Post Appointment – Transport State / Outline Construction Logistics Plan [CLP]

Main Steam line Design

Proposed Lifecycle Works to the Steam Line inclusive of all necessary architectural, mechanical, electrical, and public health works.

By:
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Date: 24/05/2024

Document Ref: 0114-CMO-ZZ-XX-T2-PC-000

Outline CLP

Development name:	Manchester Royal Infirmary
Landowner:	Manchester University NHS Foundation Trust (MFT)
Site address:	Oxford Road Site, Manchester
Site postcode:	M13 9WL
Existing site use:	Hospital
Summary of works:	Renewal of the main steam lines from the Energy Centre to the North Road Crossing. The works will include new steel support work to the Energy Centre, connected to the existing concrete floor slab. Pipe work will exit the Energy Centre at high level and follow the service corridor roof to the North Road Crossing. Pipe work will be supported by steel 'gantry's' over North Road and onto the Phase I/II buildings at roof level where it will feed numerous existing roof mounted plantrooms.

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Revision No	1
Issue Status	Outline

CLP Produced by:

Name & Role	Signature	Date
Simon Lee Construction Manager	S. P. Lee	24.05.2024
	CLP Accreditation date:	

CLP reviewed by:

Name & Role	Signature	Date
David Ramsdale Design Director		
	CLP Accreditation date:	

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1.0 INTRODUCTION

C M Oxendale Ltd has been appointed by Equans to provide construction logistics plan for the Main Steam Line Replacement at the Manchester Royal Infirmary Oxford road site in the City of Manchester. C M Oxendale will maintain overall responsibility for the CLP throughout planning, design and construction. C M Oxendale has prepared this Outline CLP for review for the trust and will form the basis for subsequent detailed CLP documents to be developed upon appointment of a contractor

1.1 CLP OBJECTIVES

The overall objectives of this Outline CLP are to:

• Specify routes that will require traffic management- during the installation of the Steam Line, including excavations, scaffold erecting and dismantling, installing pipe and steel work.

• Identify blue light route effected by the construction works & ensure working arrangements are agreed with the hospital to ensure continued operation.

To support the realisation of this objective, several sub-objectives have been agreed and

include:

• Managing the on-going development and delivery of the CLP with construction contractors.

• Communication of site delivery and servicing facilities to workers and suppliers; and

• Encouraging the most efficient use of construction freight vehicles.

1.2 SITE CONTEXT

The Steam Line & associated buildings are located wholly within the boundary of the Hospital. The Steam Line sits aside North Road to the East/Northeast of the site, beyond the site boundary sits Upper brook street to the North/Northeast.

1.3 DEVELOPMENT PROPOSAL

The main development proposals include erecting a steel support structure in the Energy Centre to support and fit new steam pipe work to.

From the Energy Centre the pipe work exits the building at high level to steel gantry's above the existing service corridor structure. The steel gantry's are supported with new pad foundations and the existing boundary wall (Adjacent to Upper Brook Street).

The pipe work then continues to the 'North Road Crossing' where a steel gantry structure will be erected to carry the new steamlines over North Road and over to the Phase I/II buildings at the site. From here they will travel vertically up an new steel support riser within the existing courtyard area and only the roof of the Phase I/II buildings where they will feed numerous existing roof mounted plantrooms.

The works will be phased so as access can be maintained for the continued daily operation of the FMC Building & various MRI hospital buildings at the site. This will be agreed with Equans & the hospital trust prior to any works starting on site.

2.0 CONTEXT, CONSIDERATIONS AND CHALLENGES

2.1 POLICY CONTEXT

The Traffic Management Act (2004)

The act makes 'provision in relation to the management of road networks; to make new provision for regulating the carrying out of works and other activities in the street'. It acknowledges that highways may be occupied due to construction activities and identifies appropriate changes levied for any extended occupation.

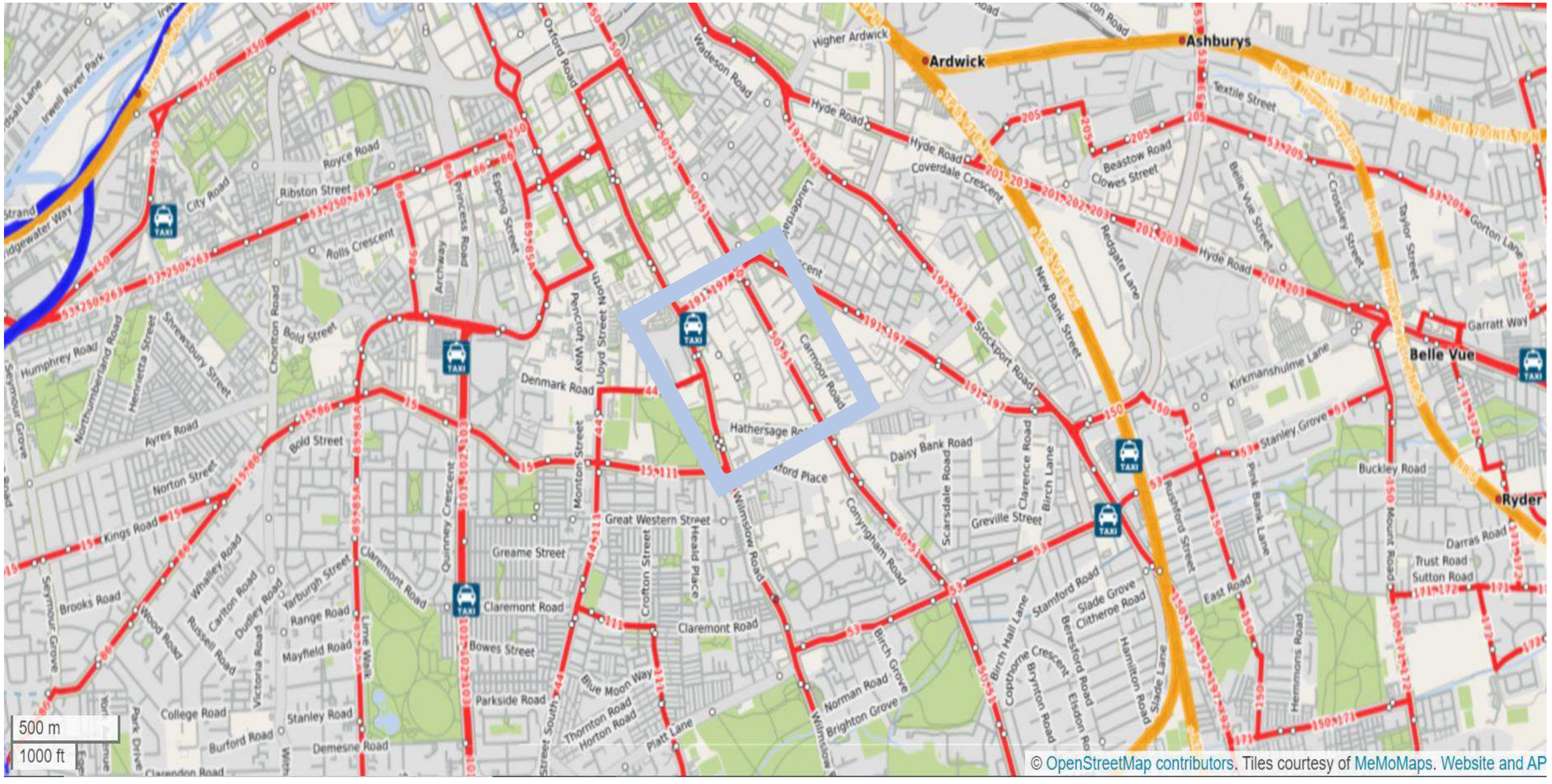
Designing for Deliveries, Freight Transport Association (2006)

Published in 2006, Designing for Deliveries, provides specifications for the size of delivery vehicles, turning radii and clearance requirements and should be used to ensure that delivery vehicles can safely and efficiently access the construction site.

2.2 CONTEXT MAPS

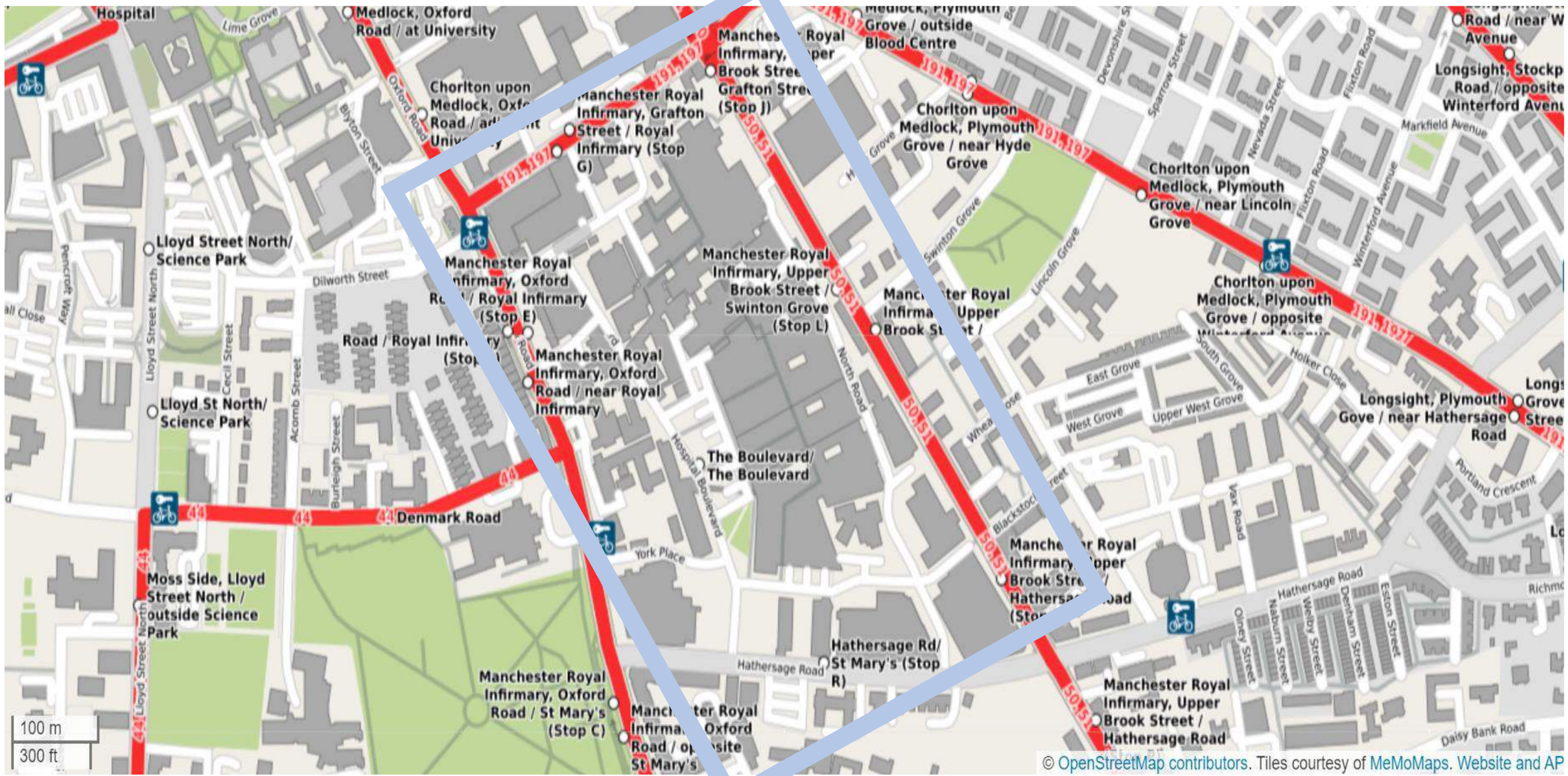
The flowing maps show the area around the development site. Figure 1 shows a regional plan with the location of the site in the context of greater Manchester and the road network. Figure 2 shows the location of the site in relation to the surrounding local area. Figure 3 shows the site boundary plan showing the extent of footways, other buildings, cycle lanes and road markings.

Figure 1 - Regional Plan



	Site
	Main Bus Routes
	Train Routes
	Road Routes

Figure 2 - Location Context Plan



	Site
	Main Bus Routes
	Road Routes

Figure 3 – CONTRACTED SITE BOUNDRY PLAN



	Site Cpompound
	Site
	Red Route located along all of north road

2.3 LOCAL ACCESS INCLUDING HIGHWAY, PUBLIC TRANSPORT, CYCLING, WALKING AND WATERWAYS

2.3.1. HIGHWAYS, CARRIAGEWAYS AND FOOTWAYS

The Hospital site is situated to the North of Hathersage road, East of Oxford Road, South of Grafden Street and West of Upper Brook Street.

The FMC Building and proposed Steam Line is located on a red route (North road-shown in Figure 3) and present issues for site access. Site access for deliveries will have to be done via North Road

To construct the proposed pad foundations and scaffold to access the roof on the service corridor, some road and footpath suspensions will be required. These will be pre-arranged with MFT.

Currently it is envisaged that the following will be required during Construction phase:

• Footpath closure to the footpath in the FMC Yard, between the Energy Centre and the FMC Building.

• Partial road closure on North Road (at the North Road Crossing end of the service corridor), the duration & location of which is to be confirmed & agreed with MFT, to allow for excavations, scaffold to be assembled and dismantled, steel gantry installation and Steam Line installation.

2.3.2. RAILWAY/UNDERGROUND

There are no railway/underground on roads adjacent to the site on north road.

2.3.3. BUS ROUTES

There are no bus routes on roads adjacent to the site on north road.

2.3.4. CYCLING

There are no cycle lanes on roads adjacent to the site on north road.

2.3.5 WATERWAYS

There are no waterways on roads adjacent to the site on north road.

2.4 COMMUNITY CONSIDERATIONS

2.4.1. LOCAL POLICY

Outline any relevant local policy, such as a local authority code of construction practice.

2.4.2. HOSPITAL

The A+E Hospital entrance is situated on north road; access to this shall be maintained at all times, including the ambulance entrance route off Upper Brook Street. The Collaboration between the hospital and site will be established to ensure minimal disruption is caused to sensitive patients and visitors.

3.0 CONSTRUCTION PROGRAMME AND METHODOLOGY

The programme of construction for FMC Louvre replacement has been developed with input from Construction contractors. Construction is expected to last for 11 months and is scheduled to begin in September 2024. The Works will be completed in August 2025. Table 1 provide a high-level breakdown of the program by the key construction stages.

TABLE 1 CONSTRUCTION PROGRAMME

Construction Stage	Start	End
Traffic management	**2nd September 2024**	**29th August 2025**
Site Set up and Scaffolding erecting	**2nd September-2024**	**29th August- 2025**
Energy Centre works	**2nd September-2024**	**30th May 2025**
FMC Yard works	**2nd September-2024**	**20th June 2025**
North Road Works	**4th December 2024**	**29th August 2025**

3.1 CONSTRUCTION PROGRAMME PHASES

3.1.1. Site Set up. Scaffolding erecting & Traffic Management.

Works to the Energy Centre and the service corridor building will require scaffold erecting. This will be independent tube and clip scaffold in the Energy Centre and on the service corridor it will be tube and clip scaffold built on the ground (FMC building side of the service corridor) and supported on the roof of the service corridor (propped underneath as per the scaffold design). This will be phased in 4 phases and be of 20 weeks per phase (phases will be overlapped as applicable).

Temporary traffic and pedestrian traffic systems will be in place to allow sections of the scaffold to be erected there will be a laydown area required to material storage.

The site set up will be on the adjacent road (east road)

Traffic management will work on a priority system which will allow minimal waiting time for ambulances, we will also set up 3No pull over sections to allow ambulances to pass if required.

The works will be phased so as access can be maintained for the continued daily operation of the hospital buildings at the site. This will be agreed with Equans & the hospital trust prior to any works starting on site. The A+E Hospital entrance is situated on north road; access to this shall be maintained at all times, including the ambulance entrance route off Upper Brook Street.

3.1.2 Site Set Up Plan and Discussion

MRI STEAMLINE & ATTENUATED LOUVRE COMPOUND AREA



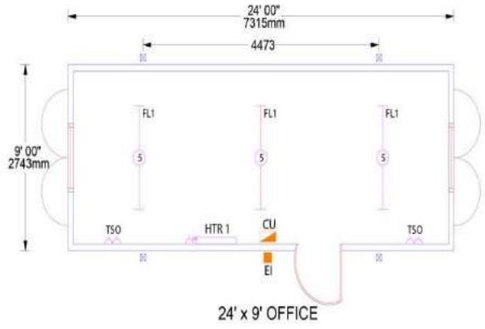
MRI STEAMLINE COMPOUND AREA.

Steam line Scheme.

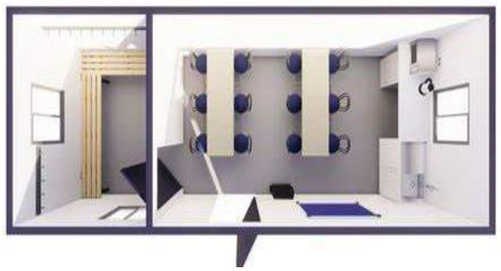
- 1 no. Construction Manager.
- 1 no. Senior Site Manager.
- 10 – 15 Pipe Fitters.
- 4 – 8 Ground work Contractors.
- 4 – 6 Steel Erectors.
- 3 Building Contractors.
- 3 – 6 Scaffolders.

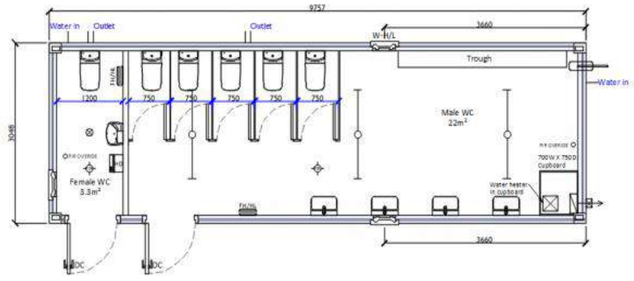
The facilities that are required will need to facilitate approx. 30 men based on the above.

1. The current site compound area will be used for the Pre-Start works (1 no. 32 ft Grey Store/Toilet, 1 no. toilet/Shower Block, 2 no. 24 ft Offices).
2. The majority of the above will be in place for the duration of the project, however as the project concludes the welfare could be reduced as applicable.



24' x 9' OFFICE





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MECHANICAL AND PLUMBING SERVICES

EQUANS

NHS
Manchester University
NHS Foundation Trust

COMPOUND PANEL DETAILS

1

CM OXENDALE LTD
MECHANICAL SERVICES

WWW.CMOXENDALE.CO.UK
01254 580431

PLUMBING
HEATING
CHILLED WATER
STEAM
HVAC
GAS/ OIL/LPG



CM OXENDALE LTD
MECHANICAL SERVICES

3



CM OXENDALE LTD
MECHANICAL SERVICES

1. 4 NO PANELS
2. 2 NO PANELS
3. 1 NO PANEL
4. 2 NO PANELS
5. 1 NO PANEL
6. 2 NO PANELS
7. 4 NO PANELS

4

VEHICLE ENTRANCE

CM OXENDALE LTD
MECHANICAL SERVICES







CM OXENDALE LTD
MECHANICAL SERVICES

6

CM OXENDALE LTD
MECHANICAL SERVICES

WORKING ON BEHALF OF

EQUANS

NHS

STEAMLINE INFRASTRUCTURE WORKS

7

CM OXENDALE LTD
MECHANICAL SERVICES

Panel Height	2400mm
Panel Width	2140mm

COMPOUND PANEL REQUIRMENTS



21 NO PANELS

Panel Height	2400mm
Panel Width	2140mm

50 NO PANEL COUPLINGS

1 NO STANDARD COUPLING SPANNER



23 NO INFILLS



1 NO VEHICLE ENTRANCE



1 NO PEDESTRIAN ENTRANCE



23 NO 780KG KENTLEDGE BIG FOOT BLOCK C/W FRAME

ZND

Your Results:

Heras Stormguard - Double tray

Max windspeed for your configuration

31.93 m/s ,71.42 mph

Loading requirement

202kg front, 202kg back

Success

This stabilisation meets your target wind speed. The product will be fully stabilised against the inputted wind speed.



Your Selections

Target Wind Speed
31 m/s



Steel Hoard Panel 2m
14151031

Factor of Safety
1 (0%)



Heras Stormguard - Double tray

www.znd.com

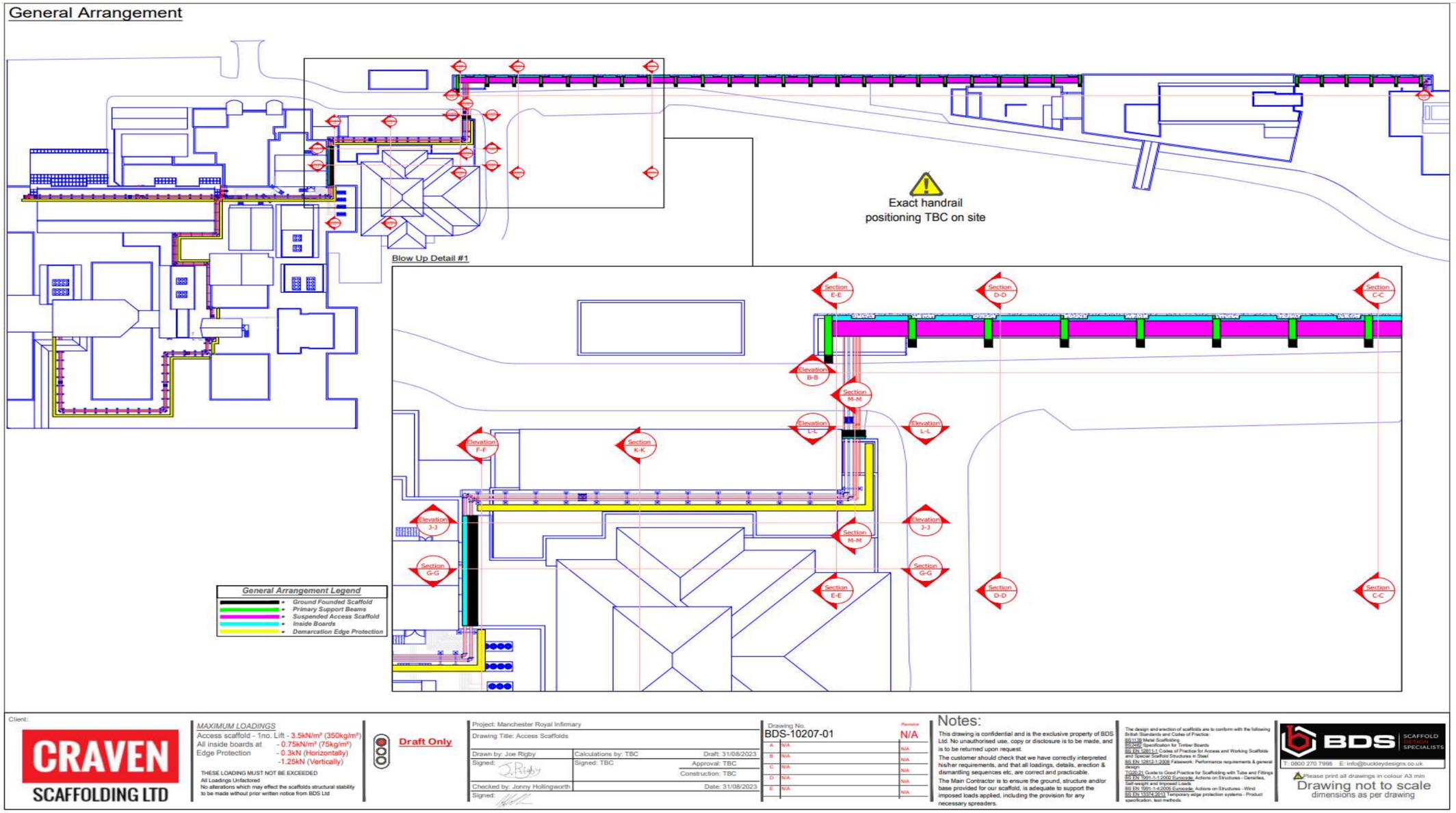
Mobile Fencing & Security HERAS

NHS Manchester University NHS Foundation Trust

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3.1.3 SCAFFOLDING DESIGN



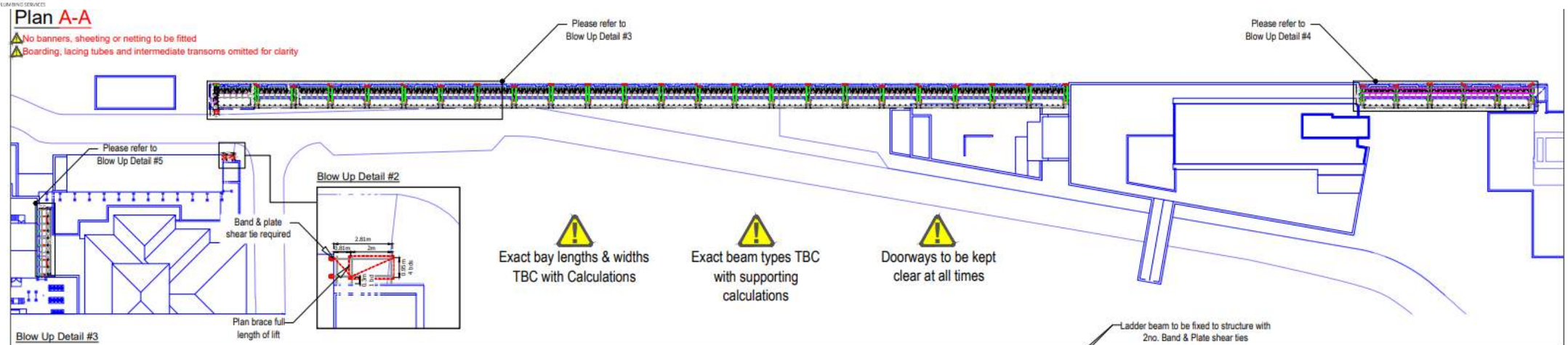
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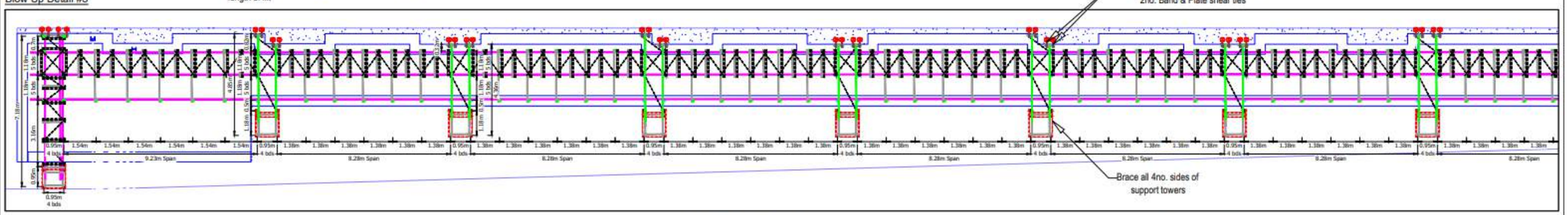
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Plan A-A

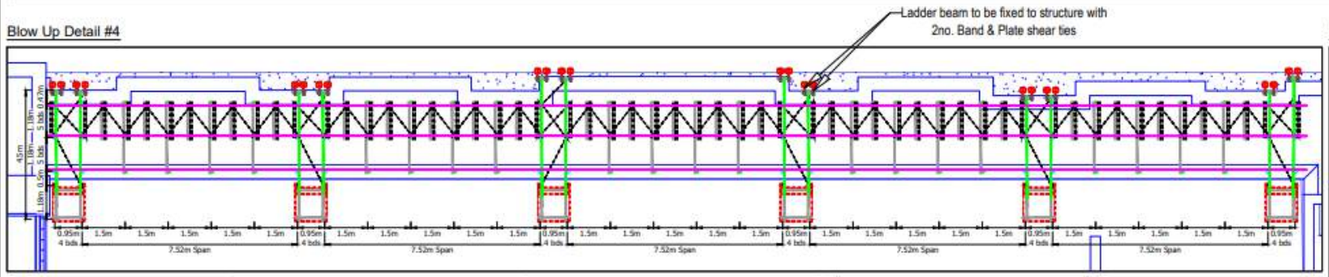
⚠ No banners, sheeting or netting to be fitted
⚠ Boarding, lacing tubes and intermediate transoms omitted for clarity



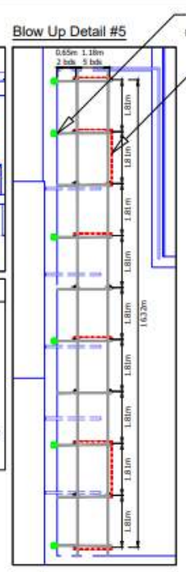
Blow Up Detail #3



Blow Up Detail #4



Blow Up Detail #5



Notes - 300mm Ladder Beam

- All beam/standard connections to be made with load bearing couplers.
- All beam/puncheon connections to be made with load bearing couplers.
- Lacing tubes to be fixed to the standards directly below beam/standard connections, thus acting as checker.
- Lacing tubes to be fixed to the puncheons directly above beam/puncheon connections, thus acting as checker.
- Lace beams together on top & bottom chords at max 1m centres.
- Plan brace full length of beams on the top chord (compression chord).
- When lacing multiple beams lacing tube must be fixed to all beams.

Notes - 750mm deep Apollo Beam

- All beam/standard connections to be made with load bearing couplers.
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- 'X' brace & Lace beams together on top & bottom chords at max 1m centres.
- Plan brace full length of beams on the top chord (compression chord).
- When lacing multiple beams lacing tube must be fixed to all beams.

⚠ SHEAR TIE REQUIREMENTS ⚠

Band & Plate shear tie arrangements MUST be fixed to the wall, inline with the details below

- Bolt Type: ADI, Self Tapping Bolt
- Bolt Size: 130mm (length) - 12mm Ø Diameter
- Minimum Hole Depth: 115mm
- Minimum Embedment Depth: 90mm
- SWL (shear): 15kN per bolt - (tension): 13kN
- Spacing Distance: Minimum 400mm

⚠ TG4:19 (SHEAR TIE TESTING REQUIREMENTS) ⚠

- Preliminary Load Test - This anchor to 2 x TBC = TBC If the preliminary load test is successful, then apply the proof test load to the supporting anchors. 1.25 x TBC = TBC 'pull out'.
- Should the test load fall below the above figures, then the tying configuration to be re-evaluated.

Legend

- Tube
- Ladder Beam
- 750mm Beam
- Beam Bracing
- Bracing
- Standard
- Puncheon
- Hanger
- Shear Tie
- 12mm Excalibur EYB Eyebolt (or similar)
- Check Coupler

⚠ DIMENSIONS ⚠

LIMITED SURVEY DRAWINGS SUPPLIED THEREFORE ALL BUILDING DIMENSIONS ARE APPROXIMATE. ALL DIMENSIONS TO BE CHECKED PRIOR TO ERECTION

⚠ RISK ⚠

Principal contractor to confirm ground is capable of supporting imposed loads

⚠ RISK ⚠

Principal contractor to confirm structure is capable of supporting imposed loads

⚠ RISK ⚠

Scaffold operatives must have a safe system of work in place when working on leading edges to ensure they are clipped on at all times

⚠ RISK ⚠

Scaffold operatives must have a safe system of work in place when working on beams to ensure they are clipped on at all times

⚠ CLASS B COUPLERS ⚠

ALL CONNECTIONS TO BE MADE WITH CLASS B COUPLERS
CLASS B COUPLER: SWL = 9.1kN

⚠ CDM REGULATIONS 2015 ⚠

The Construction (design & management) Regulations 2015, Require that we make customers aware of their duties imposed by the regulations. Guidance on your duties are published by the HSE in the form of an approved code of practice.

⚠ TG4:19 ⚠

Scaffold tie arrangements must be erected/tested in accordance with the guidance notes set out in TG4:19 (Anchorage Systems for Scaffolding)

⚠ TG4:19 (TIE TESTING REQUIREMENTS) ⚠

- Preliminary Load Test - This anchor to 2 x TBC = TBC If the preliminary load test is successful, then apply the proof test load to the supporting anchors. 1.25 x TBC = TBC 'pull out'.
- Should the test load fall below the above figures, then the tying configuration to be re-evaluated.

⚠ SG4:22 ⚠

The scaffolders MUST erect the scaffolding in accordance with the guidance notes set out in SG4:22

⚠ LADDER ACCESS ⚠

LADDER ACCESS TO BE INSTALLED IN ACCORDANCE WITH SG25:20 (omitted for clarity)

⚠ RISK ⚠

NO BANNERS, SHEETING OR NETTING TO BE FIXED TO THE SCAFFOLD

⚠ PEDESTRIAN PROTECTION ⚠

PROTECTION TO THE PUBLIC MUST BE MAINTAINED IN ACCORDANCE WITH SG34:17 & TG20:21

⚠ RISK ⚠

ALL BOARDS TO BE ADEQUATELY SECURED IN THE EVENT OF HIGH WINDS

Fundamental Notes

TBC

Client:

CRAVEN SCAFFOLDING LTD

MAXIMUM LOADINGS

Access scaffold - 1no. Lift - 3.5kN/m² (350kg/m²)
All inside boards at - 0.75kN/m² (75kg/m²)
Edge Protection - 0.3kN (Horizontally)
-1.25kN (Vertically)

THESE LOADING MUST NOT BE EXCEEDED
All Loadings Unfactored
No alterations which may effect the scaffolds structural stability to be made without prior written notice from BDS Ltd

Draft Only

Project: Manchester Royal Infirmary
Drawing Title: Access Scaffolds

Drawn by: Joe Rigby	Calculations by: TBC	Draft: 31/08/2023
Signed: J. Rigby	Signed: TBC	Approval: TBC
		Construction: TBC
Checked by: Jonny Hollingworth		Date: 31/08/2023
Signed:		

Drawing No. BDS-10207-02

Revision N/A

A	N/A	N/A
B	N/A	N/A
C	N/A	N/A
D	N/A	N/A
E	N/A	N/A

Notes:

This drawing is confidential and is the exclusive property of BDS Ltd. No unauthorised use, copy or disclosure is to be made, and is to be returned upon request.

The customer should check that we have correctly interpreted his/her requirements, and that all loadings, details, erection & dismantling sequences etc, are correct and practicable.

The Main Contractor is to ensure the ground, structure and/or base provided for our scaffold, is adequate to support the imposed loads applied, including the provision for any necessary spreaders.

The design and erection of scaffolds are to conform with the following British Standards and Codes of Practice:
BS1139 Metal Scaffolding
BS1450 Specification for Timber Boards
BS EN 12811-1 Codes of Practice for Access and Working Scaffolds and Special Scaffold Structures in Steel
BS EN 12812-1:2008 Falsework: Performance requirements & general design
TG20:21 Guide to Good Practice for Scaffolding with Tube and Fittings
BS EN 1991-1-1:2002 Eurocode: Actions on Structures - Densities, Self-weight and Imposed Loads
BS EN 1991-1-4:2005 Eurocode: Actions on Structures - Wind
BS EN 13374:2013 Temporary edge protection systems - Product specification, test methods.

BDS SCAFFOLD DESIGN SPECIALISTS
T: 0800 270 7998 E: info@buckleydesigns.co.uk

⚠ Please print all drawings in colour A3 min

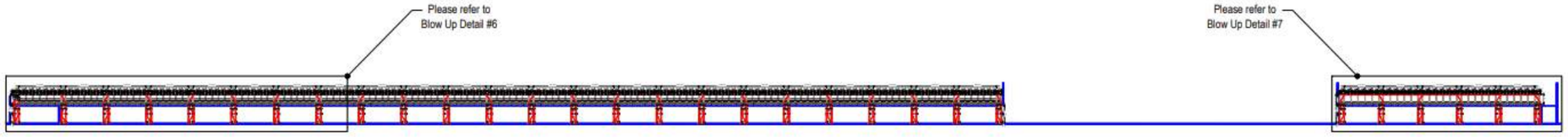
Drawing not to scale
dimensions as per drawing

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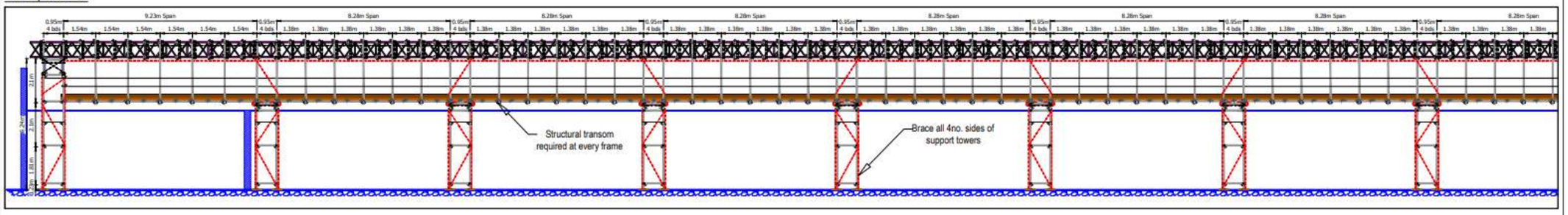
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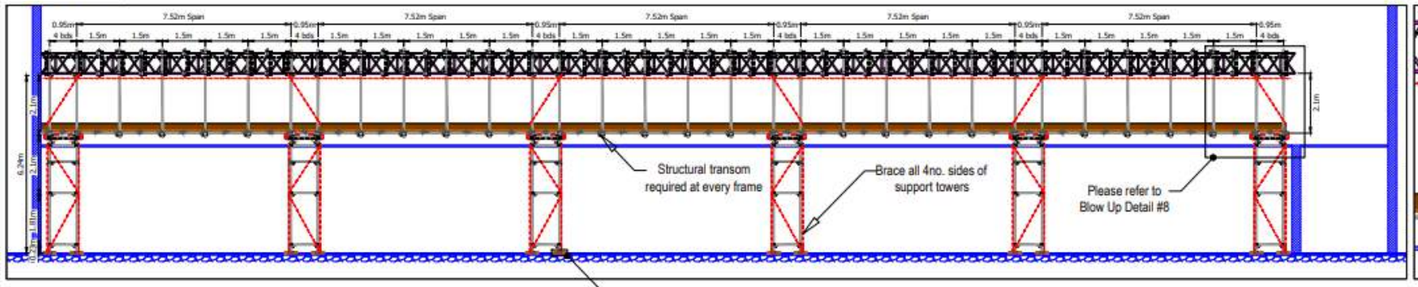
Elevation B-B



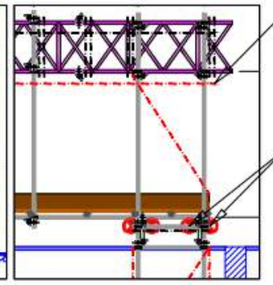
Blow Up Detail #6



Blow Up Detail #7



Blow Up Detail #8



Notes - 300mm Ladder Beam

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- Lacing tubes to be fixed to the standards directly below beam/standard connections, thus acting as checker.
- Lacing tubes to be fixed to the puncheons directly above beam/puncheon connections, thus acting as checker.
- Lace beams together on top & bottom chords at max 1m centres.
- Plan brace full length of beams on the top chord (compression chord).
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Notes - 750mm deep Apollo Beam

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- Plan brace full length of beams on the top chord (compression chord).
- When lacing multiple beams lacing tube must be fixed to all beams.

⚠ Exact bay lengths & widths TBC with Calculations

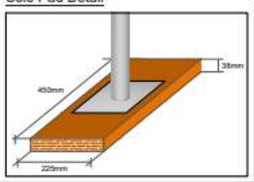
⚠ Exact beam types TBC with supporting calculations

⚠ Doorways to be kept clear at all times

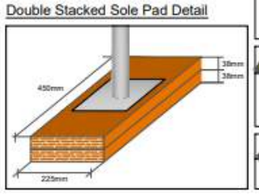
Legend

- Tube
- Ladder Beam
- 750mm Beam
- Beam Bracing
- Bracing
- Standard
- Puncheon
- Hanger
- Shear Tie
- 12mm Excalibur EYB Eyebolt (or similar)
- Check Coupler

Sole Pad Detail



Double Stacked Sole Pad Detail



⚠ SHEAR TIE REQUIREMENTS ⚠

Band & Plate shear tie arrangements MUST be fixed to the wall, inline with the details below

- Bolt Type: ADI, Self Tapping Bolt
- Bolt Size: 130mm (length) - 12mm Ø Diameter
- Minimum Hole Depth: 115mm
- Minimum Embedment Depth: 90mm
- SWL (shear): 15kN per bolt - (tension): 13kN
- Spacing Distance: Minimum 400mm

⚠ TG4:19 (SHEAR TIE TESTING REQUIREMENTS) ⚠

- Preliminary Load Test - This anchor to 2 x TBC = TBCIf the preliminary load test is successful, then apply the proof test load to the supporting anchors. 1.25 x TBC = TBC 'pull out'.
- Should the test load fall below the above figures, then the tying configuration to be re-evaluated.

⚠ CDM REGULATIONS 2015 ⚠

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⚠ DIMENSIONS ⚠

LIMITED SURVEY DRAWINGS SUPPLIED THEREFORE ALL BUILDING DIMENSIONS ARE APPROXIMATE. ALL DIMENSIONS TO BE CHECKED PRIOR TO ERECTION

⚠ RISK ⚠

Principal contractor to confirm ground is capable of supporting imposed loads

⚠ RISK ⚠

Principal contractor to confirm structure is capable of supporting imposed loads

⚠ RISK ⚠

Scaffold operatives must have a safe system of work in place when working on leading edges to ensure they are clipped on at all times

⚠ RISK ⚠

Scaffold operatives must have a safe system of work in place when working on beams to ensure they are clipped on at all times

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ALL CONNECTIONS TO BE MADE WITH CLASS B COUPLERS
CLASS B COUPLER: SWL = 9.1kN

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⚠ SG4:22 ⚠

The scaffolders MUST erect the scaffolding in accordance with the guidance notes set out in SG4:22

⚠ LADDER ACCESS ⚠

LADDER ACCESS TO BE INSTALLED IN ACCORDANCE WITH SG25:20 (omitted for clarity)

⚠ RISK ⚠

NO BANNERS, SHEETING OR NETTING TO BE FIXED TO THE SCAFFOLD

⚠ PEDESTRIAN PROTECTION ⚠

PROTECTION TO THE PUBLIC MUST BE MAINTAINED IN ACCORDANCE WITH SG34:17 & TG20:21

⚠ RISK ⚠

ALL BOARDS TO BE ADEQUATELY SECURED IN THE EVENT OF HIGH WINDS

Fundamental Notes

TBC

Client:

CRAVEN SCAFFOLDING LTD

MAXIMUM LOADINGS

Access scaffold - 1no. Lift - 3.5kN/m² (350kg/m²)
All inside boards at - 0.75kN/m² (75kg/m²)
Edge Protection - 0.3kN (Horizontally)
-1.25kN (Vertically)

THESE LOADING MUST NOT BE EXCEEDED
All Loadings Unfactored
No alterations which may effect the scaffolds structural stability to be made without prior written notice from BDS Ltd

Draft Only

Project: Manchester Royal Infirmary
Drawing Title: Access Scaffolds

Drawn by: Joe Rigby	Calculations by: TBC	Draft: 31/08/2023
Signed: J.Rigby	Signed: TBC	Approval: TBC
		Construction: TBC
Checked by: Jonny Hollingworth		Date: 31/08/2023
Signed:		

Drawing No. BDS-10207-03

Revision N/A

A	N/A	N/A
B	N/A	N/A
C	N/A	N/A
D	N/A	N/A
E	N/A	N/A

Notes:

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The customer should check that we have correctly interpreted his/her requirements, and that all loadings, details, erection & dismantling sequences etc, are correct and practicable.

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The design and erection of scaffolds are to conform with the following British Standards and Codes of Practice.
BS1139 Metal Scaffolding
BS2482 Specification for Timber Boards
BS EN 12811-1 Codes of Practice for Access and Working Scaffolds and Special Scaffold Structures in Steel
BS EN 12812-1:2008 Falsework: Performance requirements & general design
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BS EN 1991-1-4:2005 Eurocode: Actions on Structures - Wind
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BDS SCAFFOLD DESIGN SPECIALISTS
T: 0800 270 7998 E: info@buckleydesigns.co.uk

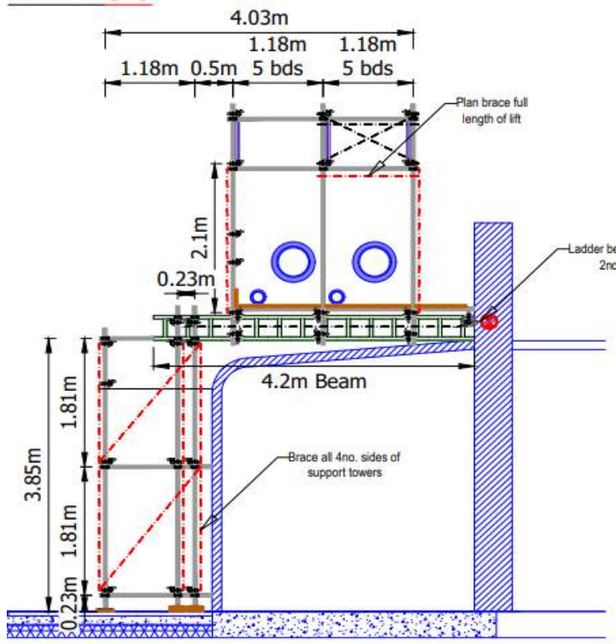
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Drawing not to scale
dimensions as per drawing

C M OXENDALE LTD
MECHANICAL AND PLUMBING SERVICES

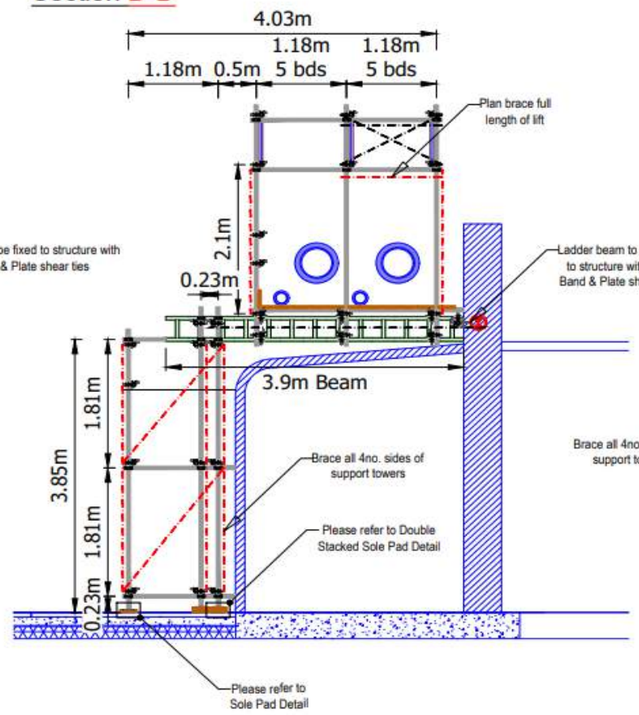
EQUANS

NHS
Manchester University
NHS Foundation Trust

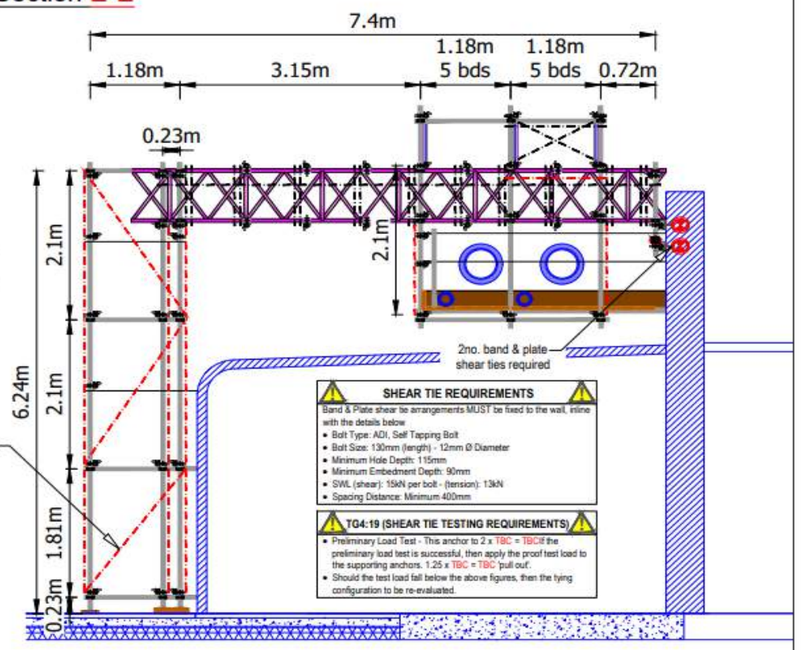
Section C-C



Section D-D



Section E-E



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- Preliminary Load Test - This anchor to 2 x TBC = TBCIf the preliminary load test is successful, then apply the proof test load to the supporting anchors. 1.25 x TBC = TBC 'pull out'.
- Should the test load fall below the above figures, then the tying configuration to be re-evaluated.

Notes - 300mm Ladder Beam

- All beam/standard connections to be made with load bearing couplers.
- All beam/puncheon connections to be made with load bearing couplers.
- Lacing tubes to be fixed to the standards directly below beam/standard connections, thus acting as checker.
- Lacing tubes to be fixed to the puncheons directly above beam/puncheon connections, thus acting as checker.
- Lace beams together on top & bottom chords at max 1m centres.
- Plan brace full length of beams on the top chord (compression chord).
- When lacing multiple beams lacing tube must be fixed to all beams.

Notes - 750mm deep Apollo Beam

- All beam/standard connections to be made with load bearing couplers.
- All beam/puncheon connections to be made with load bearing couplers.
- Lacing tubes to be fixed to the standards directly below beam/standard connections, thus acting as checker.
- Lacing tubes to be fixed to the puncheons directly above beam/puncheon connections, thus acting as checker.
- "X" brace & Lace beams together on top & bottom chords at max 1m centres.
- Plan brace full length of beams on the top chord (compression chord).
- When lacing multiple beams lacing tube must be fixed to all beams.

Exact bay lengths & widths TBC with Calculations

Exact beam types TBC with supporting calculations

Doorways to be kept clear at all times

Legend

- Tube
- Ladder Beam
- 750mm Beam
- Beam Bracing
- Bracing
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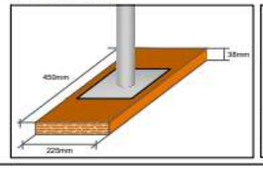
LADDER ACCESS
LADDER ACCESS TO BE INSTALLED IN ACCORDANCE WITH SG25:20 (omitted for clarity)

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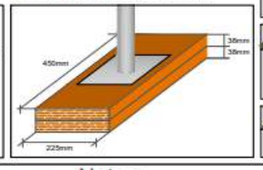
PEDESTRIAN PROTECTION
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Sole Pad Detail



Double Stacked Sole Pad Detail



Fundamental Notes

TBC

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CRAVEN SCAFFOLDING LTD

MAXIMUM LOADINGS

Access scaffold - 1no. Lift - 3.5kN/m² (350kg/m²)
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Draft Only

Project: Manchester Royal Infirmary
Drawing Title: Access Scaffolds

Drawn by: Joe Rigby	Calculations by: TBC	Draft: 31/08/2023
Signed: J.Rigby	Signed: TBC	Approval: TBC
		Construction: TBC
Checked by: Jonny Hollingworth		Date: 31/08/2023
Signed:		

Drawing No. BDS-10207-04 — Revision N/A

A	N/A	N/A
B	N/A	N/A
C	N/A	N/A
D	N/A	N/A
E	N/A	N/A

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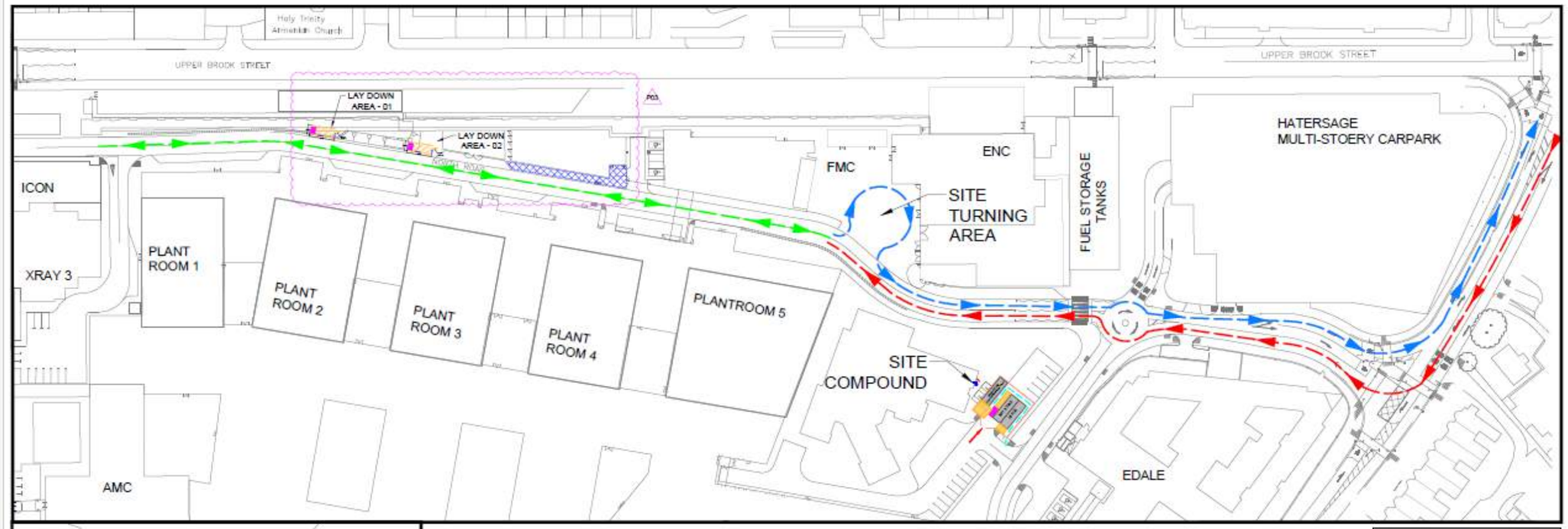
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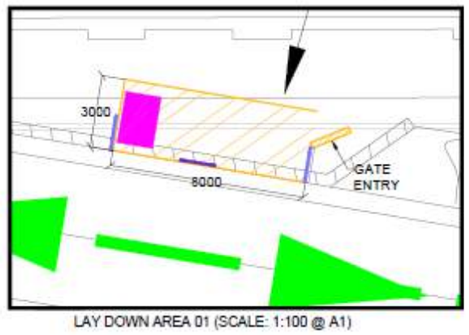
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Drawing not to scale
dimensions as per drawing

3.1.5 Site Delivery Logistics

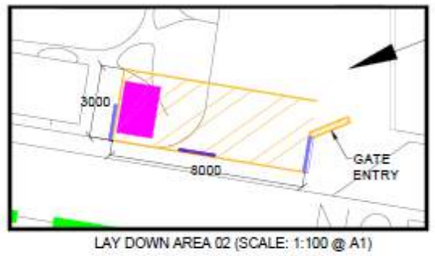




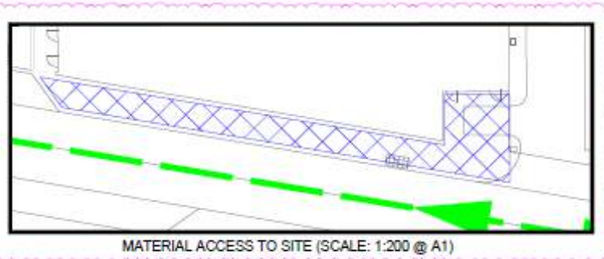
SITE COMPOUND DETAIL (SCALE: 1:100@A1)



LAY DOWN AREA 01 (SCALE: 1:100 @ A1)



LAY DOWN AREA 02 (SCALE: 1:100 @ A1)



MATERIAL ACCESS TO SITE (SCALE: 1:200 @ A1)

LEGEND	
SYMBOL	DESCRIPTION
	SITE ENTRY ROUTE
	SITE EXIT ROUTE
	2-WAY SITE TRAFFIC
	LAY DOWN AREA
	SOLID FENCE PANELS
	EXTERNAL PROJECT SIGN (INC. SITE CONTACT)
	INTERNAL PROJECT H&S BOARD
	SITE CABIN
	SKIP
	SITE COMPOUND FENCE LINE
	SITE COMPOUND VEHICLE ACCESS ROUTE
	SITE COMPOUND PEDESTRIAN ACCESS ROUTE
	WATER SUPPLY
	POWER SUPPLY AT COMMANDO SOCKET

P03	18.11.22	AMENDED LAY DOWN AREAS, ADDED MATERIAL ACCESS TO SITE	PR
P02	25.10.22	AMENDED LAY DOWN AREAS, ADDED LAY DOWN DETAILS	PR
P01	20.09.22	PRELIMINARY ISSUE	PR
Rev	Date	Description	Orig

C M OXENDALE LTD
Unit 5, Dorten Court, Kerr Ramsbottom Way, Great Harwood, BB6 7UH
Tel: 01254 890 431
Fax: 01254 890 001
E-mail: info@cmoxendale.co.uk
Website: www.cmoxendale.co.uk

Client: EQUANS

Project: MANCHESTER ROYAL INFIRMARY
OXFORD ROAD
MANCHESTER
M13 9WL

Drawing Title: FMC LOUVRES & SWITCHROOM VENTILATION
SITE TRAFFIC LAYOUT

Status: PRELIMINARY

Project No.	Drawn	Status	Scale / Paper Size
0114	PK	S3	1:600 @ A1

Drawing No.: 0114-CMO-ZZ-XX-D0-PC-02-000
Rev.: P03

3.1.5 Excavation of Foundations.

Excavation will be undertaken using mechanical plant. During the excavation process licensed waste carriers will collect the excavated debris using waste skips or bulk tippers.

These skips and tippers are to be contained in the areas segregated by the traffic management.

3.1.6 Installation of steel and pipe work.

The steel work and pipe work will be installed in a sequence of phases, 4 in total. Phases 1,2, 3 and most of 4 will not impact on North Road, other than periodic deliveries. The latter part of phase 4 will require some lane closure to the upper part of the road.

3.1.7 Erecting and dismantling of scaffolding.

The scaffold will be erected and dismantled in phases to suit the steel and pipe work installation (4 phases).

4.0 VEHICLE ROUTING AND SITE ACCESS

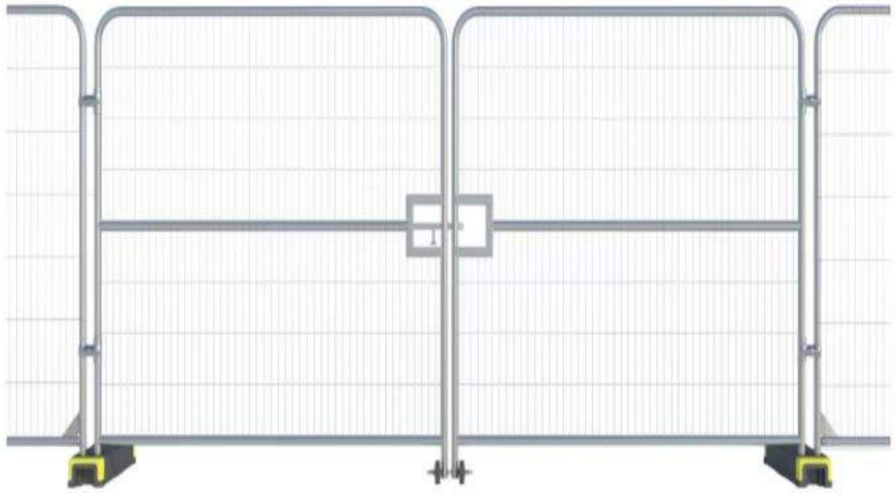
The above map shows the area around the development site. Figure 3.1.5 shows a local plan with the vehicle routes through Site highlighted. Vehicle tracking into and out of the site has also been included to show the safe manoeuvring of vehicles into and out of the site

Lay Down Areas

Laydown areas will be required to allow material storage prior to transporting to and from the service corridor area. The areas will be within the temporary traffic managed area. these are areas that will have to be agreed with the client. This would allow material and waste to be easily moved to and from site to laydown area and from delivery trucks to laydown area. These areas will be segregated using HERRA's fence panel's and will have locked gate entry as below.

Laydown Fencing And gate Access





5.0 STRATEGIES TO REDUCE IMPACTS

Medium Impact Site Planned Measures Checklist	Committed	Proposed	Considered
Measures influencing construction vehicles and deliveries			
Safety and environmental standards and programmes	X		
Adherence to designated routes	X		
Delivery scheduling	X		
Re-timing for out of peak deliveries			X
Material procurement measures			
DfMA and offsite manufacture	X		

5.1.1. Measures influencing construction vehicles and deliveries

Safety and environmental standards and programmes - We are committed to ensuring all contractor and sub-contractor vehicles arriving at site comply with sufficient safety measures and requirements relating to Work Related Road Risk.

Adherence to designated routes –

Details of routes to be used for journeys to and from site for road operations are provided in Section 4. These access routes have been reviewed with respect to potential impacts, conflicts and hazards. Junctions and parts of the routes of particular potential concern have been identified in terms of coming into conflict with other road users, with particular attention paid to pedestrians and cyclists around access to work sites. A copy of the route plan will be given to all suppliers when orders are placed to ensure drivers are fully briefed on the required route to take. The supplier will be made aware that these routes are required to be followed at all times unless agreed or alternate diversions are in place.

Delivery scheduling - Sub-contractors and hauliers must book in a minimum of 48-hours in advance in order to allow the site management to be review and subsequently approved/declined.

Re-timing for out of peak deliveries - Re-timing out of peak time will aid the operational efficiency of the construction site and also the neighbouring area. This to attempting to re-time as many deliveries as possible out of the morning peak (08.00-10.00).Re-timing for out of hours deliveries - outline proposals for how deliveries will be re-timed out of hours.

5.1.3. MATERIAL PROCUREMENT MEASURES

DfMA and off-site manufacture- Reducing delivery numbers and effective delivery management is a core value of our works. Therefore, the option of off-site construction will be discussed upon appointment of a contractor and used where possible.

6.0 IMPLEMENTING, MONITORING AND UPDATING

This Outline CLP cannot include a detailed and defined description of how the CLP will be implemented, monitored and updated. However, the following strategy can be confirmed at this stage.

An appointed Manager will be in charge of implementing the detailed

CLP on behalf on the Contractor. Their job description will include collecting data on:

- Number of vehicle movements to site
- Total
- By vehicle type/size/age
- Time spent on site
- Consolidation centre utilization
- Delivery/collection accuracy compared to schedule
- Breaches and complaints
- Vehicle routing
- Unacceptable queuing
- Unacceptable parking
- Supplier accreditation
- Safety
- Logistics-related accidents
- Record of associated fatalities and serious injuries
- Ways staff are travelling to site
- Vehicles and operations not meeting safety requirements
- Description of the contractor's handbook
- Description of the driver's handbook

The data collected will be reported back to C M Oxendale with full transparency to MFT/EQUANS.