cabling and containment serving the Energy Facilities Building to the SCADA system;

6.5.8. Data cabling and containment from the existing import electricity and new export electricity meters to the SCADA system;

6.5.9. Equipment to enable the export to the Electricity Local Distribution Network of CHP Generated Electricity;

6.5.10. All structural supports, cable supports, civils and building works associated with the Works;

6.5.11. Installation of a fire detection system to the New CHP Engine and Energy Facilities Building and make signals from this system available for integration into the Authority Estate fire protection system;

6.5.12. Installation of a gas leak detection system within the New CHP Engine and the Energy Facilities Building;

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PSDS Works

Water & air source heat pumps

Design complete. Civil works started on roof space 6th December in readiness for steelwork installation. Steelwork delivery date to be confirmed

Heat pumps in storage in readiness for delivery. Delivery date 22nd & 23rd Jan 22. Planning approval for the air source heat pump was received on 22 October 2022. Crane lift required.

Battery storage

Battery layout and building design 100% complete. Proposed location had been previously confirmed by the Trust and the installation is considered as Permitted Development.

Solar Panels

Solar Panels design nearing completion. Delivery date Feb 22. Crane lift required. G99 submitted and approved.

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3.3 Planning Conditions

Below is a list of the current planning conditions appended to the latest decision:

1) The development must be begun not later than the expiration of three years beginning with the date of this permission.

Reason - Required to be imposed pursuant to Section 91 of the Town and Country Planning Act 1990.

2) The development hereby approved shall be carried out in accordance with the following drawings and documents:

a) Drawing nos. PQ/649/PLA/001 to 006, stamped as received on 9 November 2020.

b) Drawing nos. PQ/649/PLA/007 rev2 to 009 rev 2, stamped as received on 8 December 2020.

c) LCP Acoustic Consultancy Report (ref. 98141/3/1/5), stamped as received on 9 November 2020

d) Air Quality Impact Assessment (Ricardo Energy & Environment), stamped as received on 9 November 2020

Reason - To ensure that the development is carried out in accordance with the approved plans. Pursuant to policies SP1 and DM1 of the Core Strategy.

3) Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with the recommendations of the LCP Acoustic Consultancy Report (ref. 98141/3/1/5), stamped as received on 9 November 2020.

Upon completion of the development a verification report will be required to validate that the work undertaken throughout the development conforms to the recommendations and requirements of the approved acoustic report. The report shall also undertake post completion testing to confirm that the criteria has been met. Any instances of nonconformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the agreed noise criteria.

Reason - To minimise the impact of the development and to prevent a general increase in pre-existing background noise levels around the site, pursuant to Policy DM1 in the Core Strategy and saved UDP policy DC26

4) The development shall be implemented in accordance with the mitigation measures detailed in the Air Quality Impact Assessment (Ricardo Energy & Environment), stamped as received on 9 November 2020 and they shall remain in situ whilst the development is in operation.

Reason: To secure a reduction in air pollution in order to protect existing and future residents from air pollution, pursuant to policies EN16, SP1 and DM1 of the Core Strategy.

5) Prior to the commencement of the development hereby approved or any phase thereof a Construction Management Plan must be submitted to and be approved by the City Council as local planning authority and thereafter implemented in accordance with those approved details. The Construction Management Plan must show how the main construction effects of the development are to be minimised, with include detailed mitigation measure such as:

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- details of construction and demolition waste management; *Refer to Section 5 & 6*
- details of pollution prevention; *Refer to Section 5*
- dust control measures; *Refer to Section 5*
- details of any lighting scheme proposed during construction; *Refer to Section 3 & Appendix A*
- details of site access, working and safety zones, together with temporary fencing proposals for the site access and site perimeter. *Refer to Section 4.7*

Reason - To safeguard the amenities of the occupiers of nearby residential accommodation, pursuant to policies SP1 and DM1 in the Core Strategy Development Plan Document.

3.4 List of Parties Involved in the Project

Duty holder:	Company Name & Address:	Contact	Telephone
Client The Christie NHS Foundation Trust	Wilmslow Rd, Manchester M20 4BX	Jack Muddiman jack.muddiman@nhs.net Bernard Flanagan bernard.flanagan@nhs.net	M: 07342058130 M: 07767671784
Principal Designer Vital Energi Utilities Ltd.	Century House, Roman Road, Blackburn, BB1 2LD	Grant Moffitt Grant.Moffitt@vitalenergi.co.uk	M: 07818596820
Principal Contractor Vital Energi Utilities Ltd.	Century House, Roman Road, Blackburn, BB1 2LD	Jordan Frith jordan.frith@vitalenergi.co.uk Gary McKiernan Gary.mckiernan@vitalenergi.co.uk Emergency Contact Ben Gibson Ben.Gibson@vitalenergi.co.uk	T: 01254 296 000 M: 07557230667 M: 07818596805 M: 07393012604
Designer #1 Mechanical works Vital Energi Utilities Ltd.	Century House, Roman Road, Blackburn, BB1 2LD	Robert Hilliard robert.hilliard@vitalenergi.co.uk	T: 01254 296 000 M: 07880 388 675
Designer #2 Mechanical works Process Installations & Maintenance	Water Works lane, Glinton, Peterborough, Cambs, PE6 7LP	Wil Vandersterren wil.vandersterren@processinstallations.net	T: 01406 430 030

Services (PIMS)			
Designer #3 Electrical works Vital Energi Utilities Ltd.	Century House, Roman Road, Blackburn, BB1 2LD	Wam Akolwa wam.akolwa@vitalenergi.co.uk	T: 01254 296 000 M: 07867 454 711
Designer #4 Power system works Vital Energi Utilities Ltd.	Century House, Roman Road, Blackburn, BB1 2LD	Ron Behan ron.behan@vitalenergi.co.uk	T: 01254 296 000 M: 07717 795 800
Designer #5 Electrical works Vital Energi Utilities Ltd.	Century House, Roman Road, Blackburn, BB1 2LD	Stuart Hiley stuart.hiley@vitalenergi.co.uk	T: 01254 296 026 M: 07811343211
Contractor #1 Process Installations & Maintenance Services (PIMS)	Water Works lane, Glinton, Peterborough, Cambs, PE6 7LP	Tim Woodward tim.woodward@processinstallations.net	T: 01406 430 030 M: 07384 893074

3.5 Programme

Project Award Date	05/02/2021
Construction Programme	
Completion Date	26/08/2022

3.6 Project Aims

Our objectives for this project are to carry out our work safely with no detriment to the health of our employees, sub-contractors and third parties, to take due care of the environment and produce a quality product, sustainably, efficiently and economically, to deliver our Customer's requirements.

Vital Energi specific SHEQ goals for this project are to:

- Achieve zero injuries;

- Ensure safe access ad egress to and from site;
- Ensure all significant risks are identified and controlled;
- Provide a safe working environment;
- Provide competent personnel;
- Ensure communication is maintained between all parties;
- Learn from incidents;
- Ensure legal compliance;
- Consult with our workforce on health & safety matters.
- Prevent environmental incidents and damage;
- Eliminate or minimise waste streams;
- Maintain Quality Assurance at all times; and
- Protecting your workforce during covid-19.

4. Management and Arrangements of the Work

This Plan has been developed in reference to pre-construction information provided by The Christie NHS Trust and Principal Designer.

For clarity this plan does not seek to reproduce information already produced forming the pre-construction information. This plan may be viewed as a development of the pre-construction information and indicates the procedures by which identified hazards are to be safely managed and controlled as part of our arrangements for monitoring and review of health and safety performance.

These can be outlined as follows:

- Regular liaison between parties on site;
- Consultation with the workforce;
- Exchange of design information between the Client, Principal Designer, Designer and Principal Contractor and contractors on site;
- Handling design changes during the project;
- Selection and control of contractors;
- Exchange of health and safety information between contractors;
- Site security;
- Site induction;
- Identify needs and arrangements for competent training;
- Welfare facilities and first aid;
- Reporting and investigation of accidents and incidents, including near misses;
- Production and approval of risk assessments and written systems of work;
- Site rules including Client requirements, and
- Fire and emergency procedures.

A summary of the established management procedures, which will be used to safely deliver the project and associated work in accordance with The Construction (Design and Management) Regulations 2015 Part 3, Regulation 13 are contained within Vital Energi's Integrated Management Systems (IMS).

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A synopsis of the key elements within the management systems are provided in the forthcoming sections of this plan and are available to interested parties for deeper inspection upon request as part of our appointment process for contractors.

4.1 Responsibilities & Reporting

Vital Energi personnel with responsibilities for Health and Safety on this project are:

	Person(s) Responsible	Contact No:
Head of Construction	Gary McKiernan	07517627198
Project Manager	Ben Gibson	07393012604
Project Manager	Jordan Frith	07557230667
Project Manager	John Farren	07469088700
Vital Energi First Aider	Ben Gibson	07393012604
Vital Energi Fire Warden	Ben Gibson	07393012604
Regional SHEQ Manager	Grant Moffitt	07818 596 820

Project Manager

Vital Energi's Project Manager has overall responsibility for SHEQ on this project, as such, they must be made aware of all issues relating to SHEQ in order they can allocate the correct resource to deal with the situation. Ensuring supervisors have the correct information to carry out their tasks with their teams. The Project Manager holds Asbestos Awareness CAT A training.

Each Line Manager is responsible for ensuring that relevant health and safety information is passed onto their subordinates.

Records of toolbox talks, safety instructions/warnings and corrective actions etc, must be recorded in site diary and within Vital Energi health and safety management system.

Project Supervision

Vital Energi's Supervisors and those from within our supply-chain are responsible for ensuring effective implementation of this plan in all areas under their direct control. Levels of supervision shall be appropriate to the hazards and risk faced by employees on site. A supervisor must be present at all times whilst working on The Christie Hospital owned or maintained properties. Supervisor shall manage the Contractor's activities and must be aware of all company policies and procedures in respect of safe working and, in particular, be aware of the requirements of The Christie Hospital.

Supervision are responsible for ensuring that a Risk Assessment has been carried out for all work and the Risk Assessments and relevant Method Statements are reviewed by all those involved in the task **PRIOR** to commencement of work.

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All supervisors will be responsible for starting accident investigations with in the work areas under their control, completing incident forms with the aid of the Regional SHEQ Manager. As a minimum, all Supervisors will be required to carry out a weekly SHEQ Inspection.

Those with Supervisory responsibilities on site are additionally required to hold appropriate certification to prove they have received training from a recognised organisation to perform supervisory duties i.e. SSTS or MSTS Certificates, CCNSG Safety Passport (Supervisor level), CSCS Supervisory gold card, CISRS Supervisor or IOSH Managing Safely.

Regional SHEQ Manager

Vital Energi's Regional SHEQ Manager will complete a minimum monthly programme of visits during which they will have the following responsibilities:

- Perform the duties of Health and Safety and environmental advisor in accordance with the relevant statute.
- Foster, with Vital Energi, the understanding that safety and accident prevention are an integral part of business and operational efficiency.
- Assist with safety training for all levels of employee and promote awareness of safety and accident prevention.
- Keep up to date with recommended codes of practice, safety literature and changes in legislation.
- Maintain contact with official and professional bodies, e.g. Health and Safety Executive, Environmental Health Officer, Fire Authorities, Institute of Occupational Safety and Health and other safety organisations.
- Set an example through high personal standards in the application of health and safety.
- Advise all levels of management on:
    - Preventing injury to personnel and damage to plant and equipment
    - Further existing safe working methods
    - Legal requirements affecting safety, health, welfare and the environment.
    - Provision and use of protective clothing and equipment.
    - Potential hazards arising from new contracts before work starts on site including safety organisation arrangements and fire precautions
    - Changes in legislation.
- Assist in providing input into the CDM Construction Phase Plan.
- Liaise with internal and external Principle Designers to ensure compliance with Construction (Design and Management) Regulations 2015.
- Carry out site inspections, in association with project management, to ensure only safe methods of working are in operation and that company and statutory requirements are being observed.
- Investigate and determine the cause of accidents or dangerous occurrences, report accordingly and make recommendations to prevent recurrence.
- Advise on action to be taken on the issue of a statutory notice.
- Ensure that all employees have the relevant health and safety training and qualifications.
- Ensure that all employees are made aware of any project specific health and safety requirements.
- Attend health and safety meetings as necessary.

The above list is not exhaustive and other duties may be required.

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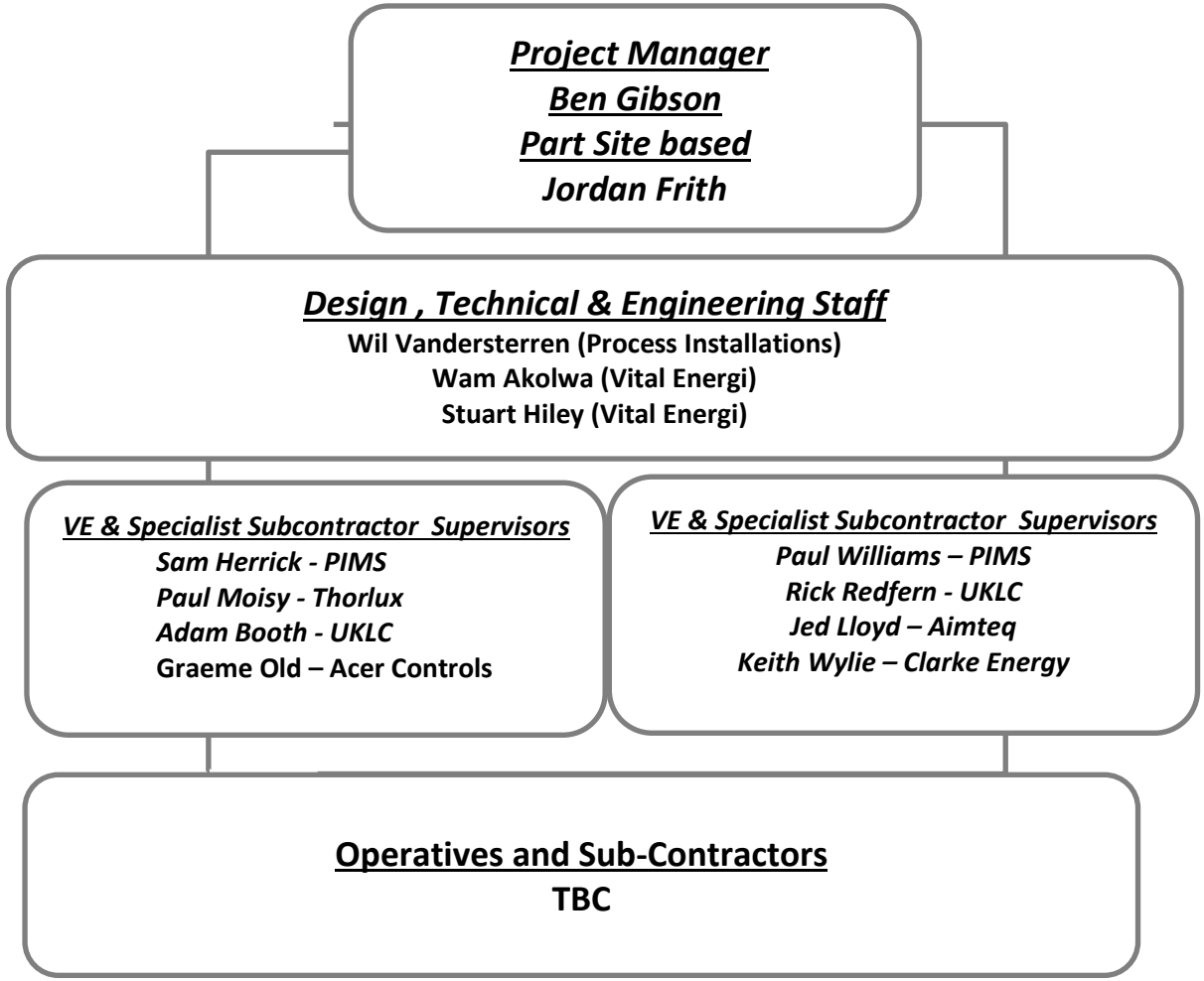
The Individual

Every person on the project is required to co-operate and work safely and efficiently at all times. Operatives are required to report unsafe acts or conditions by using the hazard observation reporting process via the ***"SHE Assure online reporting platform"***; The Christie Hospital near miss system, supervisor or speaking directly to their line manager / supervisor.

They are also required to adhere strictly to the safe systems of work dictated in risk assessments & method statements and in any supporting Permit to Work requirements (if one is in place) and use the Personal Protective Equipment provided by their employer. All operatives are required to sign onto the job specific risk assessment and method statement for the task to be performed (where required) prior to the commencement of any task. The individual will sign-in/out of site daily and will adhere to the site-specific rules whilst at work

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4.2 Project Management Structure Chart



Support Services

- Grant Moffitt – Regional SHEQ Manager
- HR Manager – Ella Stokes
- QS / Financial Team – Alex Durkin/Jay Houghton/Daniel Valentine
- Head of Construction – Gary McKiernan
- Phil Mottershead - Vital Energi Senior Management Sponsor

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4.3 Communication and Consultation with the Workforce

The Project Management Team will implement a number of effective methods of workplace communication and consultation channels including:

- Site Induction – including bespoke site SHEQ measures and site rules;
- Tool-box talks – as a minimum pre-works for the first time and then weekly;
- Daily Activity Briefings;
- SHEQ Bulletins;
- SHEQ Noticeboards – The site will be equipped with a 'SHEQ Culture Board' The board displays, among other things: H&S Policy, HSE Law poster, SHEQ site rules, additional site specific rules, Vital Energi insurance certificates, fire safety - escape and evacuation procedures, nominated first aiders and fire wardens, Vital Energi open door safety policy details, site safety meeting details and also HSE CDM notification forms if required;
- SHE Assure near miss and incident reporting system;
- Open Door Policy – encourage to bring forward suggestions, comments and improvements ideas on any SHEQ matters as employees see fit;
- Risk assessment and method statement briefings;
- Communication of CDM Construction Phase Plan;
- Health, Safety and Environmental committees – as a minimum monthly and;
- Subcontractor health and safety performance meetings – as minimum weekly.
- Monthly progress meetings between The Christie Hospital and Vital Energi

In addition, the site will engage all personnel to take corrective actions when observing unsafe acts and conditions by means of immediate intervention and reporting.

4.4 Designers Appointed to Work on Behalf of Vital Energi

In accordance with Vital Energi procedure *CDM 2015* (VE-SOP-0601), Vital Energi recognises Designers are required to provide evidence of competence. To ensure demonstrable compliance with the requirements of the Construction (Design and Management) Regulations 2015. The Design Manager for the project is responsible for ensuring all designers (Vital Energi Included) are vetted and approved.

As part of the design, process for construction projects there is often a requirement to make minor changes; the Management of Change explains the process and procedures we will adopt when something different is required. This can be as simple as changing personnel or their role, or as wide-ranging as changing a piece of equipment. It allows a structured approach ensuring management are aware of the changes and consistency is achieve in terms of recognising and assessing the risks to health and safety in respect buildability, operability, maintainability and end of life disposal within Vital Energi's Tollgate system.

4.5 Selection and Control of Contractors

Vital Energi recognise their duties and obligations under the Construction (Design and Management) Regulations 2015 that we have a duty to ensure that a contractor is competent to perform the task safely and without unacceptable risk to other employees, members of the public and any others on the site.

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In line with Vital Energi procedure *Control of Purchasing & Procurement* (VE-SOP-0012), subcontractors are assessed and vetted through a pre-qualification assessment process, which is controlled and managed by an independent and industry recognised Accreditation Company SafeContractor.

The pre-qualification process for example will ask each subcontractor to submit copies of their current health & safety policies, employers liability insurances, details of qualifications and experience relevant to the task which they are to perform, suitable and sufficient risk assessments including appropriate control measures, safe system of work detailed by method statements for evaluation prior to commencement of work.

Subcontractors will be monitored throughout the contract on their compliance with SafeContractor, the conditions specified in the ***"SHEQ Conditions for Contractors and Sub-Contractors"*** booklet and the Project Rules, including the requirement for Risk Assessment and attendance at any training or instruction provided by Vital Energi.

During and at the completion of the contract, Project Leads in conjunction with the Commercial and Procurement department will appraise the subcontractor's performance and record within the SafeContractor System. Any subcontractor who has not met an acceptable SHEQ standard will be removed from the Approved List.

Any subcontractor to Vital Energi intending to sub-subcontract works or part thereof need to inform Vital Energi before doing so and obtain Vital Energi permission. In such cases, the subcontractor must advise Vital Energi of their Pre-qualification processes or ensure the sub-subcontract or completes the SafeContractor registration and accreditation process.

Subcontractors and relevant third parties on site will attend regular performance meetings to review current activities, all site accidents and incidents, disciplinary action, visits by external professional bodies such as the HSE, and finally staff resources. Ensuring that roles and responsibilities are constantly updated to accommodate holidays and changes of personnel, thus ensuring full consultation, co-operation, co-ordination and participation by all parties.

The meetings are also a forum for feedback to Vital Energi Project Manager of current affairs and suggestions for improvement to safe systems of work.

The following subcontractors will be used on this project by Vital Energi:

Sub-contractor	Trade & contact details	Vital Energi point of contact	Date
Process Installations & Maintenance Services Ltd (PIMS)	**Mechanical & Civils/Structural Works** Water Works lane, Glinton, Peterborough, Cambs, PE6 7LP. T: 01406 430030	Tim Woodward / Sam Herrick	22.02.2021
Clarke Energy	CHP supplier Senator Point, Knowsley Business Park, S Boundary Rd, Liverpool L33 7RR	Keith Wylie	22.02.2021

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	T: 0151 546 4446		
Thorlux	**LED Lighting Supplier** Merse Road, North Moons Moat, Redditch, Worcs. B98 9HH.	Stuart Matthews	22.02.2021
Acer Controls	**SCADA Contractor** Althorpe Enterprise Hub, Althorpe Street, Leamington Spa, CV31 2GB	Graeme Olde	22.02.2021
UKLC	Civils Contractor	Adam Booth	04.01.22

4.6 Competency and Training Needs

Vital Energi require contractors are required to ensure that their employees are competent to undertake the work required and have received the appropriate training. Where formal authorisation is required to perform a specific task mechanical or electrical works the Contractor must ensure that only employees with the correct certificates perform the work. Evidence of qualifications, training must be provided and confirmed at induction

Minimum Training Needs
All persons employed in roles covered by approved competency schemes will be trained to the appropriate standard and hold the current competency card i.e. CPCS, CISRS, CSCS, etc. All plant operators must be CPCS registered unless otherwise approved by the Regional SHEQ Manager. All personnel on site must be CSCS registered for the operations conducted.

All employees are trained to the following UK Contractors' Group's training standards:

- All directors are trained to the IOSH: Safety for Senior Executives standard;
- All managers/engineers are trained to the CITB Site Management Safety Training Scheme (SMSTS) standard;
- All supervisors are trained to the CITB Site Supervisor Safety Training Scheme (SSSTS) standard; and
- All site operatives are trained to CITB Health and Safety Awareness standard.
- All banksman to be trained to CPCS
- If using any lifting equipment or MEWPS a minimum of IPAF/PASMA will be required.

Project Teams, assisted, where appropriate, by Senior Management and SHEQ Management, will identify additional training needs of operatives, both collectively and individually.

Project Team and Senior Management will identify additional individual training needs of subcontractors through the subcontractor selection process and Pre-start Meetings.

Where shortfalls in personnel training have been identified, appropriate health and safety training, must be delivered in accordance with the *Control of Competence and Awareness procedure* (VE-SOP-0008).

Toolbox Talks

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Project Teams and contractor supervision will regularly deliver Toolbox Talks either using calendar year Toolbox Talk Manuals or suite of toolbox talks available through SharePoint. All supported by the use of manufacturer's health and safety instructions / operators' manuals as relevant.

4.7 Site Security

The site security measures allowed for this project are as follows:

Boundary Fencing/Hoarding	2.4m high hoarding to front and rear of site boundary
Access/Site Gates	Site compound will be located in the Manchester Bridge Club carpark across the road from site. Site entrance will be beside the boiler house.
Signing-In Procedures	All personnel and visitors to sign-in daily Due to Covid-19 All visitors/contractors will be asked to have their temperature taken and logged on arrival.
Lockable cabins	All temporary accommodation will be lockable

Boundary fencing and signs have been installed following site possession. Boundaries and signage will be checked regularly as part of the Project Team daily checks. Should it become apparent that any breaches of security have occurred; The Christie Hospital will be informed immediately.



Only essential for construction works will be permitted onto site which must be offloaded and returned to the car park. Vehicle access to the site will be strictly controlled and will be kept to a minimum.

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All employees will be reminded during site inductions and toolbox talks of the requirement to fully comply with all statutory speed limits and site rules. All vehicles attending site must be booked in as per The Christie Hospital security procedures.

Walking to the work faces is permitted but operatives must keep to designated walkways and not enter any non-project locations. Operatives and visitors will access the site via main entrance at P block.

All Contractors' employees shall be required to 'sign in/out' at the site cabin as above. They must also display their own company identification badge where provided or wear logo'd PPE. Special arrangements apply when working in designated high-risk areas.

On longer-term projects, the The Christie Hospital may issue a Long Term Photo ID badge. However, should there be any significant changes to an employee's appearance at any time during the life of the contract; a new Photo ID badge must be issued to avoid any ambiguity.

4.8 Site Induction

Prior to any person (direct employee or subcontractor) commencing work on site they will receive a project specific Induction. Designated individuals will conduct the induction at planned times in designated locations.

The induction will include:

- Project management leadership and responsibilities;
- Supervisory arrangements;
- Worker consultation and open door policy;
- Scope of work on site;
- Significant hazards and risks associated with project;
- Control measures for reducing significant risks;
- Mechanisms for communication of risk assessments and method statements;
- Site working hours;
- Health and welfare requirements – Need for medical screening/fit for work certificate;
- Site security and access requirement – inc. daily signing in and out of site etc.
- Welfare arrangements;
- Minimum training / competency requirements;
- Vital Energi SHEQ Conditions for Contractors and Subcontractors booklet/ The Christie Hospital Safety Requirements & Guidance Notes and any ancillary site rules;
- Emergency procedures – including fire and first aid;
- Incident and near miss reporting procedures;
- COSHH;
- Permit-to-work procedures ;
- Confined space requirements;
- Noise, dust, nuisance and disruption;
- Environmental controls inc. waste management;
- PPE standards on site;
- Traffic management plan;
- Electrical supply on site;

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- Manual handling procedures;
- Lone working policy;
- Work at height policy;
- Red card and yellow card policy and procedures;

Each person will confirm their attendance and understanding of the project induction by signing the Project Site Induction Record.

Our Project Team will make suitable arrangements to ensure that persons visiting the project on an infrequent basis receive a visitors' induction and are escorted/accompanied by a fully inducted member of the Project Team, or by relevant fully inducted subcontract personnel, (this will include delivery drivers for one off/infrequent visits). The main duties of the escort will be to ensure that non-inducted personnel are made aware off and follow the project-specific health and safety rules and emergency arrangements whilst visiting the project.

4.9 Site Welfare

Vital Energi and The Christie Hospital will ensure that appropriate welfare facilities are provided according to the size of the workforce and nature of the work. Accommodation will include First aid, Changing & Drying rooms, Canteen & Messing facilities, Toilet & Washing facilities to meet the requirements of the workforce. All facilities will be cleaned and maintained.

Any person found to be abusing such facilities may be dismissed from site and subject to disciplinary action. Any person found urinating on the site other than in the allocated facilities will be dismissed from site, and face disciplinary action.

4.10 Personal Protective Equipment

The use of Personal Protective equipment (PPE) is mandatory on site at all times. As a minimum, Vital Energi adopts a minimum Mandatory 5 Point Basic PPE Policy in respect to site requirements i.e.:

- S3 standard Safety Footwear – No Rigger Boots, exposed metal toe caps or sole plates
- Safety Helmet
- Mandatory Light Eye Protection (Safety glasses/prescription safety glasses)
- Class 2 high visibility vest/jacket/coveralls or trousers/tee-shirt/jacket – must be flame retardant when undertaking Hot Works
- Cut level 1-5 Traffic-Gloves
- Vital Energi/UoSA Hi-Viz vest comprising of ID Badge must be worn at all times onsite. ID Badge must be shown to any persons requesting.

Specialist PPE requirements such as Hearing Protection is required in designated areas (areas signposted as having noise levels of 80dB or more) and must be determined by risk assessment to ensure the provision made is appropriate to the task . Copies of risk assessment will be required to be shown on site.

Significant emergency situations may include fire, explosion, confined space incident, gas leak, fatality, major injury, first aid injury, fall from height, bomb threat, unexploded ordnance, flood, major fuel/

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chemical spill, disc, road traffic accident, injury to a member of the public or pandemic or similar events such as swine or avian flu.

The site emergency procedure has been developed by The Christie Hospital and will be communicated to all operatives during site inductions. The site emergency procedure will be controlled by Vital Energi and The Christie Hospital, who are responsible for the maintenance of the alarm system and conduction of regular practice drills.

4.11 Accident / Near Miss Reporting

The following incident reporting arrangements have been identified in The Christie Hospital Contractor Handbook Rules and Information (ref. Aug 2020):

The Christie Hospital's incident reporting arrangements:
All accidents, incidents, dangerous occurrences or near misses associated with work undertaken by contractors on behalf of the Trust must be reported as soon possible but within 24 hours, to the Trust's Manager, who shall record the incident on the Trust's Datix System.
Where a report has been made in accordance with the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 by a contractor, a copy of the report must be provided to the Trust's Project Manager and the Trust's Head of Health, Safety, Fire & Compliance, which will be shared with the Trust's Corporate Health and Safety Group.
The contractor shall report all environment incidents (e.g., spillages of chemicals or oils on to any ground surface or into any drain or water course, silt pollution of a water course, etc) to the Trust and, as necessary to the Environment Agencies Incident Hotline 0800 80 70 60.

All personal injuries, accidents, incidents, near-misses or anything which is likely to endanger life should be reported to Vital Energi via the ***"SHE Assure Online Reporting Platform"*** at www.sheassure.net/vital.

To ensure compliance the following rules will be applied:

- Injured persons, whether direct employees or contractors, are accordingly required to report all incidents including near misses, personal injuries, vehicle collisions or incidents that result in property damage. Alternatively, the first-aider to report accident to designated person giving all relevant details.
- The designated first aiders for the project must enter the details in the accident book taking care to ascertain exactly what occurred.
- Injuries, which require the first aider to refer the injured person to a hospital or to their doctor, should immediately notify the senior company representative on site and also notify to the Vital Energi Health and Safety by telephone.
- In such cases the senior company representative on site, accompanied by a representative of the employees, must investigate all the circumstances of how the injury was sustained and a company accident investigation report completed and sent to Vital Energi's H&S department.
- The senior company representative with the objective of identifying measures to avoid a repetition will examine the findings of the investigation.
- The senior representative with staff on site will introduce these control measures after consultation.

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- Injuries or incidents at work leading to ill health which result in an absence from work of more than 7 days along with other injury/incident/illness reportable under the Reporting of Injuries, Diseases and Dangerous Occurrence Regulations 2013 (as amended) must be notified to the Health and Safety Executive using form F2508 or form F2508A (obtainable online on the HSE website - http://www.hse.gov.uk/riddor/index.htm).
- This report will be reported by Vital Energi's Regional SHEQ Manager and SHEQ Director.
- Following injuries of a significant nature the accident location should be barriered off and statements taken from all witnesses pending a full investigation into the circumstances of the incident, which led to the injuries. This investigation will be conducted by an investigation team lead by Vital Energi's Regional SHEQ Manager. Any plant or equipment involved in the incident should not be touched nor moved until the investigation has been concluded.

All persons on site will be informed of the processes for accident, incident and near miss reporting through attendance at Site Induction, Pre-Start Meetings and by issue of Vital Energi ***"SHEQ Conditions for Contractors and Sub-Contractors"*** booklet.

4.12 First Aid

The Health and Safety (First-Aid) Regulations 1981 require employers to provide adequate and appropriate equipment, facilities and personnel to ensure their employees receive immediate attention if they are injured or taken ill at work. The number of first aid personnel on site will be decide through a risk assessment based on tasks being undertake.

As a minimum at least one first aider will be present on site whenever works are in progress and a first aid kit will be provided in the Vital Energi site accommodation. Contractors are reminded of the need to provide first aid cover where activities require same.

Vital Energi have appointed the following designated site first aiders for the construction works.

Name	Title	Contact No:
Ben Gibson	PM	07393 012604

As such they are responsible persons to receive personal injury and other incident reports including and complete the necessary entries in the Accident book / Vital Energi "***SHE Assure Online Reporting Platform"***.

Details of first aid treatment and copies of intercompany accidents reports and/ or RIDDOR reports must be notified and provided to Vital Energi and The Christie Hospital. All Accidents, incidents and near misses must be investigated.

4.13 Risk Assessments and Method Statements (RAMS)

All works posing a significant risk will require a RAMS. As a minimum, the project team will implement the requirements of significant Risk Management.

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All RAMS will be communicated through a briefing, and, the project team will ensure that all persons working under a RAMS give signatures of acknowledgement using the *RAMS Operative Acceptance form*. (VE-FRM-0627a)

Project team will ensure that subcontractor RAMS are evaluated using *RAMS Evaluation form* (VE-FRM-0627). All subcontractors will be requested to give additional information to ensure RAMS is suitable and sufficient.

All copies of RAMS will be issued to Vital Energi project team for evaluation and acceptance and copies sent to The Christie Hospital where required.

N.B. No works may begin on site until Vital Energi have reviewed and agreed contractors risk assessments.

4.14 Site Rules

For all works under Vital Energi control will be subject to additional rules as identified within Vital Energi's health, safety and environmental management systems; specifically the Vital Energi ***"SHEQ Conditions for Contractors and Sub-Contractors"*** booklet.

In addition, the "***The Christie Hospital Contractor Handbook, rules and Information***" must be agreed and signed by each Sub-Contractor company prior to works commencing. Copies of both sets of rules will be kept in the Vital Energi site office located in P Block offices.

Contractor's attention is drawn to the following site safety rules, which have been specifically identified to **Vital Energi:**

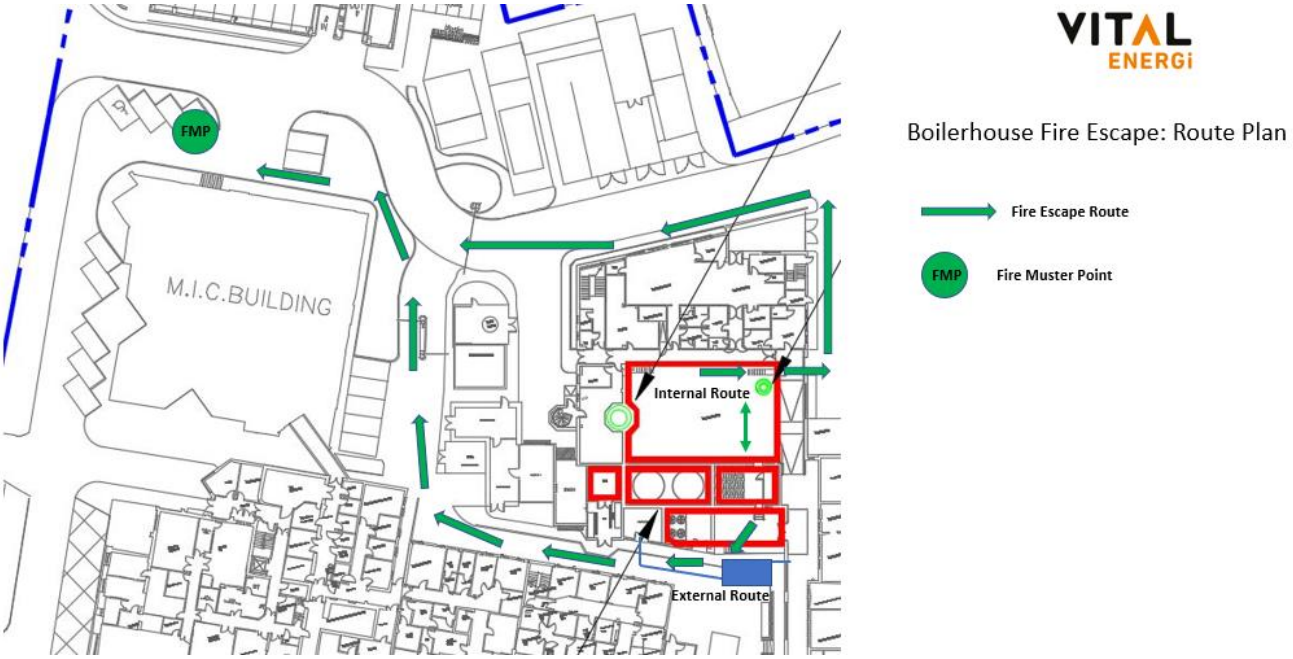
- All visitors and operatives working on the project must attend a site induction at the Vital Energi Site Offices where they will be required to present a valid CSCS card that supports their role on the project.
- All visitors and operatives must sign in and out each day at the Site Offices.
- No works on site must commence unless the RAMS have been approved by Vital Energi and this safe system of works has been briefed to the site teams and briefing sheets have been returned. No deviation to the RAMS are permitted unless approved by Vital Energi.
- Suitable PPE must be worn at all times. Minimum requirements are hardhat, high-vis and steel toecap laced boots, gloves and glasses.
- Operatives and site visitors will not involve themselves in unnecessary or inappropriate dialogue with members of the public.
- Foul language will not be tolerated. Any complaints contact Vital Energi Project Manager.
- Vital Energi enforces a strict zero-tolerance approach to the use of alcohol and drugs. Random testing will be performed.
- Under no circumstances are persons working on site to put themselves or others in danger
- Observe pedestrian access routes and vehicle route restrictions.
- Good housekeeping to prevent slips, trips and falls and remove material that can fuel fires
- Do not leave any tools or materials out/unsecured over night
- Observe and respect site safety signage
- No smoking is permitted on site.
- No headphones are to be used on site to enable alarms to be heard.

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- No lone working is permitted
- Fixed and tied ladders to be used to access specific work areas where there is a substantial change in level
- The use of mobile phones on site is discouraged for personal use and contractor's supervisors are expected to ensure compliance by their workforce whilst on site. Failure to comply may result in the person being asked to leave site.

4.15 Fire and Emergency

For all offices / welfare / storage units under Vital Energi's control will require a Fire Risk Assessment to be conducted. The project team will use Fire Risk Assessment [VE-FRM-0624].



The following Vital Energi specific fire arrangement will be implemented:

Flammable liquids
Flammable liquids can give off large volumes of flammable vapours at room temperature. These vapours, when mixed with air can ignite, often violently. Spilled flammable liquids can, if not contained, flow a long way to an ignition source, and then flash back to the source of the leak. Spills on clothing can represent a serious risk of injury if ignited.

To help control these risks contractors must:

- store flammable liquids in a separate storage area, or in a purpose-made bin or cupboard
- dispense and use them in a safe place where there is good ventilation and no source of ignition
- keep containers closed when not in use. If possible, use safety containers which have self-closing lids
- dispense liquids over a tray and keep some non-flammable absorbent material handy to mop up spills

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- dispose of contaminated materials safely or call in disposal experts.

Flammable dusts
Finely divided flammable dusts dispersed in the workplace atmosphere can, if ignited, explode violently and cause a lot of damage.

To help control these risks contractors must:

- keep plant dust-tight;
- keep the working area dust-free by regular cleaning, and vacuuming spillages as they occur
- some dust handling plant has special safety features built in. The purpose of these needs to be properly understood and they should be maintained in good working order.

Flammable solids
Some types of plastic foam, packaging materials, polyester wadding and textiles will ignite easily and burn fiercely, giving off a lot of dense black smoke.

To help control these risks contractors must:

- not store these materials close to heaters or electrical equipment which could run hot and act as a local ignition source;
- make sure that gangways and exits from storage and working areas are kept clear of packaging materials, finished products containing flammable solids etc. In the event of fire, gangways and exits could become obscured by smoke, so the easier they are to find, the better.

Flammable gases
Gases in cylinders are often stored at very high pressures, and so their uncontrolled release can be physically dangerous. A small amount of released gas can fill a large area with a potentially explosive mixture. This is particularly true of liquefied gases, such as LPG.
The following points need to be considered:

- stored cylinders need to be suitably restrained and their valves protected from impact damage
- Gas cylinders may need special valves, fittings and hoses. Always check the manufacturers' or suppliers' instructions and fit the correct equipment
- Protect hoses from potential causes of damage that could cut, scuff or weaken them. Examine them regularly and replace them if they show signs of damage or wear that could give rise to a leak.

Oxygen
Although oxygen is necessary for life and is an essential ingredient in controlled burning, such as in a gas fire or oxy-fuel gas welding and cutting, its misuse can lead to serious consequences. Materials that ordinarily will burn only slowly under normal circumstances, will burn very vigorously in an oxygen-enriched atmosphere. Others such as greases and oils may burst into flames in this kind of atmosphere.

As well as the precautions outlined above for flammable gases, the following points should be applied:

- never use oxygen instead of compressed air
- never use oxygen to sweeten the air in a working area or confined space

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- never use grease or oil on equipment containing oxygen.

Reactive chemicals
Some products contain chemicals, such as organic peroxides, which can explode if they are not stored and handled correctly. Other substances can react vigorously with incompatible materials or contaminants. For example, oxidising chemicals can cause flammable materials to ignite, and some substances, such as sodium, react violently with water and can ignite.

The following points need to be considered:

- Storage and process temperatures may need to be carefully controlled to prevent dangerous decomposition or reaction.
- Check labels and safety data sheets for physical properties and incompatibility with other materials.

Whenever working with flammable substances, there is the potential for something to go wrong. You need to think about possible problems and make sure everyone knows what to do in an emergency. Instructing staff in emergency procedures is an important part of their job training, and should be ongoing.

Hot Works

- Contractors undertaking Hot works are required to provide suitable fire extinguishers for the equipment and any Class A Fires
- Any Hot works required to take place on site, including welding, grinding or the use of Stihl Saws will require both a task specific risk assessment and the completion/ execution of a Hot works Permit.
- All Hot works must cease no later than 1 hour before site closure to allow for suitable checks to be carried to ensure there is no risk of fire after site has ceased work.
- As far as possible Vital will look to remove the need for hot works on site, cold

Contractors need to:

- make sure workers know enough to prevent the mixing of incompatible chemicals;
- operate procedures (including the use of spill kits) to be followed if there is a leak or spill of flammable material;
- Ensure people know are trained and understand the procedures to be followed;
- If special first-aid facilities or equipment are required, then staff need to be trained in their use.

The following fire safety arrangements have been identified in The Christie Hospital Contractor Handbook Rules and Information:

- Please refer to Fire Safety Plan which has been developed for this project.
- The Fire Safety Plan can be found: In Site office and canteen
- Muster point located at visitor's carpark

4.16 Location of nearest accident and emergency department

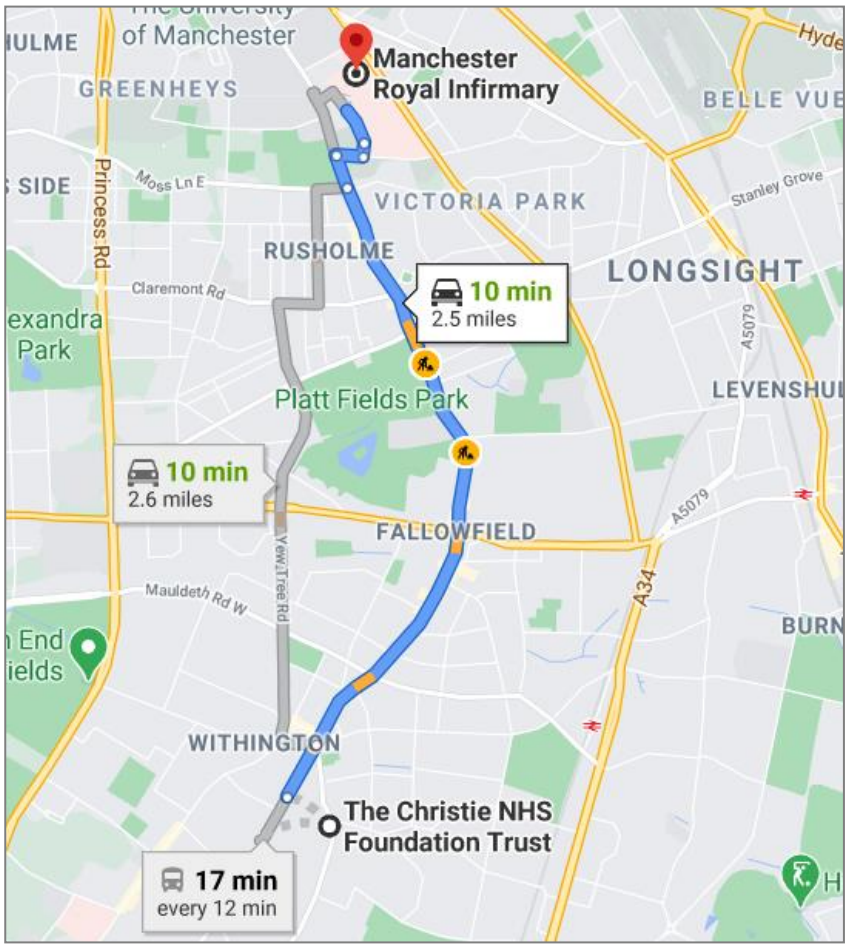
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In the event of a serious accident, and ambulance must be called to transport the injured person(s) to hospital. Please be aware that using private cars can be dangerous, particularly as there may be injuries that cannot be seen.

Police Local Station	West Didsbury Police Station, Elizabeth Slinger Rd, Manchester M20 2ES
Accident / Fire	Dial 999 and ask for the relevant service (Police/Ambulance/Fire Brigade)
Reportable Accident	Health & Safety Executive 0845 345 0055
Gas Emergency	Emergency Contact (24 hours) 0800 111 999
Electricity Emergency	Emergency Contact (24 hours)
Water Emergency	Emergency Contact (24 hours)
Flood Line	Environmental Agency (24 hours) 0345 988 1188

Name of Hospital	Manchester Royal Infirmary
Address	Oxford Rd, Manchester
Postcode	M13 9WL
Telephone number	0161 276 1234
Distance in miles	2.5

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5. Arrangements for controlling significant health and safety hazards associated with VE scope of works

Hazards (See guidance document for examples)	**Arrangements to eliminate/reduce risk** (List all the applicable controls from the pre-construction information pack / cdm construction phase plan / VITAL ENERGI environmental management procedures)	**What needs to be done** (List all actions that need to be taken)
1. WORKING ON NEW AND CONNECTING TO LIVE EXISTING MECHANICAL SERVICES	The main regulations covering pressure equipment and pressure systems are the Pressure Equipment Regulations 1999 (PER) and the Pressure Systems Safety Regulations 2000 (PSSR). All works associated with any existing steam, condensate, LTHW, mechanical pipework pressure systems will require a survey, and to be carefully planned and permit request to work / isolations, and procedures in line with the HSE pressure regulations requirements Operatives to be competent for the works carried out – detailed rams to be issued for approval /agreement. Ensure all operatives undertaking works are suitably trained for the task.	Request Permits to work on system and isolation. Approved RAMS with system schematics indicating isolation points. Systems valves isolated and locked off with signage/permit to Appointed Person and all controls are in place. Signoff of permit and re-instate pipework system When complete. Mechanical safety toolbox talks to be actioned Update the written scheme of examination as required when works completed Toolbox talks. Workshops meetings with NHS Estates to agree shutdowns & isolations first aid cover & first aid kits in place with emergency contact details. Permit to work system. Inductions.
2. WORKING ON NEW AND ADJACENT TO LIVE EXISTING ELECTRICAL SERVICES	The electricity at works regulations 1989 apply Guidance documents HSR 25 HSE electricity at work regs HSG 85 HSE guide to electricity at works safe working practices GS 38 HSE guide to electrical test equipment for use on low voltage electrical systems – BS 7671 requirements for electrical installations 18th	Request Permits to work on system and isolation / Approved rams with system schematics indicating lock off / isolation points / and controls which need to be in place. Check operatives' electrical qualifications are suitable for works and in date – check operatives. JIB cards are current and level of

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	edition –C&G 2391 where possible avoid the need to work on live electrical systems Check the competency of the individuals intending to install the electrical works, test and commission –detailed rams to be issued for approval/agreement . Ensure all operatives undertaking works to be suitably trained for the task. HV works – specialist contractor to be engaged	competency through previous experience of the works. Install, test & inspection records to be completed. Test equipment to have in date calibration certs. Electrical safety toolbox talks to be actioned. Toolbox talks. Workshops meetings with NHS Estates to agree shutdowns & isolations first aid cover & first aid kits in place with emergency contact details. Permit to work system. Inductions.
3. MAJOR PLANT DELIVERIES, INSTALLATION OF PLANT & SITE TRAFFIC	The Regulations (often abbreviated to LOLER) place duties on people and companies who own, operate or have control over lifting equipment. This includes all businesses and organisations whose employees use lifting equipment, whether owned by them or not. In most cases, lifting equipment is also work equipment so the Provision and Use of Work Equipment Regulations (PUWER) will also apply (including inspection and maintenance). All lifting operations involving lifting equipment must be properly planned by a competent person, appropriately supervised and carried out in a safe manner. LOLER also requires that all equipment used for lifting is fit for purpose, appropriate for the task, suitably marked and, in many cases, subject to statutory periodic 'thorough examination'. Records must be kept of all thorough examinations and any defects found must be reported to both the person responsible for the	Access / date/ times for major deliveries to the hospital site to be agreed with NHS trust so as not to compromise any access they may require- i.e. for emergency vehicles, waste management or deliveries. Traffic management plan / access / egress / Contract lift / lifting areas to be cordoned off and signage posted/ check all test certs for lifting tackle& equipment/ lifting AP in charge of lift to coordinate the works during the day / wagons to have banksmen / fall prevention to wagons. CLOCS & FORS requirements to be listed on orders to suppliers. Route access map from main site entrance to VE site stores to be copied into all suppliers' orders.

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	equipment and the relevant enforcing authority. Lifting plans & rams to be completed by specialist plant handing contractor – HI-AB wagon and crane locations required – footprints of vehicles and crane/ lifting radius / ground conditions and existing services to be checked / check weather forecast- check any overhead services or bridges LOLER regs apply for lifting equipment and tackle Thorough examination certificates are held on site for plant and machinery that will undertake lifting operations. Lifting accessories are visually inspected before each use and tested/replaced every 6 months. Lifting operations are controlled by suitably qualified operatives and tag lines are used to control loads whilst lifting. CLOCS & FORS standards would apply for delivery wagons	
4. WORKING AT HEIGHT	Management of working at height regulations 2005 Works at height will be eliminated if possible. If the risk can't be eliminated, then works will be minimised. All working at height activities planned & supervised in accordance with all current regulations. Each task will be risk assessed. Ensure all operatives undertaking works to be suitably trained for the task. .	Before use/Daily and Weekly checks to all access equipment. Access equipment register. Only trained and certified operators to erect Fixed scaffolding. The scaffold will be erected and dismantled in accordance with the requirements of the current British Standard BS EN 12811-1, NASC SG4, TG20:13 Only trained and certified operators to erect tower scaffold (PASMA) Only trained and certified operators to use Mobile Elevating Work Platforms (MEWP)

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		Check ground conditions and weather when working outside. Implementation of prefabrication to minimise working at height activities. All scaffolding will be designed, erected and inspected by suitably qualified & competent personnel. Inspections will be undertaken every 7 days or after any significant changes. LOLER/PUWER inspections will be undertaken before use and weekly. Harness with fall restraint Lanyards must be worn where hand rails are incomplete and in any Boom style MEWP (3b).
5. HOT WORKS	Hot works permit – NHS trust or Vital Energi (construction site areas) NHS trust permit to work policy (ref. LNWHT/R&AC/JULY06/2019) hot works permit to be issued by authorised NHS personnel, before works commence by supervisor in charge of works. Sign off hot works permit end of shift. or Vital Energi permit to undertake hot works doc – VE-FRM-0656-v3.0 to be completed in line with the NHS trust policy.	HOTWORKS PERMIT ISSUED DAILY AND ACCEPTED BY THE SUPERVISOR IN CHARGE OF THE WORKS Request hot work permit on the day and sign/accept. Isolation of any fire alarms/notify. Fire extinguishers and blankets in place. Fire watch during works. Remove any flammable materials from work area Complete hot works minimum 2 hour before permit expires and inspect the area before signoff. Sign off hot works permit with authorising engineer. Check work area end of shift Eliminate the need for hot works if feasible. Minimise risks and establish suitable control measures including hot works permits and fire watch periods.

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		Hot works permits can be found in folder 12 permits to work which can be found in the VE site office. Hot work permit issuer: Permits-to-Work shall only be issued by an Authorised Signatory who is authorised by the Head of Estates & Capital Projects and competent to issue the permit-to-work for the type of work they are issuing.
6. WELDING	Only competent/certified welding operatives with in date certification can carry out welding on pipework that requires a "coding" welding in line with PIMS welding procedures for stainless steel and mild steel tube. Only competent/certified welding operatives to carry out other kinds of welding i.e. Brackets/support	Check operatives welding certificates are in date and relevant for the class of welding to be carried out In line with PIMS welding procedures. Check welders CSCS card to ensure they have carried out the correct health and safety test required to be a welder. Suitable extract systems in place or area well ventilated. If using dust masks, ensure the operative is face fitted for the kind of mask they are using. Hot works permits in place (see hot works) Suitable welding screens in place Fire extinguishers in place Eye wash stations in place Suitable PPE. Safety Glasses worn by operatives in area to assist in the prevention of "Arc Eye"
7. WELDING FUMES	HSE Bulletin STSU1 – 2019 February 2019 States There is new scientific evidence from the International Agency for Research on Cancer that	1. Make sure exposure to any welding fume released is adequately controlled using engineering controls (typically LEV). 2. Make sure suitable controls are

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	exposure to mild steel welding fume can cause lung cancer and possibly kidney cancer in humans. The Workplace Health Expert Committee has endorsed the reclassification of mild steel welding fume as a human carcinogen. It is generally accepted that stainless steel fume is more hazardous than mild (carbon) steel fume due to the higher chromium and nickel content. The fume given off by welding and hot cutting processes is a varying mixture of airborne gases and very fine particles which if inhaled can cause ill health. Gases that may be present in welding and cutting fume are: Nitrous Oxide (NOx), (Nitric oxide (NO) and Nitrogen dioxide (NO2) are often referred to collectively, in this sector of work, as Nitrous oxides. (NOx).) Carbon Dioxide (CO2) Carbon Monoxide (CO) Shielding gas (e.g. Argon, helium) and ozone (O3)	provided for all welding activities, irrelevant of duration. This includes welding outdoors. 3. Where engineering controls alone cannot control exposure, then adequate and suitable RPE should be provided to control risk from any residual fume. 4. Make sure all engineering controls are correctly used, suitably maintained and are subject to thorough examination and test where required. 5. Make sure any RPE is subject to an RPE programme. An RPE programme encapsulates all the elements of RPE use you need to ensure that your RPE is effective in protecting the wearer
8. ASBESTOS WORKS IN LINE WITH THE "CONTROL OF ASBESTOS REGULATIONS 2012"	1. Full asbestos R&D surveys to be carried out by NHS in ALL VITAL WORK AREAS within the energy centre building. Surveys will identify the type of ACM and location in proximity to our planned works and activities. All asbestos reports are available from the VE site office. Although an asbestos survey has been completed for this project, it must be remembered that site specific refurbishment surveys may be required to	ACMs will be removed and disposed of by a licenced contractor as and when required. When working within the existing boiler house and plantrooms / check the asbestos register within the area before works proceed / and during works if found / always presume if not on the register that the item needs checking / stop work immediately and notify the supervisor or vital site office. Asbestos register is held in the vital site office. Areas must be checked before works proceed. If in doubt stop works and notify the supervisor or vital staff

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	ascertain the location and type of asbestos to enable designed works, installations and potential design changes.	
9. GENERAL PUBLIC AND STAFF LIVE OPERATIONAL ENVIROMENT	All work activities fully planned, programmed and risk assessed in conjunction with NHS trust through daily/ weekly communication meetings. Vital Energi Site Inductions, Toolbox Talks, Eyes Open Reporting & Supervision. To segregate the area from company staff, visitors and public we have erected a screen around our construction areas in which only workers inducted by Vital staff may enter. Access route plans have been issued which denotes the routes for Vital Energi employees and NHS employees within the energy centre. A copy of these can be found in the Site offices of VE. Eyes Open cards are available at the entrance to the construction works area and the workers have been shown how to use them during the induction	Creation and implementation of Traffic Management Plan where applicable. All lifting operations will be planned and supervised in accordance with LOLER. All works carried out behind heras fencing to protect public and clear segregated pedestrian routes signed. Vehicles leaving heras fencing is banked by qualified operative. TM plans detail route into site for delivery to main compound.
10. USE AND OPERATION OF PLANT AND EQUIPMENT	PUWER Regulations 1998 apply. All equipment must be suitable for the intended use, safe for use and maintained in a safe condition, inspected to ensure it is correctly installed and does not subsequently deteriorate.	Ensure all operatives undertaking works are suitably trained for the task and equipment used. Daily/weekly/before use visual checks Including in date electrical pat tests as required. Inspection register updated weekly damaged equipment to be removed from site asap

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	All equipment to be used only by people who have received adequate information, instruction and training. Equipment should have suitable health and safety measures, such as protective devices and controls. I.e. emergency stop devices, adequate means of isolation from sources of energy, clearly visible markings and warning devices. Equipment must be used in accordance with specific requirements, for mobile work equipment and power presses Suitable trained operatives. Equipment to be inspected, maintained, tagged & in good condition. PAT tested and tagged. Equipment to be on a register. Suitable PPE worn. RAMS issued.	And removed from register. New equipment arriving onsite to be added to register. Issue suitable PPE to operative. Toolbox talks regarding use and operation of equipment. All Training certificates/Cards must be seen before plant is used on site.
11. DEMOLITION WORKS	Existing services to be identified, located on site and disconnected (as appropriate) prior to commencement of demolition. Asbestos to be identified / register / survey. The contractor is to ensure that the structures are propped, and/or braced as necessary or required during the demolition works. Risk assessments and detailed method statements must be provided by the Contractor prior to commencement of the works. Suitable PPE is to be utilised and H&S issues to be	The demolition or dismantling of a structure, or part of a structure, shall be planned and carried out in such a manner as to prevent danger or, where it is not practicable to prevent it, to reduce danger to as low a level as is reasonably practicable. The arrangements for carrying out such demolition or dismantling shall be recorded in writing before the demolition or dismantling work begins. Standards to be achieved are as follows:

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	addressed. Working areas to be cordoned off to prevent unauthorised entry and measures to be employed to minimise and dust. Suitable plant to be used to take down the existing structure to minimise personnel being in close proximity to the ongoing works and to avoid disturbing and damaging any retained parts of the building.	• Standard: Demolish structures in accordance with BS 6187. • Contractors undertaking the works must have corporate membership of the National Federation of Demolition Contractors. • Operatives undertaking the works must have the appropriate level of experience and expertise together with proof of the appropriate level of training. • Appropriately skilled and experienced for the type of work. • Holding, or in training to obtain, relevant CITB Certificates of Competence. • Site staff responsible for supervision and control of work: Experienced in the assessment of risks involved and methods of deconstruction/ demolition to be used. • Section C20 of the Structural Engineers NBS that refers to the submission of method statements prior to demolition of the existing structure. • During any demolition/dismantling works which may produce an amount of dust, dust suppression systems will be utilised such as dampening down during the works.
12. INFECTION CONTROL	Following procedures listed within the department of health infection control in the built environment	NHS trust Guidance
13. COVID-19	Our SHEQ Director, under the direction of the board of Directors has developed a Standard operating Procedure concerned with measures to be adopted	*All Operatives must be fully briefed on the operational and social behavioural requirements of the our COVID-19 S.O.P - SITE OPERATING*

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	by all personnel continuing to deliver services on behalf of Vital Energi. The SOP is built directly around the latest government guidance and is constantly reviewed to ensure it is fully compliant.	*PROCEDURES FOR HELPING PREVENT THE SPREAD OF COVID-19 (VE-GUI-0604-V8)* *A specific Toolbox talk has been developed which outlines all steps that must be taken to prevent the spread of the virus and also the steps to be taken by anyone who comes into contact with someone who is displaying symptoms or are displaying symptoms themselves.* *All staff concerned with the management of the project must ensure that the steps and measures laid out in the SOP are fully employed and maintained with the appropriate management tools.*

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6. Arrangements for controlling significant environmental hazards associated with VE scope of works

Hazards (See guidance document for examples)	**Arrangements to eliminate/reduce risk** (List all the applicable controls from the pre-construction information pack / cdm construction phase plan / VITAL ENERGI environmental management procedures)	**What needs to be done** (List all actions that need to be taken)
ASBESTOS CONTAMINATION WITHIN EXISTING BUILDINGS	Full R&D asbestos surveys to be carried out in affected buildings. Surveys will identify the type of ACM and location in proximity to our planned works and activities.	ACMs will be removed and disposed of by a licenced specialist contractor as and when required. Keep register up to date and all waste transfer notes kept.
LOGISTICS/NOISE	All deliveries are to arrive to site between 8:00am –4.00 pm Mon-Friday, 8.00am to 1.00pm Saturday so that appropriate operatives are on site to off-load and to not disrupt NHS out of hours. Works and noisy works in residential areas shall also be subject to the same time restrictions. A programme of monitoring will be implemented to ascertain noise levels from plant and machinery on a two weekly basis. Refer to BS 5228-1:2009+A1:2014 Noise & Vibration control section 8.4 for further information. The upper noise limit for plant and machinery whilst working on site is 115db. This must not be exceeded unless special and prior permission has been granted by the authority. Predominantly this level of noise will be attributed when cutting metal with the circular saw but will be mainly infrequent throughout the hours as mentioned above.	All operatives are made aware of this at inductions in the VE site office. Contractors will be notified of this during the placement of orders for regulations to apply to all deliveries. VE to conform to BS 5228-1:2009+A1:2014 Noise & Vibration control. Attached to this submission for ease when reference is required. VE Project Manager to be responsible for corrective action should the limits be exceeded.

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PARKING	Parking for your vehicle is limited and on a payment basis in line with the current schemes on site. You must have a Permit for your vehicle if you wish to take it any location other than the main car park. Parking is not guaranteed and is the sole responsibility of the driver.	Where possible, operatives will travel together to site on a morning to reduce number of vehicles to site.
SPILLS/POLLUTON CONTROL	All work areas will have spill kits appropriate to the works being undertaken.	All spill kits to be located beside works being undertaken. If used to be disposed of in the correct waste bin and a new kit to replace the used one / then disposed of safely. In instances where a major spill may have occurred, we will ensure a licensed emergency spill contractor is brought to site to contain, remove and dispose a spillage which will comply with all applicable legislation and the requirement of BS EN ISO 14001.
WASTE MANAGEMENT	All waste will be segregated into mixed, timber and metal waste. Materials will be utilised as best practice to minimise the amount of waste produced.	Ensure waste stream is segregated if possible. Waste disposal documentation recorded Waste management contractors' details recorded And all waste transfer notes to be kept in site file. Waste Management Company "Go Green" to be used to ensure compliance of all waste regulations. Go Green will use is one of their Platinum suppliers. Ratings are based on the transfer stations facility and there average recycling rate, using this

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		supplier would give a figure of upwards of 95%, they have the machinery to segregate all the waste that comes in to then send on to be recycled or recovered, there will be little to none that is landfilled. The name of the intended waste carrier is W. Leeson & Son via Go Green. This is also the closest skip supplier who are under 5 miles away from site. Go Green will provide a waste report each month that will detail the volumes in tonnes and what the recycling rate is.
COSHH	All items used have been assessed in terms of the precautions and risk in terms of COSHH. Risk assessments are held on file within the H&S filing system within folder 5 within the Vital Energi site office. All substances will be in clearly marked, suitable containers on site in line with Vital Energi procedures.	Containers specifically for COSHH materials to be provided and secured. COSHH stores are provided within the Vital Energi site compound.
EXCAVATION	All works are to confirm to CITB GE700/19 The Construction (Design and Management) Regulations 2015 No. 51 PART 4 Regulation 22	All practicable steps must be taken to prevent danger to any person, including, where necessary, the provision of supports or battering, to ensure that— (a) no excavation or part of an excavation collapses;

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		(b) no material forming the walls or roof of, or adjacent to, any excavation is dislodged or falls; and (c) no person is buried or trapped in an excavation by material which is dislodged or falls. (2) Suitable and sufficient steps must be taken to prevent any person, work equipment, or any accumulation of material from falling into any excavation. (3) Suitable and sufficient steps must be taken, where necessary, to prevent any part of an excavation or ground adjacent to it from being overloaded by work equipment or material. (4) Construction work must not be carried out in an excavation where any supports or battering have been provided in accordance with paragraph (1) unless— (a) the excavation and any work equipment and materials which may affect its safety have been inspected by a competent person— (i) at the start of the shift in which the work is to be carried out; (ii) after any event likely to have affected the strength or stability of the excavation; and (iii) after any material unintentionally falls or is dislodged; and (b) the person who carried out the inspection is satisfied that construction work can be safely carried out there.

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		(5) Where the person carrying out an inspection informs the person on whose behalf the inspection is carried out of any matter about which they are not satisfied (under regulation 24(1)), construction work must not be carried out in the excavation until the matter has been satisfactorily remedied

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7. Arrangements for controlling quality activities associated with VE scope of works

What can go wrong	Arrangements to eliminate/reduce defects (List all the applicable controls)	What needs to be done (List all actions that need to be taken)
Ambiguous Information	Request for Information will be issued to the client where there are areas of ambiguity or incorrect information	All information requests will form part of the monthly project CLIENT meetings
Incorrect Information on Drawings/Drawing Amendments	Drawings will be checked prior to the issue of the documentation by the engineer and any changes to drawings will be issued under an instruction in accordance with the contract requirements	All drawing submittals will form part of the RDD issue process within the contract All drawings issued will be discussed with VE and the client and commented at the regular monthly meetings with the project management team – any comments will be incorporated into the drawing amendments / then reissued with a drawing revision and drawing register update
Faulty Equipment/Equipment not to specification	Technical Submissions will be issued to the client to give information on all product specification for approval using the *Technical Submissions Register* (VE-FRM-0310) Witness Testing at Manufacturers works will be conducted as requested by the client and recorded using *Certificate of Test form* (VE- FRM-0436)	Technical submissions for major plant and equipment will be issued via the RDD process
Nonconformities	Materials and Equipment will be checked upon receipt against the order and placed in a suitable storage container and will be protected as	Suitable lockable storage areas setup on site

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	required. Receipt will be recorded on the *Goods Received Register* (VE-FRM-0425) Any nonconforming products (i.e. Materials and equipment) will be identified and segregated in a	
Installation Defects	To achieve ***'Zero defects'*** an inspection regime will be put in place from day one to carry out regular inspections of the materials and works on going and will be recorded and issued for action and close out We will advise the Client where we cannot proceed with regular progress reports	Ensure the correct member of the management team carry out the visual inspections at the appropriate of completed works to ensure works are completed with no defects.
Commissioning Programme	All testing/commissioning will be witnessed by the respective engineers for the project and offered to the client in a timely manner in accordance with the contract requirements	TESTING / COMMISSIONING / WITNESSING / VALIDATION Documentation to compile and issue in line with the contract documentation
Services not working correctly	An inspection and test plan will be issued to the client to advise him of all the tests to be undertaken	ITP to be compiled and issued
Unsatisfied Client	As part of our strive for continual improvement the Customer Care Programme will feed back any adverse comments and an improvement plan will be put in place to ensure that they are rectified prior to the completion of the project. All lessons learned will be recorded through *Control of Customer Satisfaction procedure* (VE-SOP-0016).	Customer services will contact the client during and near completion of the project to review and benchmark Vital Energi performance

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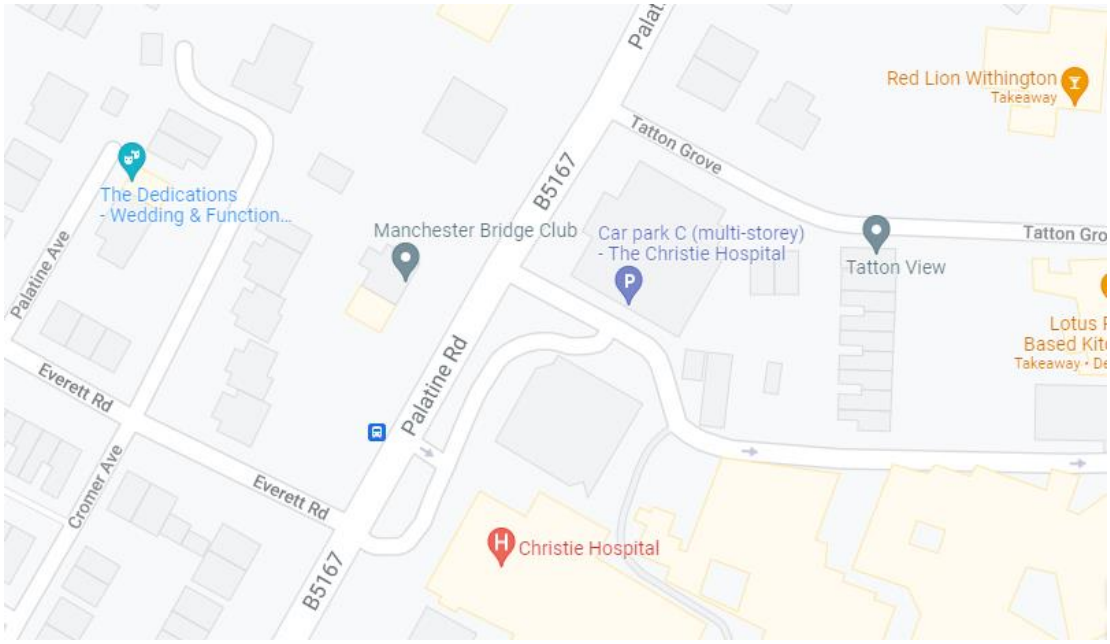
8. Site Establishment and Welfare

8.1 Accommodation

Vital Energi and The Christie Hospital will ensure that appropriate welfare facilities are provided according to the size of the workforce and nature of the work. Accommodation will include First aid, Changing & Drying rooms, Canteen & Messing facilities, Toilet & Washing facilities to meet the requirements of the workforce. All facilities will be cleaned and maintained.

Any person found to be abusing such facilities may be dismissed from site and subject to disciplinary action. Any person found urinating on the site other than in the allocated facilities will be dismissed from site, and face disciplinary action.

Fabrication works will be carried out at the back of the Manchester Bridge Club car park and will be self-contained within the garage provided by the Trust. A welding bay tent has also been erected to further safe-guard the work face area within the site compound.



8.2 Car Parking

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There are limited or no contractors' parking spaces around Trust sites and contractors may need to find alternative appropriate parking. There are public car parks on site with pay display options

8.3 Traffic Management Plan

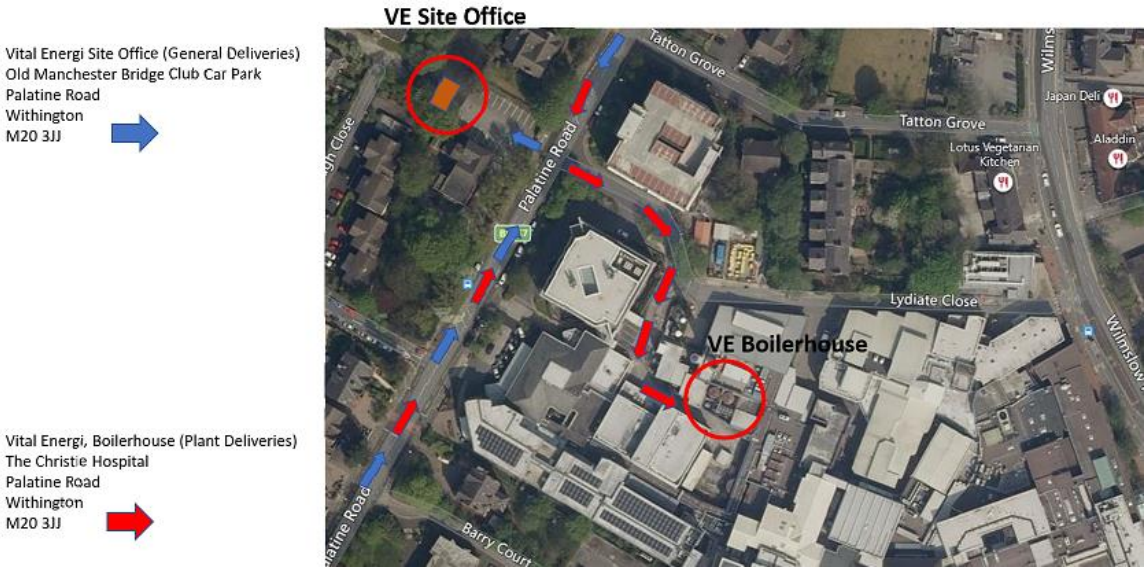
Traffic Management for site will be in accordance with the SITE TRANSPORT ARRANGEMENTS OR VEHICLE MOVEMENT RESTRICTIONS (contractor's handbook chapter 27).

The objectives with respect to the Traffic Management Plan are to:
- Ensure the safety of its employees, contractors, the general public, pedestrians, cyclists and traffic
- Keep traffic delays to a minimum
- Minimise disruption and maintain satisfactory property access
- Obtain approvals and licenses such as Road Occupancy, Direction to Restrict
- Minimise disturbance to the environment
- Design temporary roadways and detours where needed

The site is located at the The Christie Hospital Energy Centre which is located off the main service road from Palatine Road (B5167)

The site manager will ensure the offloading area is clear of vehicles and materials before approving approach to site. Special attention will be given to avoiding any disruption to road traffic. No waiting or queuing on the roads will be allowed at any time. Any vehicles causing disruption will not be admitted to site and will have to return for offloading at another time. These rules will be strictly adhered to by site management and contractors causing disruption will be fined.

NHS is to be advised on booked deliveries and times at the start of each day and forecast of planned deliveries for main trades to gain an overview of expected traffic on site. Traffic regulation orders (Parking restrictions) apply in the general area.



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8.4 Material Storage

Vital Energi require The Christie Hospital to provide a designated laydown area to store equipment and materials. This area must have firm level ground, free from potholes etc., to ensure the stability of forklift trucks and to prevent trip/slip incidents. Upon receipt on a needs basis designated storage areas will be allocated to contractors prior to delivery of materials. Area will be clearly defined prior to works starting.

8.5 Smoking

Smoking is not permitted in or on any building or land associated with the Christie Hospital.

Deliveries or collections will be restricted to between 9.30am and 4.30pm. Permitted hours of working are:

- Monday to Friday 7.00am to 7.00pm
- No work is permitted outside these times without written approval from The Christie Hospital.

Vital Energi neighbouring properties will be contacted and provided with the contact details of Vital Energi staff to which they can raise any concerns regarding the works.

Clear signage will be displayed on the roads surrounding the site to warn of the presence of construction vehicles.

8.6 Access Permits and Controlled Access Keys

All work carried out or undertaken in ducts, tunnels, confined spaces or controlled areas such as roofs and plant rooms etc. requiring a 'Controlled Access Key' will require the issue of an 'Access Permit' by The Christie Hospital. Should it be necessary for the Contractor to 'borrow' a controlled access key, this will need to be agreed in writing with The Christie Hospital

All 'Access Permits' must be 'signed on' and 'signed off' each day. All 'Controlled Access Keys' must be returned daily unless agreed in writing with The Christie Hospital

8.7 Excavations

All excavations will be undertaken within a permit to work system. A cable avoidance tool will be used by a competent person as part of the permit to work system. Work will be undertaken in accordance with HSG 47 “Avoiding Danger from Underground Services”

Where competent person it necessary to batter or shore an excavation a record will be kept of regular inspections in accordance with Regulation 22 of the Construction (Design and Management) Regulations 2015.

- at the start of the shift in which the work is carried out;
- after any event likely to have affected the strength or stability of the excavation. And
- after any material unintentionally falls or is dislodged; and

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All excavations will; be adequately protected by physical barriers. No person shall enter the excavation without suitable rescue plan being produced and discussed as part of the RAMS assessment briefing.

8.8 Temporary Works

The temporary works listed in the table below are allowed for in the project. A Temporary Works register will be used to control and monitor this element of the project. The temporary works procedure will be based on BS 5975 and the table within the document will be used for the risk category.

If a Contractor has a requirement for other temporary works, then this must be notified to Vital Energi Project Manager who will update the Temporary Works Register

Temporary Works	Temporary Works Complexity risk [L M H]	BS 5975 Design Check category	Designer	Independence of checker
Hoarding	Low	0	Insert details	Insert details
excavations	Medium	1/2	Insert details	Insert details
Scaffolding	Medium	2	Insert details	Insert details
Temporary support	Medium	2	Insert details	Insert details

8.9 Waste Management Plan

Ensure waste stream is segregated if possible. Waste disposal documentation recorded
Waste management contractors' details recorded and all waste transfer notes to be kept in site file.
Waste Management Company "Go Green" to be used to ensure compliance of all waste regulations. The Go Green will use is one of their Platinum suppliers.

Ratings are based on the transfer stations facility and there average recycling rate, using this supplier would give a figure of upwards of 95%, they have the machinery to segregate all the waste that comes in to then send on to be recycled or recovered, there will be little to none that is landfilled.

The name of the intended waste carrier is W. Leeson & Son via Go Green. This is also the closest skip supplier who are under 5 miles away from site.

8.10 Work at Height

The Work at Height Regulations 2005 define Work At Height as including "work in any place, including a place at or below ground level; where obtaining access to or egress from such place while at work, except by a permanent staircase could result in a person falling a distance liable to cause personal injury".
Vital Energi seek to ensure the application of safe practices for relevant tasks and activities relating to work at height, thus ensuring:

- where possible work at height is avoided;

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- where unavoidable all work at height is properly assessed, planned and organised;
- work equipment selected and used is suitable and appropriate in relation to identified risks;
- those involved in work at height are competent to use selected equipment;
- risks from work at height are assessed;
- risks associated with work on fragile surfaces are properly controlled;
- equipment for work at height is properly inspected and maintained.

Before commencing any work that may be construed as Work at Height (WAH), including access to an unprotected work area at the same level, i.e. an excavation with open edges, in addition to the RAMS for the work being completed a plan must also be produced. As part of the acceptance process the plan must reviewed by the project team and Regional Safety Manager or similar competent person.

A rescue plan must also be developed whenever fall arrest systems are in use or when personnel would not be able to self-rescue should a fall at height occur.

8.11 Assessment of Risk Associated With Work at Height

A Risk Assessment must be undertaken for each individual scaffold or access platform intending to be used on site. Where possible works at height will be eliminated. If the risk can't be eliminated then works will be minimised through use of controls which give preference to collective rather than individual protection methods. Including use of fixed handrails to prevent falls from height and segregation of works to prevent any items that could potentially be dropped from hitting others - including site employees, The Christie Hospital staff or Visitors. Each task will be risk assessed separately and work at height equipment selected on suitability for task.

All working at height activities planned and supervised in accordance with all current regulations. Works will be segregated/fenced (secured, inspected daily and fitted with external lighting as required and appropriate to location)

8.12 Use of Scaffolds

All scaffolding activities will be carried out in compliance with HSE guidance. Requirements for scaffolding will be identified by the relevant Contractors supervisor. Trained and competent scaffolders who will hold a current CISRS card will assemble all scaffolds. Any work carried out at height will be compliance with the guidelines set out in SG4.

Vital Energi operates a 100% clip on regime and all operatives provided with a twin tail lanyard. Any scaffold, which is not covered by the standard design in the scaffold procedure, will require input from a qualified appointed scaffold designer.

Upon completion of the erection a nominated competent scaffold inspector will inspect the scaffold and as a minimum within every seven days thereafter. The status of an erected scaffold will be identified by the Scaff-tag system and recorded in a scaffold register. All scaffolds will be erected, modified in line with the current industry standard.

8.13 Use of MEWPS (Scissor Lifts/Mobile Booms) & Other Work at Height Equipment

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Those in control of any work at height activity must make sure work is properly planned, supervised and carried out by competent people. When deciding on which access equipment to use, fixed guarding systems incorporating handrails and a working platform, such as MEWPS, Push around Vertical Access Equipment, Tower Scaffolds, Podiums MUST be considered before equipment without fixed guard rails like steps, ladders "hop-ups" etc. High level works at or >5m should be completed from fixed scaffold or MEWP; Medium level works 1.5 – 5m should be completed from MEWPs or preparatory work at height equipment like mobile towers or fixed scaffold; Low level works <1.5m

- Equipment use is restricted to competent operatives, who have received adequate training (IPAF, PASMA or equivalent).
- All work at height equipment must be maintained in a safe condition.
- All Work at Height equipment must be tagged and inspected daily to ensure it is correctly assembled, and does not subsequently deteriorate.
- All access equipment must be itemised in Vital Energi's site Plant Register and contractors must provide a copy of an in date (six monthly re-inspection period) LOLER testing certification to confirm compliance with LOLER/PUWER.
- A daily pre-use inspection will be undertaken for all other work at height equipment and checks made on the working environment e.g. ground and weather conditions to ensure suitability for use.
- Any work at height equipment found on inspection to be defective must be immediately removed from use and quarantined/removed from site for repair.
- When using work at height equipment employees must make sure, you do not overload or overreach when working at height; work must be completed from within the boundaries set by handrails around work platforms or if on steps the centre of gravity of the particular item of equipment.
- Any person working at height must review and operate the safe system of work provided by the method statement (RAMS) for the task. To confirm acceptance the employee will have been briefed and will sign-off the RAMS.

8.14 Lifting & Slinging

Vital Energi in conjunction with any contractor undertaking lifting operations will develop and communicate a Work at Height Plan, including as appropriate arrangements for rescue in event of an emergency.

The following are all requirements in law that must be considered when developing a lifting plan and undertaking work at height:

- Take account of weather and workplace conditions that could compromise worker safety or impact lifting operations
- Check that the place where work at height is to be undertaken is safe
- Ensure each place where people will work at height is checked every time, before use and following any significant stoppage of significant change
- Stop materials or objects from falling or, if it is not reasonably practicable to do take suitable and sufficient measures to make sure no one can be injured, e.g. use exclusion zones to keep people away
- Ensure scaffold has toe boards and mesh on to stop materials and tools falling
- Store materials and objects safely so they won't cause injury if they are disturbed or collapse
- Plan for emergencies and rescue, e.g. agree a set procedure for evacuation.

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9. Plant and Equipment

9.1 PUWER.

Contractors must provide Vital Energi Project Team with a list of all plant on site. It is the responsibility of the Vital Energi Project Manager to ensure, in conjunction with Vital Energi Regional SHEQ Manager that a full list is compiled and maintained detailing all work equipment onsite. From this list, a schedule of required inspections and certification will be identified. It is the responsibility of the Project Manager to ensure that the site supervisors are aware of the inspection requirements under PUWER and that the relevant inspections are completed at the relevant time.

Consideration for PUWER requirements must be given for all hired equipment used on site. This will be supported by calibration / test certification and training certification. Full certification must be available and be reviewed by a competent person before that equipment can be used on site.

9.2 LOLER

All Contractors must comply with LOLER requirements including the provision of a LOLER register and certification. All lifting equipment will be inspected and tested as required before being used. The Project Manager will nominate a responsible person to check certification and data provided.

9.3 Fire Extinguishers

Fire extinguisher supply and service is the responsibility of the Vital Energi Fire Warden, in addition they will nominate a responsible person to check and inspected this equipment.

9.4 Safety Harnesses and Lanyards

Safety harnesses and lanyards will be inspected before issue and to be worn at all times whilst carrying out working at height operations when there is a risk of a fall through an un-protected leading edge. All operatives are responsible for checking their harness and lanyard for defects at the beginning of any working shift, after break times. There is a requirement for harnesses and lanyards to have a documented inspection every 3 months and recorded on the Vital Energi fall arrest equipment inspection form. All working at height operations will be supported by the relevant rescue plan.

9.5 Electrical Equipment/Electrical Works

Is to be inspected and maintained in compliance with the Electricity at Work Regulations. The Project Manager will nominate a responsible person to check and record the inspection and labelling of electrical equipment.

All Electrical Contractors must be Approved and registered with the NICEIC.

Live working must not be undertaken, without written permission. Vital Energi must submit a written request to The Christie Hospital to work on electrical system, which has to be approved by an Authorised Person who will control the work under the issue of a “Certificate for Live Working”.

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No electrical connection may be made to electrical supply, including fire detection systems, without first being approved by one of The Christie Hospital electrical Authorised Persons or The Christie Hospital Fire Safety Advisor in respect of the fire alarms.

No existing electrical circuit is to be isolated without prior approval by one of Electrical Authorised Persons. Vital Energi must submit a written request for the isolation with a minimum notice of ten working days, emergencies excluded.

No electrical circuit may be taken into commission unless the necessary test certificate and associated electrical test results sheet(s) have first been provided and approved by one of The Christie Hospital Electrical Authorised Persons, all in accordance with BS7671 2018, current edition, including all amendments. A Minor Works Certificate will be accepted where no circuits have been altered with the addition of electrical accessories (e.g. 13A socket outlets, etc.). For all other work, a full Completion and Inspection Certificate will be required.

10. Control of Substances Hazardous to Health (COSHH)

All chemicals or other hazardous substances will not be used on site without a specific safe system of work produced following a COSHH assessment detailing the hazards and precautions required to ensure the users safety.

This also applies to the use of substances such as lubricants, cleaning materials, aerosols and any imported materials and materials already in offices. All hazardous substances and chemicals should be used, stored and disposed of in compliance of the assessment and Material Safety Data Sheet (MSDS). Which may include all hazardous material been kept within a locked storage area or cupboard and access to these materials restricted to those who have viewed and understood the COSHH Assessment for the particular material.

Vital Energi Project Manager will ensure that relevant personnel are briefed on COSHH Assessments and that these briefings are clearly understood and complied with by all, with records of the briefings being maintained within the site files.

All subcontractors (where required) shall provide Vital Energi a set of COSHH Assessment and supporting MSDS covering all hazardous material contained within their work activities'.

11. Health & Welfare Requirements for Contractor's Staff

11.1 Health Screening

Health surveillance is needed to protect workers who are at an increased risk of identified work-related ill health. Accordingly, [Insert name of Client] require all contractors attending site ensure that their employees have adequate access to health screening and are healthy and fit for the task being undertaken. All contractors attending site must therefore furnish at induction an in date (max 3 years), Constructing Better Health "Fit For Work" medical certificate before commencing work.

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11.2 Drug & Alcohol Testing

To ensure that the use of drugs or alcohol by any employee (direct or non-direct) does not impair the safe and efficient running of the business or put at risk the health, safety and wellbeing of employees, customers, suppliers or members of the public both Random and For Cause Drug and Alcohol testing will take place.

For Cause Testing - When it is suspected that an employee is in contravention of Vital Energi's Drug & Alcohol Policy or when it is suspected that an employee is impaired due to the use of drugs or alcohol, testing may be used as part of an assessment process. If an employee is suspected of being under the influence of, alcohol and or drugs contact the HR team and seek their advice. The HR Team will then manage the process; under no circumstances should Managers arrange a test themselves.

Post-Accident/Incident Testing - As part of an accident/incident investigation, testing may be carried out on those employees involved, when possible, to determine whether drugs or alcohol may have been a contributory factor.

Random Unannounced Testing - Employees will be randomly selected and tested at Vital Energi's Sites and/or premises throughout the course of the year. This process is regardless of the employee's job function. This

12. Project Responsibilities

The actions identified in sections 5.0, 6.0 and 7.0 will be allocated to the following roles:

What needs to be done	Person Responsible
Overall Project Director	Ashley Malin
Overall Account Director	Phil Mottershead
Head of Construction	Gary McKiernan
Project Manager/ Project Engineer	Ben Gibson
Overall Procurement, project QS, milestone application, contract management	Alex Durkin
Overall design	Robert Hilliard
Health and Safety (site) Vital Energi	Grant Moffitt

13. Monitoring the CDM Construction Phase Plan

13.1 Vital Energi UK Monitoring Arrangements

The Project Team will implement *Control of Auditing procedure* (VE-SOP-0018*)*. As a minimum, the following monitoring will be implemented:

- Hazard observation reports via the ***"SHE Assure Online Reporting Platform"***
- Site Safety Set-Up Audit – conducted in the first week

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- SHEQ inspections – conducted weekly by Project Team
- SHEQ inspections – conducted monthly by Contract / Operation Managers
- SHEQ management system inspection – conducted in the first 3 months
- SHEQ targeted audits – as per Company Action Plan
- Senior management safety tours – as per Company Action Plan

All copies of Vital Energi monitoring systems will be discussed with and issued to The Christie Hospital.

13.2 SHEQ Audit Programme

The SHEQ Team in conjunction with the project team - will conduct the SHEQ audits as per the following programme:

Process to be audited	Date audit will be conducted											
Health and Safety	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
			x	x	x	x	x	x	x	x	x	x
Environmental	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Quality	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**

13.3 Other Monitoring Arrangements

The following monitoring arrangements have been identified as part of the Vital Energy CDM Construction Phase Plan:

- Regular progress meetings with all site contractors and key stakeholders
- Monthly audits focused on key aspects of the project
- Weekly project manager site inspection reports
- Monthly director site inspection report
- Monthly The Christie Hospital /Vital Energi meetings

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14. Communication of the CDM Construction Phase Plan

The following persons have been appointed to carry out the responsibilities outlined in Section 9.0.

PLEASE NOTE: by signing this document the appointee confirms that the project leader, or designate, has briefed them on their duties of their appointment and that they accept the appointment.

Person (name)	Project Role	Signature	Date

15. Health and Safety File

Vital Energi recognise their duties and obligations under the Construction (Design and Management) Regulations 2015 and will comply with all reasonable request from the Principal Designer Absolute Health and Safety Solutions for information.

The control and issue of information will be planned, and, where possible, will be passed to Absolute Health and Safety Solutions at the earliest opportunity. It should not be left until completion of the project. Information passed onto Absolute Health and Safety Solutions may be recorded on the Monthly Progress meeting with The Christie Hospital

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