OUR TOWN HALL PROJECT

Technical Submission – Type 8a Alterations

Doc number: OTH-MWC-TH-LG-TSB-X-0038

Status: S6

Rev: P01

Document Type: Technical Submission

Date: 21/01/2020

Issue History:

Revision Nr	Details	Date	Created by	Check by
P01	Document created	21/01/21	W Brand	

OUR TOWN HALL PROJECT

Technical Submission – Type 8a Alterations

Doc number: OTH-MWC-TH-LG-TSB-X-0038

Status: S6

Rev: P01

Document Type: Technical Submission

Date: 22/01/2020

Issue History:

Revision Nr	Details	Date	Created by	Check by
P01	Document created	22/01/21	W Brand	

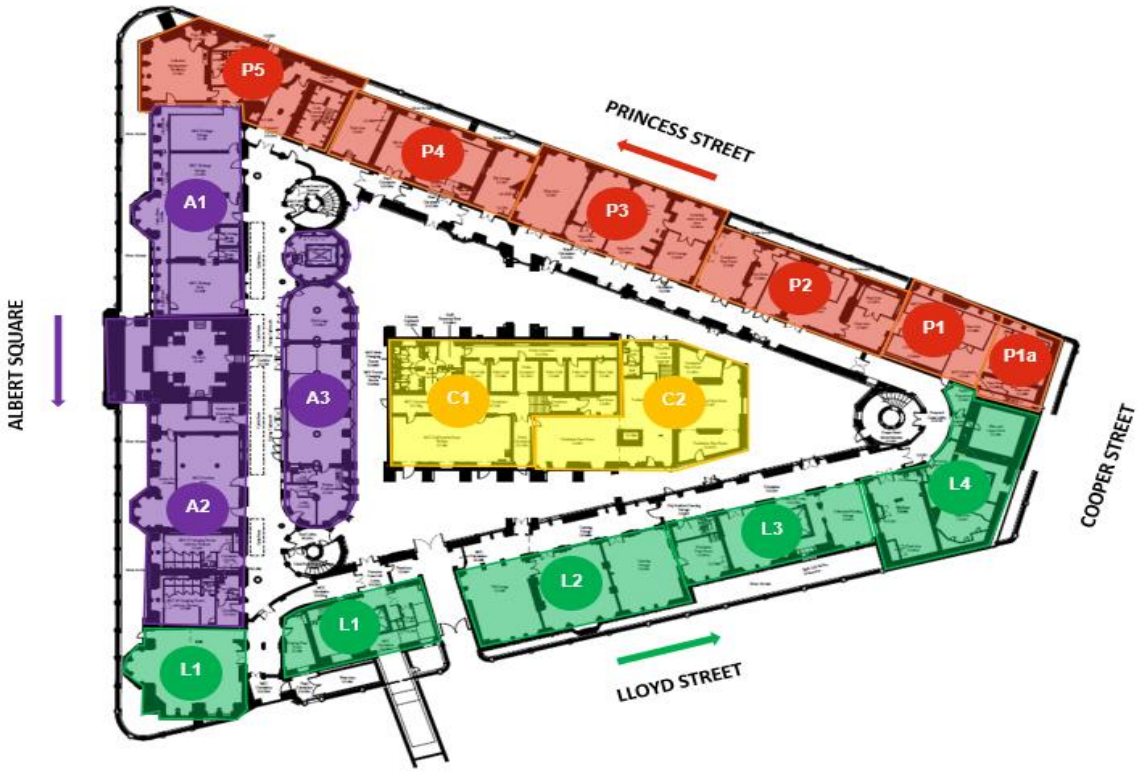
OUR TOWN HALL PROJECT	**Our Town Hall** **Works Technical Submission**

Works Package Name: Internal Substructure 40032.01	**Task/Activity** Type 8a Arch Support During Wall Alterations. **Location:** Lower Ground Floor

Date: 22/01/2021	**Start Date of Activity:** 01/01/2021

Scope/Overview:

Zone Plan Overview for Lower Ground



The Technical Submission has been created to detail the sequence of tasks and activities involved in the removal of load-bearing walls in the lower ground floor. This set of alteration, type 8a's, involves a more technical approach than other alterations covered in Technical Submission 0002 (OTH-MWC-TH-LG-TSB-X-0002).
Locations of type 8a's can be found on drawing; OTH-MWC-TH-SK-TW-0020-003.

Scope of works include:

1) Removing sections of the existing mosaic tiled floor on ground floor level.
2) Removal of existing temporary screw jacks supports.
3) Knock ‘magic’ bricks out & Shape existing brickwork back ready for jack arch reformation.
4) Deconstruct the remaining wall.
5) Install rolled steel plate to existing corridor walls.
6) Infill the recessed floor where mosaic strip has been removed.
7) Form the Jack arch to match existing in finishes.

Sequence (incl. hold/inspection points):

Please see Temporary Works Submission 0020 (OTH-MWC-TH-LG-RPT-X-0020) for full details.

1) Removing sections of the existing mosaic tiled floor on ground floor level.

Disclaimer: Lifting the mosaics will strictly be done to Purcell's requirements.

The locations of type 8a lintel installation where the mosaic tiles need removing fall within the corridor walkways on the ground floor of the town hall. Therefore, the first action is for Murraywood to put up barriers and signage to create an exclusion zone around the direct working area, preventing trips or falls on the modified floor and damage to the existing mosaic tiles.
Once achieved, The Mosaic Restoration Company will mobilise on the removal and making good of the area. Their methodology is as follows:

Methodology

Average size of the areas of mosaic to be removed approximately 625mm x 2,700mm
10 no. areas in total, works likely to be carried out 2 no. per week,

1. Confirm precise location of area to be removed and mark out.

2. Light clean of mosaic by hand using soft pads, sponges with Vulpex soap, rinse and wipe dry.

3. Catalogue (record on site and Architects plan) and photograph each section before. This information will then be used for future reinstatement works.

4. Carefully remove individual marble tesserae and set aside for future reinstatement using small diamond tipped dremel drills and hand chisels. Dress each tesserae where possible ready for reinstatement. Mosaic tesserae bedded in a rich cementitious mortar may prove impossible to salvage. This can likely be determined prior to commencing the works and confirmed during the process.

5. Provide large grey packing trays approx. 750mm x 550mm x 200mm and small cardboard boxes 215mm x 150mm x 155mm (9 per grey tray). The boxes will be labelled and receive the individual coloured tesserae from the border and side red scribes. The central mixed colour sections will be packaged together. The objective is to set aside matching original material that can be easily used for later reinstatement.

6. Cut back to approximately 15mm depth to enable suitable recess for future mosaic reinstatement. Depending on the type of original mortar mix found it may be necessary to scabble back the bedding mortar to the specified depth using a small hammer-drill. The working time of 'exposure vibration' will be monitored. We do not anticipate any special methods will be required, but noise and potential dust to be discussed prior to commencing.

7. Photograph completed removed section and submit with record of salvaged material.

8. Grey packing trays to be labelled and left on site (likely to be stored in 'Heritage Room' TBC).

Please refer to The Mosaic Restoration Company's full technical submission attached below as Appendix 1.

2) Removal of existing temporary screw jacks supports.



To proceed with the new anchoring supports the existing temporary works design need to be removed. The existing temporary supports in-place consist of screw jacks the span the void where the first few courses of brickwork have been careful removed.

3) Knock 'magic' bricks out & Shape existing brickwork back ready for jack arch re-formation.



- Firstly, an exclusion zone and protection to walls and floors needs to be installed/established on the lower ground floor beneath the cores. To protect anyone in the area from falling brickwork and debris.

- Next, from the ground floor carefully knock on the floor slab with a rubber lump hammer, to detach the 'magic' bricks from the underside of the jack arch and allow them to fall away.

- Satisfied with the removal of all the 'magic' bricks from above, any remaining bricks that sit protruding the jack arch can be removed via access on a mobile scaffold tower on the lower ground floor. There should now be a recess where the existing wall used to meet the underside of the structural slab, that will be packed back out in the later stages to form the new jack arch that matches the existing.

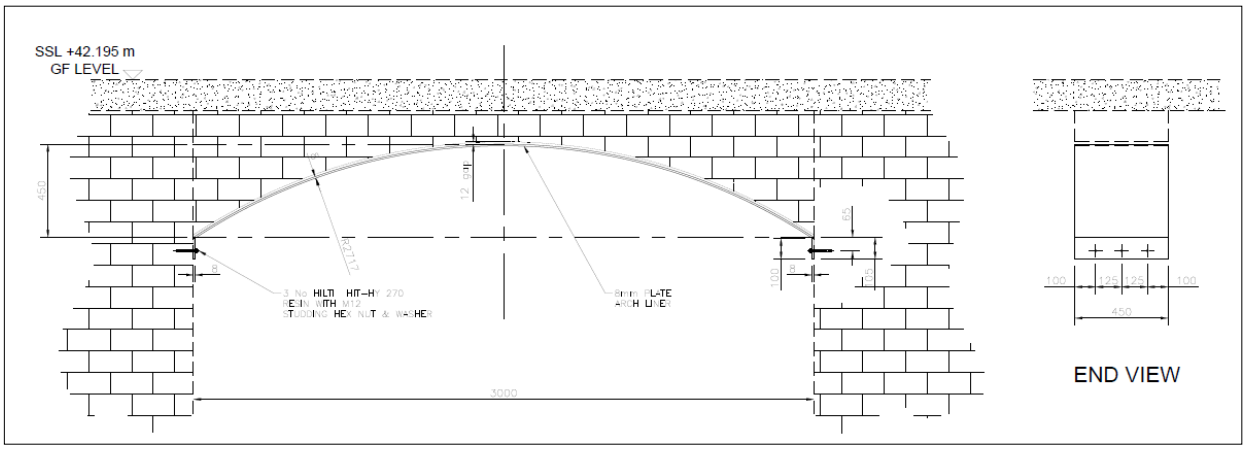
- During this stage, it is important to keep the working area tidy by clearing away the lose fallen bricks, especially when erecting a mobile scaffold tower. However, it is essential that a line of communication is maintained between the worker knocking the brick down and anyone below. By articulating between all the parties involved about the completion of knocking materials down is vital before others can move under to clear the debris.

4) Deconstruct the remaining wall.

At this stage, the remaining sections of existing wall can now be demolished and removed. Salvaging and stacking on pallets as many full bricks as feasible possible, for re-use elsewhere.
To reach the high-level brickwork in order to safely demolish from the top down, workers will use either a mobile scaffold tower or Peco lift. Anyone using these working at height aids will be qualified and trained to do so.
Please see technical submission 0002 (OTH-MWC-TH-LG-TSB-X-0002) for further details on wall demolition alterations.

5) Install rolled steel plate to existing corridor walls.

A series of rolled steel plates have been manufactured to the width of the corridors and to match the curvature of the existing jack arches at the various type 8a instances. These will now be installed by fixing into the existing corridor walls. See extract below, from the manufacture drawing by Shawton's; OTH-MWC-TH-LG-DWG-X-0001.



6) Infill the recessed floor where mosaic strip has been removed.

To bring the recessed strip of floor when the mosaics have been removed, insert a rectangular piece of plywood and pour lime mortar, or similar, to the areas between the straight edges of the ply and the staggered edges of the mosaics. Infilling the recess up to finish floor level prevents a tripping hazard and protects the remaining mosaics around the edges from being kicked and chipped.
Once the wall alterations are complete, the plywood and lime mortar can be carefully removed, and the original mosaic pattern returned.

7) Form the Jack arch to match existing in finishes.

Final stages are to remove the temporary supports as the ceiling and slab is supported by the newly installed steel plate. Then backfill the core holes to just below the level underside the mosaics and reinstate the mosaics to original appearance. And finally finish the jack arch to match the existing.

Benchmark/Samples: **N/A**

Heritage Considerations:	**Controls:**
Materials: (New, existing and waste streams)	All waste generated will be stored locally until a designated waste route and disposal area has been agreed with Lendlease. Propose waste routes including conveyor systems to be used to transport excavated material outdoors. Waste streams include brick, concrete, excavated spoil. This material will not be stored up against existing walls.
Protection: (Exceptions to project strategy)	In line with the works detailed above the fabric of the building will require protection from falling bricks and debris. Protection will be achieved by utilising 500 gauge visqueen taped and draped over a layer of corex padding low-tack taped to the existing fabric. Protection to the existing fabric from plant movement will be carried out using Class 0 low level hoarding protection. This will be placed to mimic a corridor from the work zone to external door reference LG-C02-ED03. Exclusion zone will be utilised to during various stages of work in order protect the areas of floor where mosaic removal occurs. Preventing foot traffic on these areas is key.
Building Impact: (Vibration, dust, noise etc.)	**Vibration:** • Vibration monitoring provided by Lendlease, monitored by SRL as per agreed with the client. Levels (over 10mm/s for amber and over 15mm/s for red). • HOLD POINT: If the vibration level exceeds the upper threshold alternative methodology needs to be considered. • No tools or processes are anticipated to cause excess vibration to the fabric of the building. **Dust:** • Dust will be collected by air vacs during works that could generate kick up into the atmosphere. **Noise:** • This will be monitored and recorded daily. • Noise exclusion zones will be setup to prevent other people from entering the work area. • Hearing protection will be provided to all within the work area if required.

Tools/Equipment: (Type, use and calibration)	All tools and equipment have been described in detail in the sequence section.
Storage: (During works for reinstatement, long term off site)	Heritage Assets will be stored in an allocated room on the ground floor as dictated by Lendlease. Original brickwork will be stored in an allocated room on the lower ground floor as directed by Lendlease. Spoil will be removed from the building via the courtyard or conveyor belt within Room LG-009 as agreed prior with Lendlease.
Discovery: (Type to be expected and visual signs)	All personnel will be made aware of any heritage assets and any requirements for pre-approved protection. Care must be taken at all stages of the removal process and supervision must monitor the integrity of protection as the works progress. Photographs of each element/area will be taken before works commence and once works have been completed. These photographs will be issued to Lendlease. Were required Lendlease will issue permits to work. In the event of any unknown heritage items/assets are discovered whilst carrying out our works, an immediate hold point will be implemented and Lendlease informed. Works will not be able to recommence until a written instruction is received from Lendlease.
Workforce Awareness: (Tool box talks and briefing by design consultants prior to works)	In line with Lendlease's protocols, the Murraywood site teams will undergo project inductions to outline site rules, welfare arrangements and emergency procedures of the site. The Murraywood workforce will be briefed on the OTH project objectives, the Town Hall's history, heritage/protection requirements and the work team's responsibilities. In addition, there will also be a ½ day Incident and Injury Free inductions and supervisors must also attend a Frontline Leadership 1-day training course. These inductions/courses are dependent on Lendlease protocol for COVID 19. Prior to a new work area being released to Murraywood, a room walk around will be completed with the Murraywood site team and Lendlease to discuss the rooms specific heritage items/assets and any safety concerns to ensure the full site team is aware of what the rooms protection will consist of. At the start of each shift the site team will be briefed on the day's targets and strategy of the day's events (Smart Start). This will include a discussion on heritage protection required through a 'Start Right Briefing' method given by the site manager/supervisor. Various other TBTs will also take place weekly, which will include topics on Health and Safety, Environmental and Occupation health. The day to day running of the site will be closely monitored and recorded by the Murraywood Manager/Supervisor throughout the whole work package. This will include the Site Manager/Supervisor completing a daily diary of the day's events and the Quality Manager/Site Engineers' recording the daily progresses and keeping detailed records and photographic evidence. Throughout the works, the Murraywood site team will attend daily Smart Start

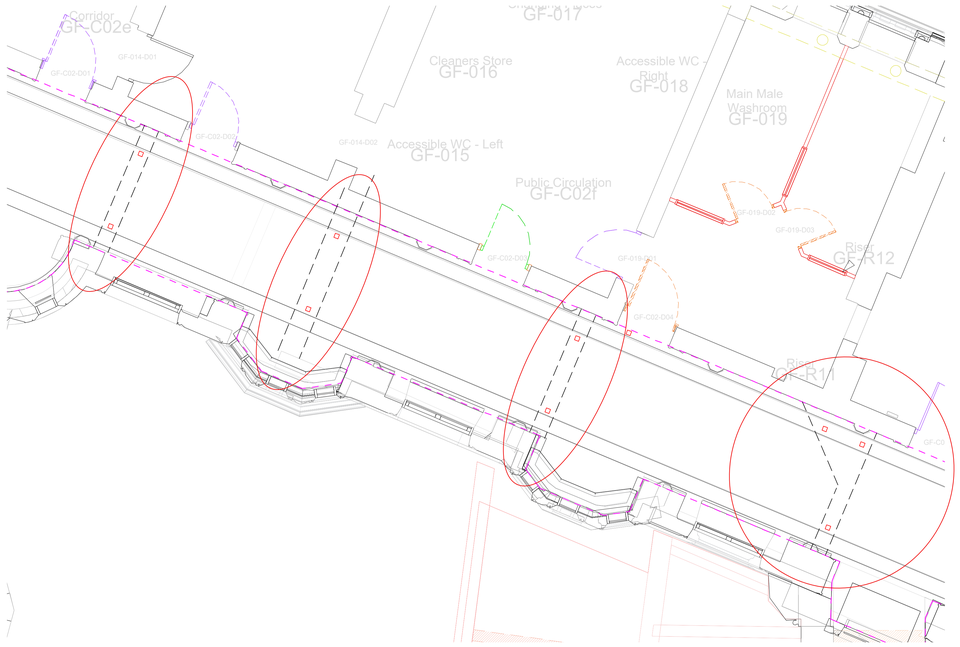
	Meetings and progress meetings when required, as well as completing internal/external audits throughout the whole project.

Project Team Approval to Commence Works			
Organisation	**Name**	**Signature**	**Date**
MCC			
Purcell			
ARUP			
Ramboll			
Planit			
Lendlease			
Works Contractor			

Appendix 1:

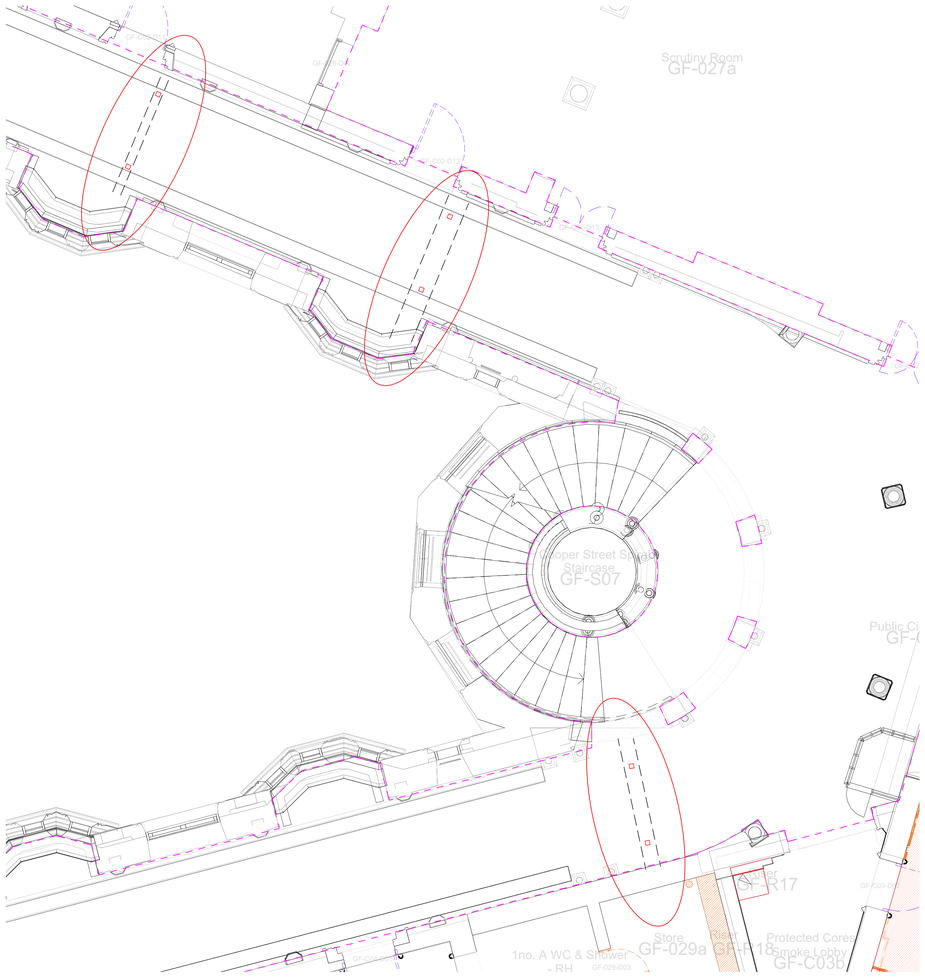
Lower Ground Floor - Type 8a Locations

TYPE 8 ALTERATION - LOCATION OF GROUND FLOOR ANCHORING FOR PROPPING DURING REMOVAL OF LOAD BEARING WALLS ON LOWER GROUND FLOOR.



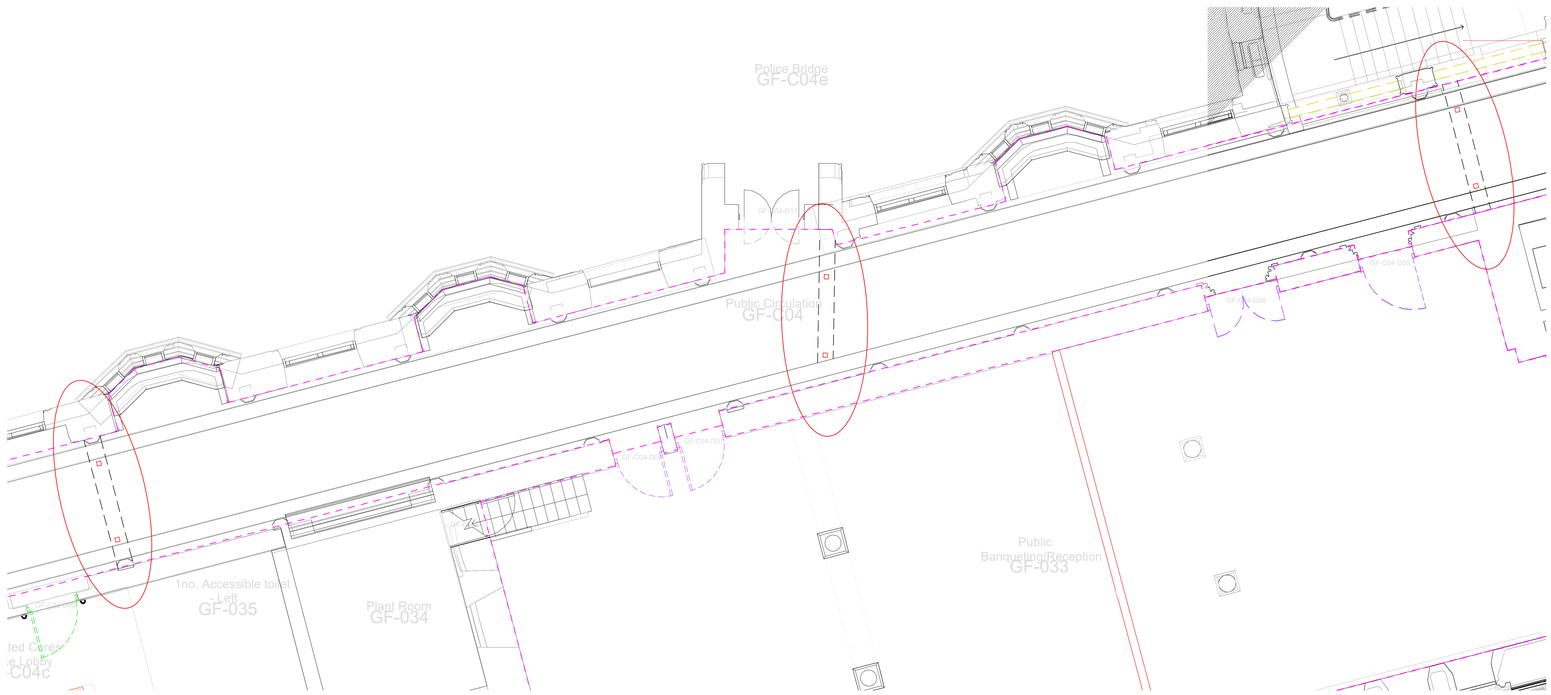
TYPE 8 ALTERATION ANCHOR ON GROUND FLOOR LEVEL - NORTH

SCALE 1:50



TYPE 8 ALTERATION ANCHOR ON GROUND FLOOR LEVEL - EAST

SCALE 1:50



TYPE 8 ALTERATION ANCHOR ON GROUND FLOOR LEVEL - SOUTH

SCALE 1:50

READ IN CONJUNCTION WITH DRAWING MCL-SK-TW-0020-001 & MCL-SK-TW-0020-002.

MURRAYWOOD CONSTRUCTION LTD

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WA9 4HU

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01744 850 581

info@murraywood.com

OUR TOWN HALL PROJECT

REV	DESCRIPTION	DATE	BY
P02	LOCATIONS REVISED	30/11/2020	WB
P01	DRAWING CREATED.	24/11/2020	WB

Client: Manchester City Council

Project: Our Town Hall

Title: Temporary Works - Type 8 Alterations Support.

Ground Floor Anchoring to Temporary Work Propping.

Date: 24/11/2020

Surveyor:

Scale: AS SHOWN | Size: A0

Drawing Number: MCL-SK-TW-0020-003

Revision: P02

Status: FOR INFORMATION

Appendix 2:

The Mosaic Restoration Company - Technical Submission

THE MOSAIC
RESTORATION COMPANY

F.A.O: Jack Simpson QS
Murraywood Construction Ltd

Ref: Heritage Works – Mosaic Removal
Our Town Hall

Order No. C320/JS/19012021

Jack,

20th January 2021

Thank you for your for formal instruction to proceed with the mosaic removal works as per our estimate of 8/1/21 and your confirmation dated 19/1/21.

As requested please see below methodology with some additional information for technical submission.
I have emailed a copy on a word document rather than PDF to enable you to extract any information you may require.

In summary the works include the recording, careful removal of salvageable original marble tesserae, label & package, cut back to suitable depth ready to receive mosaic, back-fill with adhesive ready for structural works by others.

Continued…

THE MOSAIC
RESTORATION COMPANY

Methodology

Average size of the areas of mosaic to be removed approximately 625mm x 2,700mm
10 no. areas in total, works likely to be carried out 2 no. per week,

1. Confirm precise location of area to be removed and mark out.

2. Light clean of mosaic by hand using soft pads, sponges with Vulpex soap, rinse and wipe dry.

3. Catalogue (record on site and Architects plan) and photograph each section before. This information will then be used for future reinstatement works.

4. Carefully remove individual marble tesserae and set aside for future reinstatement using small diamond tipped dremel drills and hand chisels. Dress each tesserae where possible ready for reinstatement. Mosaic tesserae bedded in a rich cementitious mortar may prove impossible to salvage. This can likely be determined prior to commencing the works and confirmed during the process.

5. Provide large grey packing trays approx. 750mm x 550mm x 200mm and small cardboard boxes 215mm x 150mm x 155mm (9 per grey tray). The boxes will be labelled and receive the individual coloured tesserae from the border and side red scribes. The central mixed colour sections will be packaged together. The objective is to set aside matching original material that can be easily used for later reinstatement.

6. Cut back to approximately 15mm depth to enable suitable recess for future mosaic reinstatement. Depending on the type of original mortar mix found it may be necessary to scabble back the bedding mortar to the specified depth using a small hammer-drill. The working time of ‘exposure vibration’ will be monitored. We do not anticipate any special methods will be required, but noise and potential dust to be discussed prior to commencing.

7. Prime with Ardex P51 where necessary, back fill with Ardex X7R cementitious mortar to stabilise to a depth of 15mm ready for others to carry out structural works. Note, a lime mortar could be used instead of Ardex, please confirm.

8. Photograph completed removed section and submit with record of salvaged material.

9. Grey packing trays to be labelled and left on site (likely to be stored in ‘Heritage Room’ TBC).

During the works a site 100 volt vac and ‘aircube’ will be used to collect any small amounts of dust generated during the removal process. However, it may be wise isolate the ceiling mounted fire monitoring devices during our works.

All waste will be bagged up and taken to nearest disposal point or skips provided by others.

Note, a 3-4 man team will be carrying out the works on site, they have all worked at MTH previously, have security passes and recently renewed their ‘asbestos awareness qualification’, see attached.

Continued…

THE MOSAIC
RESTORATION COMPANY

Program

It is anticipated that 2 no. removal areas will be carried out per week.

Start date Monday 1st February

Other information

Access, having previously worked at MTH, we suggest the areas to be worked on are coordinated with other trades to ensure there is no one working in the same area or requires access. You may need to provide floor protection over the exposed areaa, we have not allowed for this.

We have completed the Murraywood subcontractor prequalification questionnaire, submitted yesterday 19/1/21.

Operatives: -

Gary Bricknell
Neil Phillips
Pawel Lewandoski
Guy Daisley

With regards to Coronavirus, we have created a work bubble and have attached our company guidelines and recommendations for your inspection taken from our previous works on site.
We will be staying in accommodation during the works on site and ask that during our works, the areas we are working in are restricted to our operatives only.

Continued…

THE MOSAIC
RESTORATION COMPANY

Images taken of similar works carried out by us at MTH in December 2020

The methodology and tools are the same as previously approved by Lendlease.


Cleaning by hand and machine with nylon pads


Dremel drills used to carefully cut through break line


Example of break line


Chiselling out, salvaging tesserae where possible for future reuse

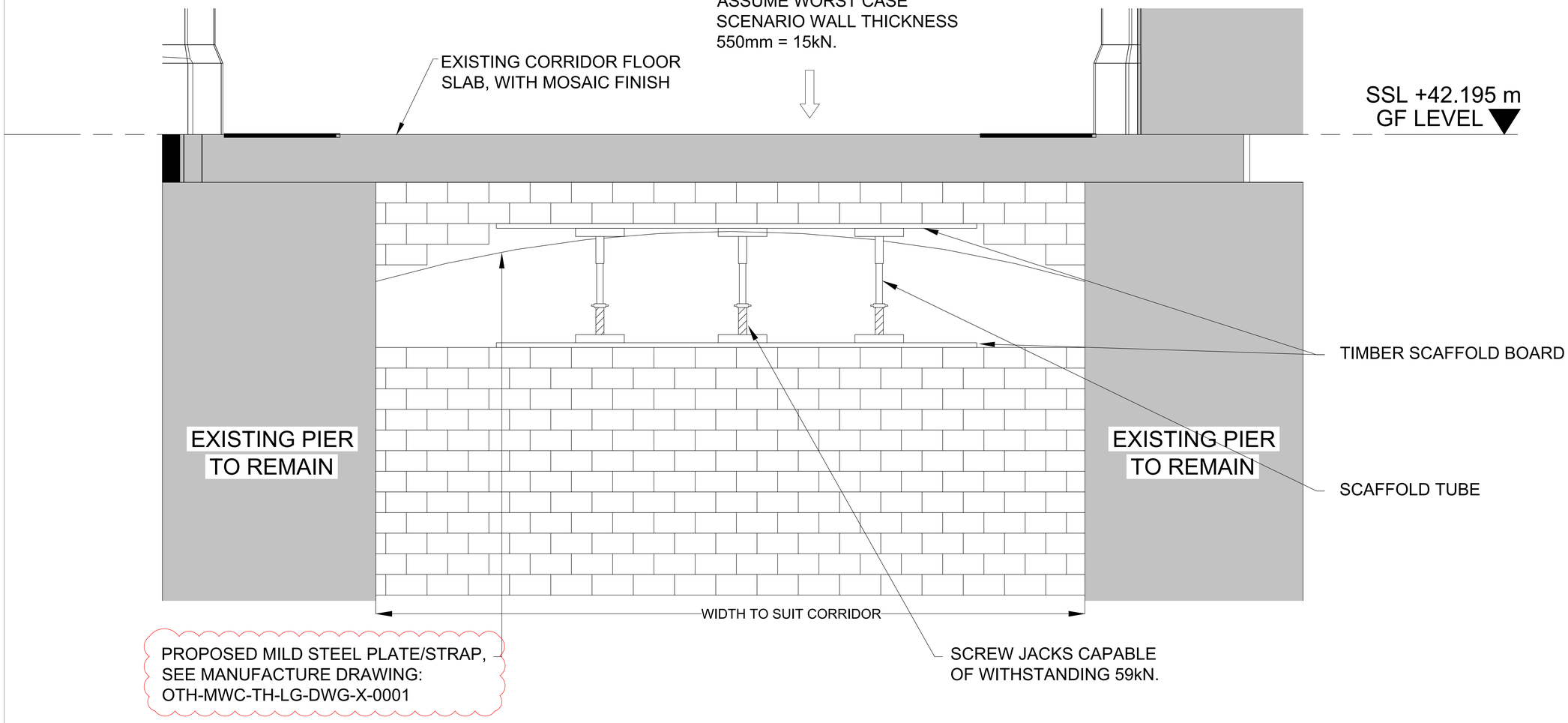

Site vac and air-cube used during removal process


Example of previous back filled section

G. Bricknell 20-1-21

Appendix 3:

Temporary Works Design - Phase One



TYPE 8 ALTERATION

TEMPORARY WORKS PHASE ONE

MURRAYWOOD
CONSTRUCTION LTD

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OUR TOWN HALL PROJECT

P04	DETAILS REVISED	22/01/2021	WB
P03	DETAILS REVISED TO DEPICT REALITY	07/12/2020	WB
P02	LABELS EDITED FOR CLARIFICATION	02/11/2020	WB
P01	DRAWING CREATED.	30/10/2020	WB

Client: Manchester City Council

Project: Our Town Hall

Title: Temporary Works - Type 8 Alterations Support.

Date: 07/12/2020

Surveyor:

Scale: N/A | Size: A0

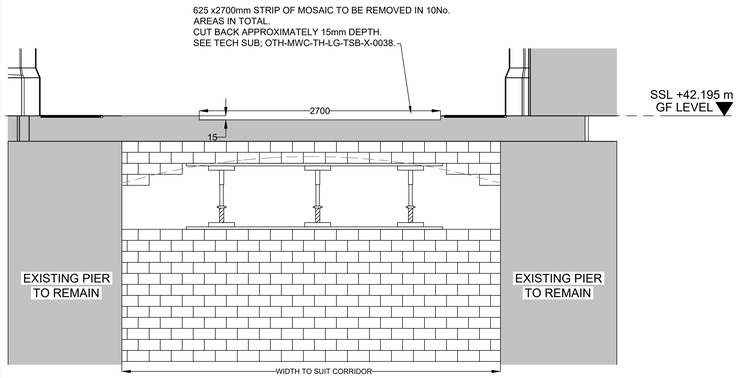
Drawing Number: MCL-SK-TW-0020-001

Revision: P04

Status: CONCEPT

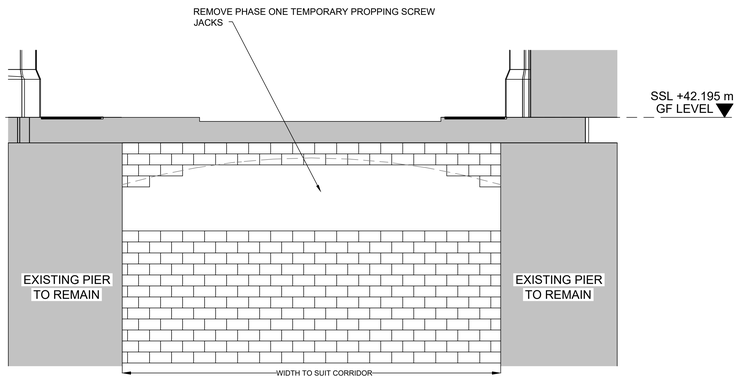
Appendix 4:

Temporary Works Design - Phase Two



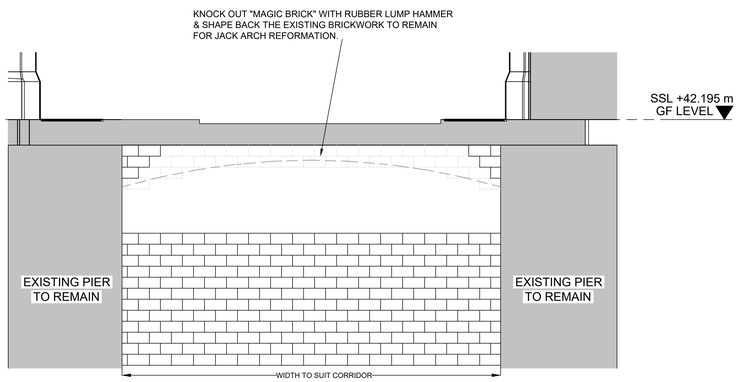
PHASE TWO - STAGE ONE

SCALE 1:25



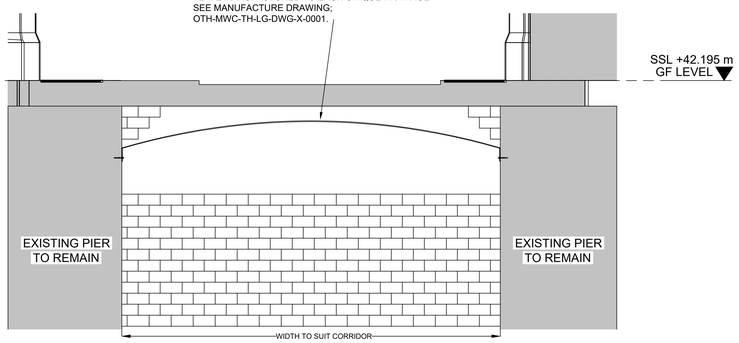
PHASE TWO - STAGE TWO

SCALE 1:25



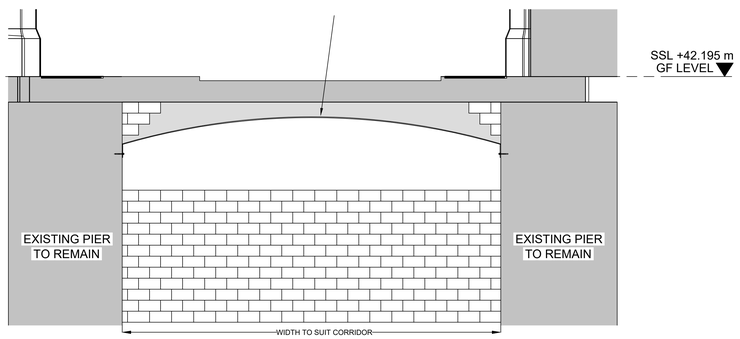
PHASE TWO - STAGE THREE

SCALE 1:25



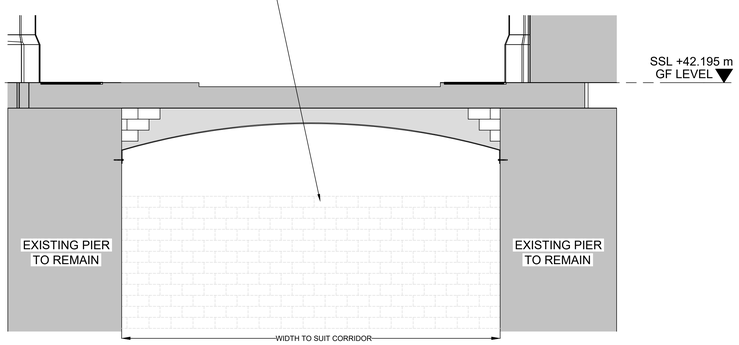
PHASE TWO - STAGE FOUR

SCALE 1:25



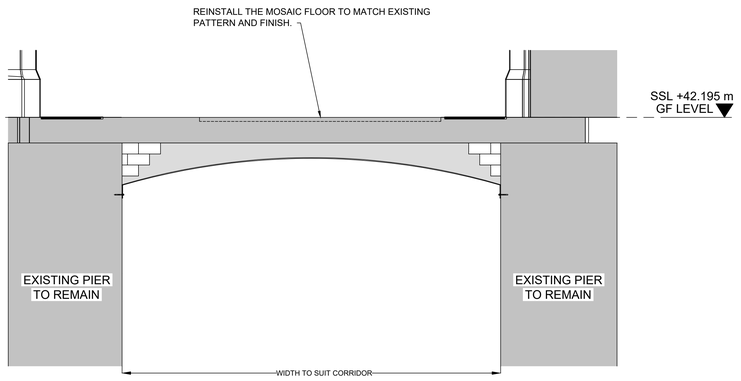
PHASE TWO - STAGE FIVE

SCALE 1:25



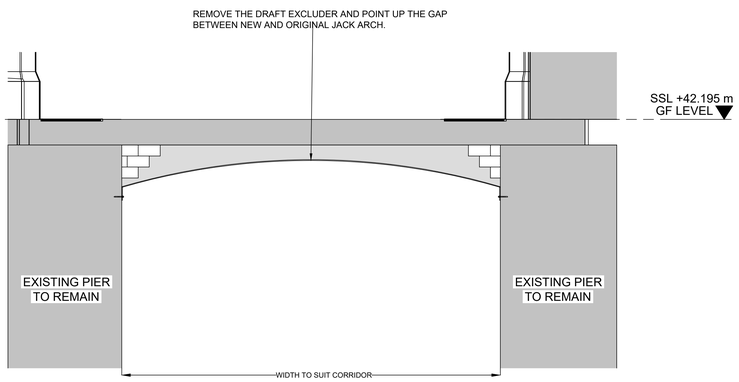
PHASE TWO - STAGE SIX

SCALE 1:25



PHASE TWO - STAGE SEVEN

SCALE 1:25



PHASE TWO - STAGE EIGHT

SCALE 1:25

FOR FULL SEQUENCING DETAILS PLEASE REFER TO TECHNICAL SUBMISSION; OTH-MWC-TH-LG-TSB-X-0038.

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OUR TOWN HALL PROJECT

P03	METHOD REVISED	22/01/2021	WB
P02	DETAILS REVISED	07/12/2020	WB
P01	DRAWING CREATED.	17/11/2020	WB

Client: Manchester City Council

Project: Our Town Hall

Title: Temporary Works - Type 8 Alterations Support.

Sequencing Illustration.

Date: 17/11/2020

Surveyor:

Scale: AS SHOWN | Size: A0

Drawing Number: MCL-SK-TW-0020-002

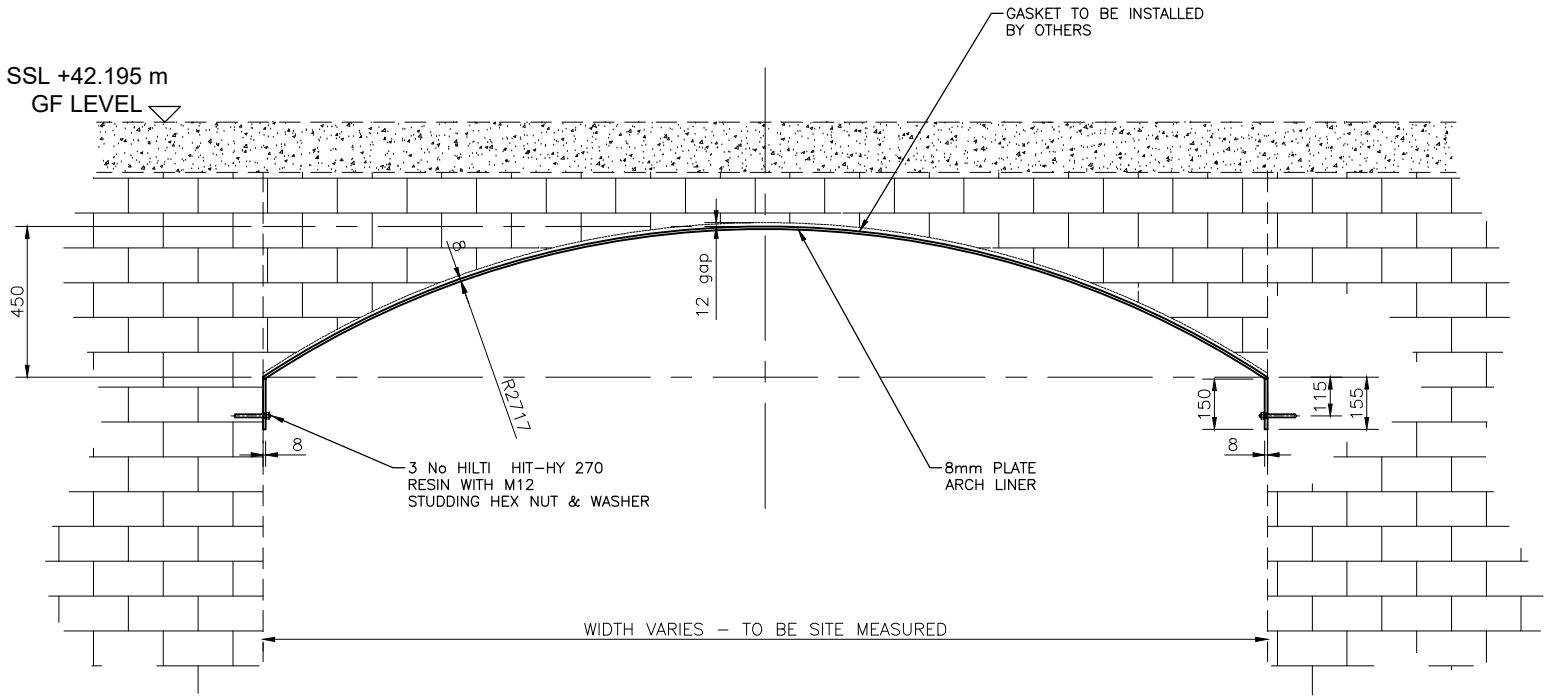
Revision: P03

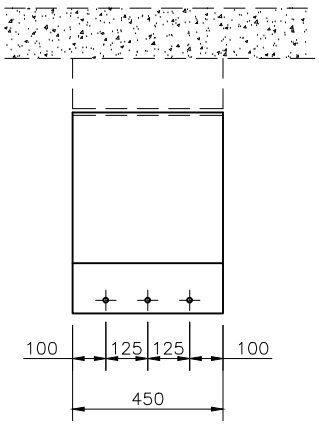
Status: FOR INFORMATION

Appendix 5:

Temporary Works Design - Manufacure Drawing of Steel Plate

A1





END VIEW

ELEVATION ON ARCH SUPPORT

NOTES
Refer to SEL-0001 for general notes.
All materials to be in accordance with PID 4.1.
Refer to PID 5.7 Appendix 5 for essential manufacturing tolerances.
All Hollow Section to be BS EN 10210 Grade S355 JR U.N.O.
All General Steel to be BS EN 10025 Grade S275 JR U.N.O.
All holes to be as noted.
All Weld Symbols to BS EN 22553
Execution Class - BS EN 1090-2 EXC2.
Weld Acceptance Criteria BS EN ISO 5817 Level C -
(Level D for Undercut Overlap, Stray arc, End Crater Pipe)
All Continuous Fillet Welds to be 6mm Leg Length U.N.O
All Butt Welds to be Full Penetration U.N.O
FINISH

shop floor	
fabricator	
Date	
checked	

Rev	Description		Date
P04	Title block amended	Issued for approval	23/12/20
P03	Updated to comments 18/12/20	Issued for approval	22/12/20
P02	Fixings removed, 12mm gap added.	Issued for comment	25/11/20
P01	Issued for comment		03/11/20

PROJECT TITLE.
OUR TOWN HOLE PROJECT

DRAWING TITLE.
LAYOUT OF ARCH SUPPORT

SHAWTON
Unit 1 Junction Lane
Sankey Valley Industrial Estate
Newton Le Willows
WA12 8DN
Tel : 01925 220338
Fax : 01925 220135

PROJECT STATUS: RIBA STAGE 5

DRAWING STATUS: FOR REVIEW AND ACCEPTANCE

DRAWING No: OTH-MWC-TH-LG-DWG-X-0001 Rev. P04

Drawn	RET	Date	27-10-20
Checked	PH	Date	27-10-20
Approved	JS	Date	27-10-20
Scale	1-7.5	Project No	2034

IF IN DOUBT ASK! DO NOT SCALE