

# **Discharge of Listed Building Consent Conditions: Wood Lane Overbridge (MDL1/23)**

**2022/65/90508/E Conditions 3, 4, 5 and 6**

**Document Reference: TP/LNE/2025-034**

**Network Rail**

**March 2025**



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## 1. INTRODUCTION

### 1.1 Background

- 1.1.1 The Scheme is part of a wider programme of works under the Trans-Pennine Route Upgrade (TRU) which will improve the Trans-Pennine railway between Manchester, Huddersfield, Leeds and York and improve connections between key towns and cities across the north of England.
- 1.1.2 The works to which this document relate lie within the TRU W4 Scheme between Westtown (Dewsbury) and Leeds which will contribute to the overall TRU aims of increasing service capacity and offering journey time benefits. This will deliver upgrades to the existing railway line including electrification of the line, increase in line speeds and remodelling of stations, as well as various other engineering works necessary to realise the benefits of the scheme including alterations to existing bridge structures.
- 1.1.3 The TRU W4 works necessitate the electrification of the railway at Wood Lane Overbridge (MDL1/23) to facilitate the public benefits of the upgraded railway. A Listed Building Consent (LBC) application, referenced 2022/65/90508/E, to attach Overhead Line Electrification (OLE) underneath Wood Lane Overbridge (MDL1/23) and raise its existing stone parapets was approved subject to conditions on 9 May 2022.
- 1.1.4 This submission sets out details in relation to Conditions 3, 4, 5 and 6 of the approved Listed Building Consent for the works. A separate submission will be made to discharge Condition 7 which secures the Level 1 programme of historic building recording of the overbridge.

## 2. INFORMATION INCLUDED IN THIS SUBMISSION

- 2.1.1 The wording of Conditions 3, 4, 5 and 6 attached to the granted Listed Building Consent application is reproduced in Table 2-1, along with a brief overview of the information submitted in order to discharge the relevant conditions.

**Table 2-1 Details of conditions 3, 4, 5 and 6**

Condition reference	Details of condition	Section reference and material to be submitted
3	Prior to commencement of works, detailed designs and drawings at a scale of 1:10 and report, including method and detail of fitting of overhead line equipment (registration arm) shall be submitted for approval by the Local Planning Authority.	Section 3: Method Statement for fixing of OLE brackets and structures.  Appendix A: Supplementary detailed drawings
4	Prior to commencement of works, detail of all mortar specifications for repointing, repair and fitting of any existing and new masonry shall be submitted to the Local Authority for approval.	Section 4: Detail of mortar specification
5	Prior to commencement of works, detail of all masonry repairs, including method statement and details of replacement materials shall be submitted for approval by the Local Planning Authority. This shall include details of any replacement materials.	Section 5: Detail of masonry repairs.  Appendix A: Supplementary detailed drawings
6	Prior to commencement of works, samples of proposed masonry for the raising of the parapet shall be made available for inspection on site.	Section 6: Details of masonry for parapet extensions  Masonry samples to be available for inspection.

### 3. CONDITION 3: OLE DETAILS AND METHOD STATEMENT

#### 3.1 Background

3.1.1 Wood Lane Overbridge (MDL1/23) is constructed from squared and coursed quarry-faced Pennine Lower Coal Measures sandstone. The bridge's substructure consists of masonry wing walls which project slightly from the structure's abutments of coursed quarry-faced sandstone with ashlar quoined jambs and squared ashlar impost bands, from which the segmental arch rises. The arch is of stepped, rusticated, v-jointed sandstone ashlar voussoirs, with the uppermost voussoirs blunted, and a soffit of similarly squared and coursed quarry-faced sandstone. The architectural expression of these features contributes to the bridge's overall aesthetic value and significance by reflecting the railway engineering of the 1840s and 50s, raising the structure above the purely functional, and in particular evidencing the engineering approach of Thomas Grainger, whose designs were highly influential across the Leeds, Dewsbury & Manchester Railway.

3.1.2 The consented scheme at Wood Lane Overbridge (MDL1/23) involves the installation of OLE registration arms to the soffit of the bridge, to carry the electrified lines for the railway under the structure. To ensure the OLE registration arms are fixed to the Grade II Listed Building in a manner which preserves the appearance and character of the Listed overbridge, the Local Planning Authority attached Condition 3 which requires submission of details of design and methodology for the proposed installation of the OLE registration arms. The condition wording also includes the requirements for additional detailed drawings for the attachment of the registration arms.

#### 3.2 Proposal

- 3.2.1 The OLE registration arms will be attached to the structure using the following approach:
- Prior to installation of the OLE registration arms, repairs will be undertaken to address any known defects located within 2m of the OLE fixing locations (see below, Section 5 in relation to Condition 5)
  - The setting out point will be defined in line with the approved drawings, with all hole locations checked by an approved hidden services detector
  - Four 25mm diameter holes will be drilled to a depth of 350mm, each 300mm apart, for fixing of each OLE bracket adaptor baseplate to the arch soffit (two fixings, requiring eight holes in total)
  - Once drilled, all holes are to be carefully cleaned out, with resin mortar then inserted to required depth
  - Stainless steel resin bonded anchor bolts will be inserted through the bracket adaptor baseplate into each of the holes to an appropriate depth for embedding in the structure, to attach the baseplate to the arch soffit
  - A grout mix will be added to fill the gap above the adapter plate and the arch soffit, to a maximum thickness of 50mm
  - Following adequate curing time for the resin mortar, the fittings will be tested with appropriate pull tests to confirm installation achieved to required strength<sup>1</sup>
  - Appropriate electrical bonding of the OLE will be installed, to connect from the track to the registration arms, using the minimum amount necessary of small fixings to the soffit and abutment of the bridge (the fixing details are provided in the drawing in Appendix A)

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<sup>1</sup> Pull test to be carried out as per BS 8539:2012 *Code of Practice for the selection and installation of post-installed anchors into concrete and masonry*.

- The vertical drop tube and registration arm catenary will subsequently be attached to the bracket adaptor baseplate; this will potentially be done at a later date after the initial baseplate installation, aligning with appropriate disruptive access to the railway corridor under the structure.
- 3.2.2 The fixing for the OLE registration arms has been designed to undertake the minimum intrusion into the historic fabric of the bridge, while achieving the required structural strength to secure the OLE. All holes for the fixings into the soffit will be drilled using a depth gauge to ensure the holes are restricted to the approved design depth and don't impact on more historic fabric than necessary.
- 3.2.3 Additional detail on the specification of the resin mortar for the OLE registration arm baseplate fixings is provided below in Section 4 (in relation to Condition 4).
- 3.2.4 Detailed design drawings showing the OLE registration arms and their fixings (at a scale of 1:10) are included in Appendix A.

## 4. CONDITION 4: MORTAR MATERIAL SPECIFICATIONS

### 4.1 Background

4.1.1 The style and finish of the mortar joints at Wood Lane Overbridge (MDL1/23) are contributing elements to the character and appearance of its masonry walls. To ensure those elements of the consented works involving intervention into the existing masonry and the construction of the parapet extension are finished in a manner which preserves the appearance and character of the Listed bridge, the Local Planning Authority attached Condition 4 which requires submission of specification details for the application of mortar for repointing, repair works and fitting of any new masonry.

### 4.2 Proposal

4.2.1 In order to carry out the works under the granted consent, mortar is proposed to be used to bed and point the masonry parapet extension and to affix the OLE registration arms to the soffit (see above, Section 3) of Wood Lane Overbridge (MDL1/23), as well as for the general masonry repairs specified under Condition 5 (see below, Section 5). The mortar specification for each element of the works has been shaped by both the structural requirements associated with the works and also an effort to respond to the historic masonry of the structure and minimise change.

4.2.2 Any preparatory repair work identified on site (as detailed further below in Section 5) and the application of mortar for the parapet extension will be undertaken in accordance with the required Network Rail standards specification<sup>2</sup>. Lime mortar will be used for these repairs and for pointing of the parapet extension. An NHL5 lime mortar mix with a ratio of 1:2 lime:sand will be used for these works; this will match the approach taken for similar repairs on other Listed structures on the TRU programme. Where repointing will take place, the surrounding areas will be sufficiently soaked prior to the repointing works, and the mortar will be forced into the mortar joints and compressed back. The finish of the pointing will be undertaken to ensure it reflects the pointing of the historic masonry of the bridge.

4.2.3 In order to construct the parapet extension, the additional courses of stonework will be bedded and secured to the existing structure via threaded rebars acting as dowels, fixed vertically into the existing parapet, one per each new stone block. These will be located into 50mm cores and fixed using non-shrink cementitious grout, to ensure the stonework is adequately secure.

4.2.4 To undertake the installation of the OLE registration arms as specified under Condition 3 (see Section 3 above), the application of new mortar will also be used for bedding the OLE bracket adaptor baseplate. Resin mortar will be inserted into the 25mm diameter holes, drilled for the resin bonded anchor bolts, to secure the baseplate to the arch soffit. This will be done using HIT-HY-270 hybrid anchor mortar. A structural grout mortar will also be used to fill the gap between the adaptor baseplate and the soffit of the arch, to a maximum of 50mm depth. It is necessary to use this for the OLE registration arms to meet the standards for securely and safely fixing OLE into the structure.

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<sup>2</sup> Network Rail, 2018, NR/CIV/SD/TUM/101 Technical User Manual: For the Application of Standard Brickwork and Masonry Repair.

## 5. CONDITION 5: MASONRY REPAIRS METHOD STATEMENT

### 5.1 Background

5.1.1 As detailed above in Section 3.1, Wood Lane Overbridge (MDL1/23) is noted for being made of squared and coursed quarry-faced Pennine Lower Coal Measures sandstone, with its features such as ashlar dressings, rusticated voussoirs and impost bands all helping to contribute to its overall aesthetic value and significance, as well as the overall monumental engineering form designed by Thomas Grainger across the Leeds, Dewsbury & Manchester Railway. To ensure the bridge retains its overall appearance and character, taking into account the consented works to increase the height of the parapet in new stonework, the Local Planning Authority has attached Condition 5 which requires submission of details of any masonry repairs to be undertaken and of any replacement materials if required.

### 5.2 Proposal

#### Planned Masonry Repairs

5.2.1 In order to carry out the OLE installation works specified under Condition 3, some minor standard masonry repairs will need to be undertaken to the arch ring of the overbridge, prior to affixing the OLE registration arms. Any known defects identified within 2m of the OLE fixings will be required to be addressed. These preparatory repairs will be undertaken in accordance with the appropriate required Network Rail standards specification<sup>3</sup>.

5.2.2 Four areas have been identified on the arch soffit within 2m of the OLE fixings where known defects will need to be addressed prior to installation of the registration arms. These comprise two areas of spalled masonry, one separation fracture and one area where potential hollow masonry has been identified. The two areas of spalling are not considered severe and will be addressed by removing the loose and spalled masonry and repairing using lime mortar to match existing joints, in accordance with the appropriate required Network Rail standards specification<sup>4</sup>. The longitudinal separation fracture identified will be stitched and grouted in accordance with the standard detail in the same Network Rail specification. The area around the final defect will be inspected for any hollow sounding masonry which, if identified, will be appropriately addressed through the application of grout.

5.2.3 No known defects have been identified for the existing masonry parapets which will require remediation before the installation of the parapet extension stonework. It is likely that vegetation growth adjacent to the path over the structure will need to be cut back and removed in order to access the parapets for the works.

5.2.4 Detail of the mortar specification for the masonry repairs is included in Section 4 above to meet the requirements of Condition 4 attached to the granted LBC.

5.2.5 Detail of the masonry repair works are also shown on the drawing included in Appendix A.

#### Risk of Unforeseen Repairs

5.2.6 Despite measures taken to develop a construction methodology which minimises risks of introducing the need for unforeseen repairs to the masonry of the bridge, this risk cannot be fully eliminated due to the historic nature of the existing structure. Any unforeseen repairs

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<sup>3</sup> Network Rail, 2018, NR/CIV/SD/TUM/101 Technical User Manual: For the Application of Standard Brickwork and Masonry Repair.

<sup>4</sup> Network Rail, 2018, NR/CIV/SD/TUM/101 Technical User Manual: For the Application of Standard Brickwork and Masonry Repair.

arising will be undertaken in line with the Network Rail standard<sup>5</sup> for masonry repair; this will match the approach taken for repairs on other Listed structures on the TRU programme.

- 5.2.7 If any previously unidentified intrusive vegetation is found within 2m of the OLE fixings, this will be treated with herbicide to remove it.
- 5.2.8 If, during or following the works, it is found that additional repairs are required to the overbridge, Network Rail will inform Kirklees Council of the scope of any such repairs. Further agreement on the approach will be confirmed via engagement with the Kirklees Council Conservation Officer through the regular TRU Heritage Working Group.

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<sup>5</sup> In accordance with standard detail drawings NR/CIV/SD/100 series, included in Annexe 2 of Network Rail, 2018. NR/CIV/SD/TUM/101 *Technical User Manual: For the Application of Standard Brickwork and Masonry Repair.*

## 6. CONDITION 6: PARAPET EXTENTION MASONRY SAMPLE

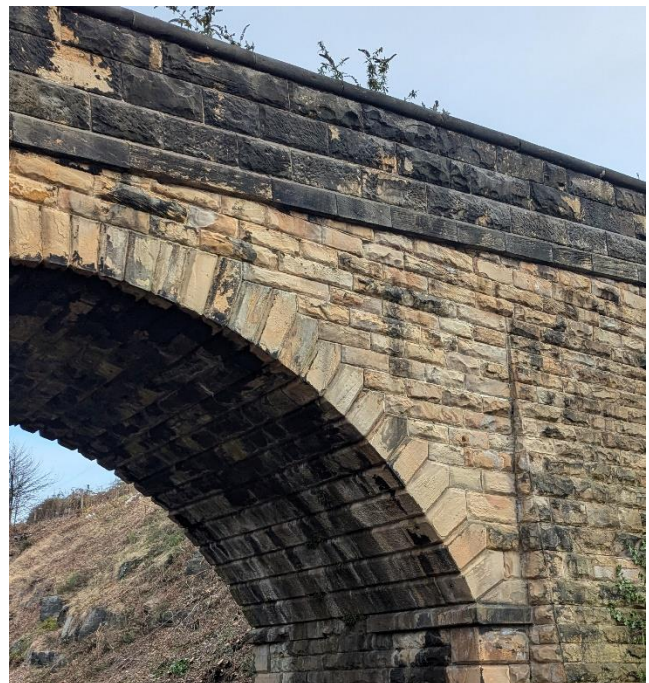
### 6.1 Background

6.1.1 The consented proposals include the addition of courses of stonework to raise the height of the parapet of Wood Lane Overbridge (MDL1/23) to provide an increase safety height over the newly-electrified lines. To ensure the bridge retains its overall appearance and character once these alterations have been made, the Local Planning Authority has attached Condition 6 which requires samples of proposed masonry for the raising of the parapet to be shared with the Conservation Officer on site, prior to construction.

### 6.2 Proposal

6.2.1 The parapet extension will be constructed from local millstone grit sandstone, to match the existing stone of the structure. This reflects the approach taken elsewhere on other historic bridges as part of the TRU scheme of sourcing natural stone for extensions. The natural stone will be sourced from Crosland Hill Quarry, Huddersfield. The blocks will be coursed squared stone, finished appropriately to match the coursed walling of the structure. A sample image of this stonework is shown in Insert 1 below, alongside an image of the existing overbridge. An image of a recently completed arch infill using stonework of this specification as part of a similar structure is shown in Insert 2 below.

6.2.2 This sample will be made available by Network Rail for inspection by the Kirklees Council Conservation Officer on site. Following agreement that the sample is appropriate, written confirmation of this shall be obtained via email. Any further agreement on the approach will be arranged and confirmed via the regular TRU Heritage Working Group.



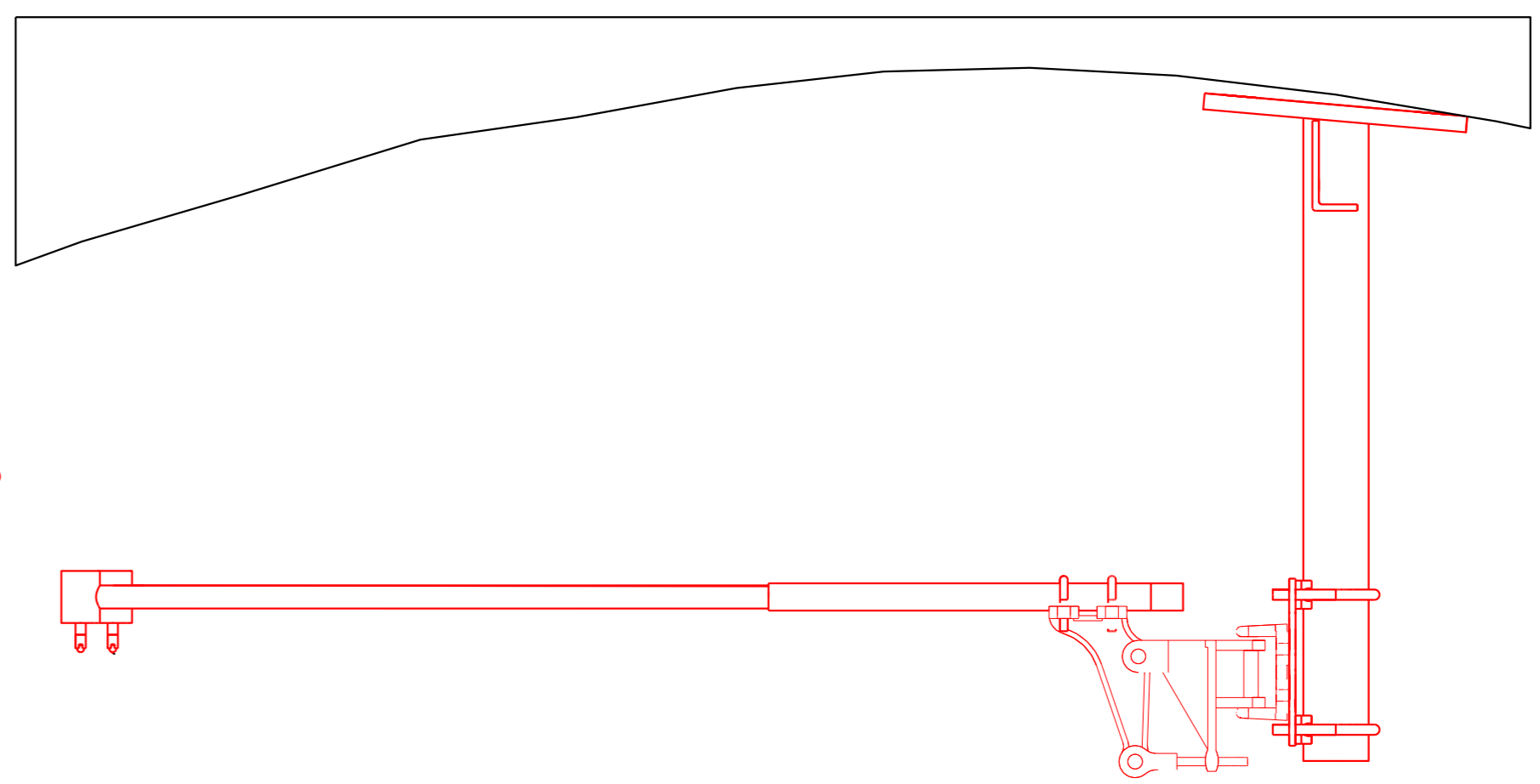
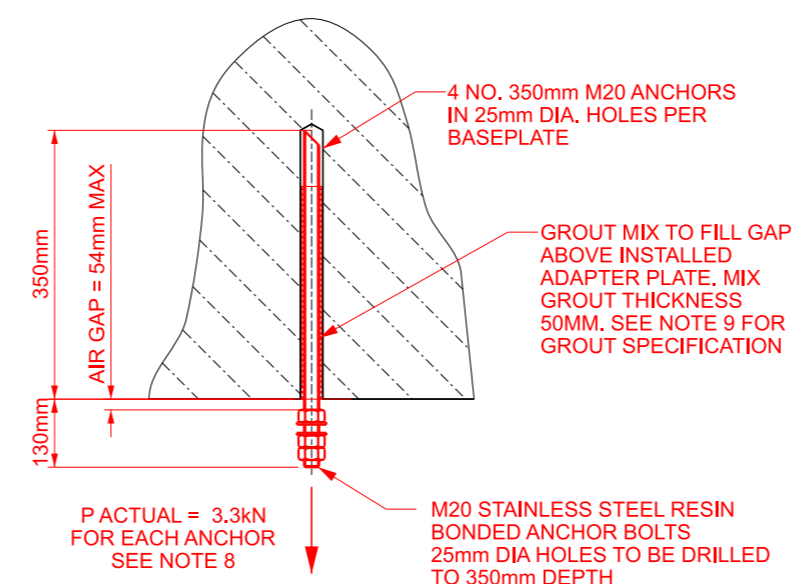
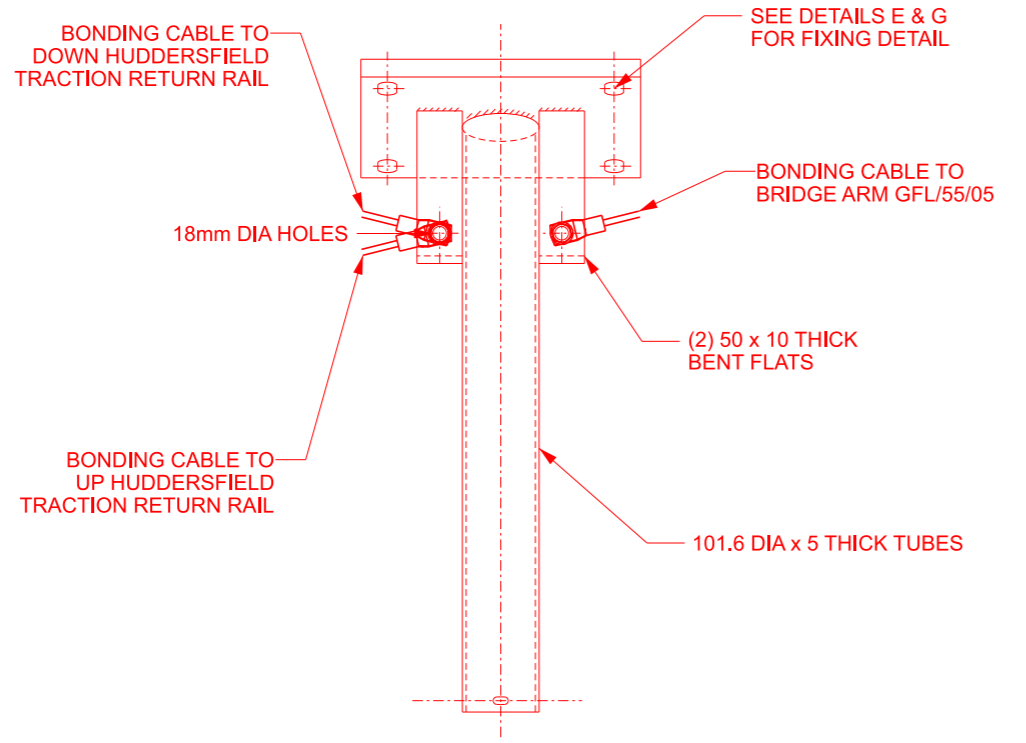
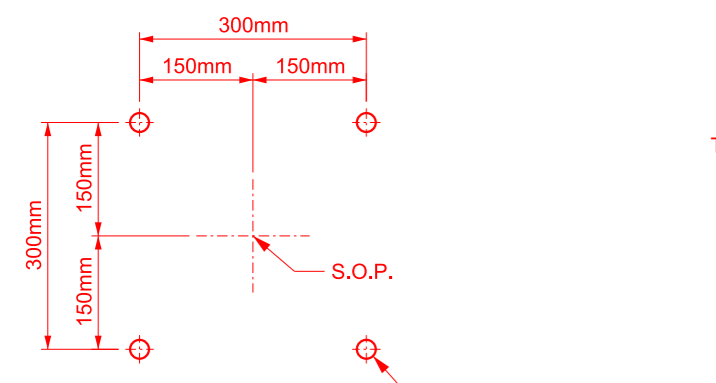
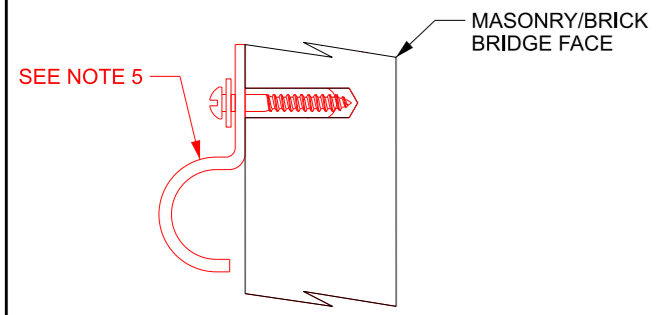
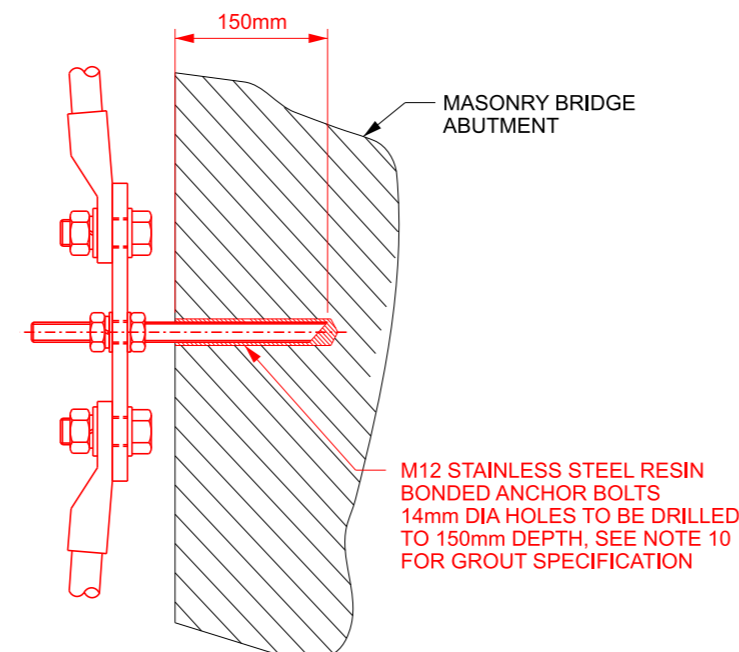
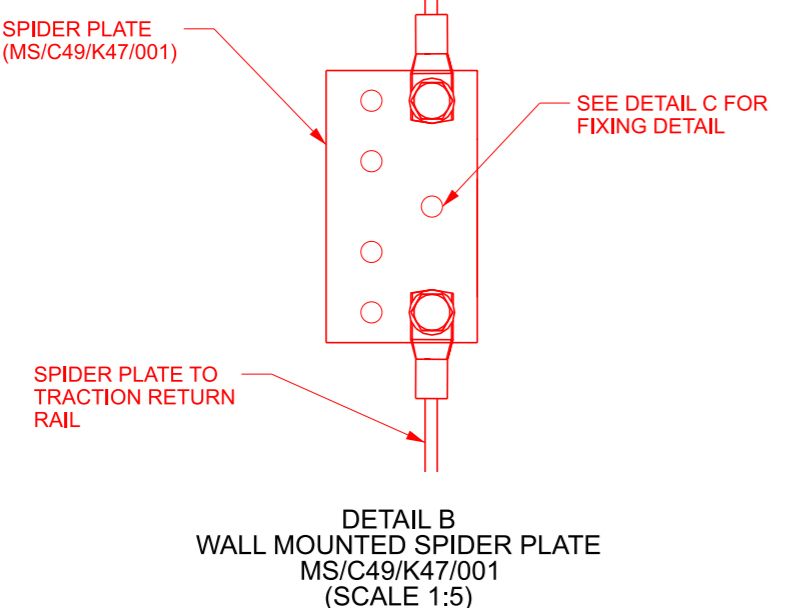
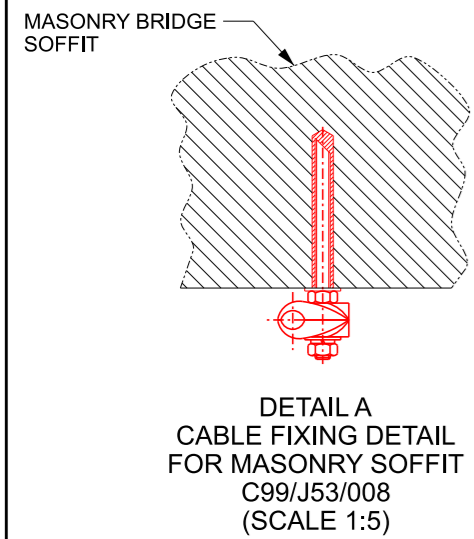
**Insert 1 Sample of Crosland Hill sandstone held against historic stonework of Huddersfield Viaduct (MVL3/92) (left), with masonry of Wood Lane Overbridge (MDL1/23) (right).**



**Insert 2 Use of Crosland Hill sandstone for arch infill facing on Huddersfield Viaduct (MVL3/92), evidencing appearance against existing historic stonework of similar composition to Wood Lane Overbridge (MDL1/23).**

## APPENDIX A – ACCOMPANYING DRAWINGS

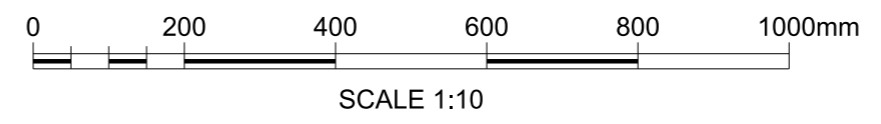
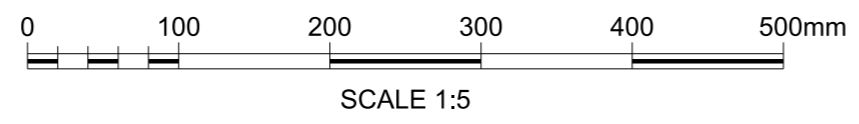
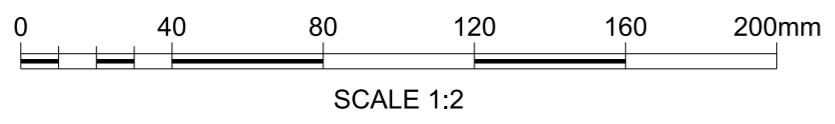
**Safety, Health and Environmental Information**  
 For Health and Safety information, refer to discipline specific Risk Management Schedule.



- Bridge Support Construction Methodology Outline:**
- SOP set out using 5-point laser.
  - Before drilling all hole locations checked by an approved hidden services detector.
  - Both Pilot hole and Design Gauge holes to be drilled using a depth gauge to ensure holes are restricted to design depth.
  - Once drilled to design diameter and depth, all holes are to be cleaned out.
  - Resin inserted to cleaned holes to required depth.
  - Anchor bolts inserted to design embedment depth.
  - Conservative estimate of curing time to have elapsed before pull testing is carried out.
  - Pull tests carried out as per BS8539:2012
  - After acceptable pull test results brackets will be installed.
  - Installation of Bridge arms most likely carried out at a later stage.

NETWORK RAIL CIVILS PROJECT ENGINEER			
NAME	TITLE	SIGNATURE	DATE
ALMUDENA MARTINEZ BENEITEZ			
PE COMMENTS (IF ANY)			
CRE (CIVIL ONLY)			
NAME	TITLE	SIGNATURE	DATE
JONATHAN ANSTEY	PRINCIPAL CIVIL ENGINEER		

**COLOUR CONVENTIONS**  
 BLACK - EXISTING EQUIPMENT  
 GREEN - EQUIPMENT TO BE REMOVED  
 RED - NEW EQUIPMENT  
 BLUE - EXISTING EQUIPMENT IN NEW POSITION/MODIFIED  
 GREY - WORKS BY OTHERS



Legend/Notes

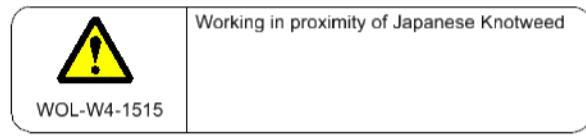
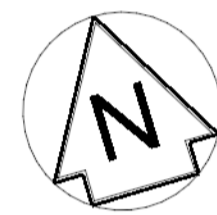
- Do not scale from drawing.
- Drawing to be printed in colour.
- All dimensions are in metres unless noted otherwise except for staggers and structure sizes which are in millimetres.
- Drawing to be read in conjunction with:  
151667-TSA-W4-MDL1-DRG-R-OH-110280 P02  
151667-TSA-W4-MDL1-DRG-R-OH-110282 P02
- For allocations see 151667-TSA-W4-MDL1-SCH-R-OH-110280.
- For CDM/CSM risk register, refer to 151667-TSA-00-TRU-REG-W-SS-000001.
- For OLE Layout see 151667-TSA-W4-MDL1-DRG-R-OH-110102 P05
- For Civils fixings details see Civils Drawing 151667-TSA-40-MDL1-DRG-C-ST-041703 A02.
- Anchor fixings into masonry to be Hilti HAS-U 8.8 M20 with Hilti HIT-HY-270 adhesive and minimum embedment 350mm.
- Anchor fixings into masonry to be Hilti HAS-U 8.8 M12 with Hilti HIT-HY-270 adhesive and minimum embedment 150mm.

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
P01	19/11/24	For IDC/R			AA GS WI
P02	24/02/25	For Review			RH GS

Fit for Information **S2**



Authorised	Signed	Date
Contractor(s) <b>Transpire Alliance</b>		
Location		
Type CAD Drawing	Sub-type	
Role Rail Engineering	Sub-Role OHLE	
Zone None	Project Stage GRIP 5	
Project <b>Transpennine Route Upgrade</b>		
Contract No. <b>151667</b>		
Contract Title <b>TRU - West of Leeds</b>		
Drawing Title <b>W4 - Area A OLE Bridge Detail O/Br 23 Wood Lane A:54915 - A:55562</b>		
Designed R. Hancock	Signed	Date 21/02/25
Drawn R.Hancock	Signed Electronically Signed	Date 21/02/25
Checked G.Sandman	Signed Electronically Signed	Date 24/02/25
Approved	Signed	Date
Scale(s) As Shown	ELR & Mileage 32.0342 to	42.0132
Alternative Reference MDL1/23 - Bridge Details	Sheet 1 of 4	
Drawing Number 151667-TSA-W4-MDL1-DRG-R-OH-110283	Revision P02	



SOP	Easting	Northing
SCP1	244193.297	429835.039
SCP2	244192.438	429830.597
SCP3	244196.806	429829.752
SCP4	244197.666	429834.194

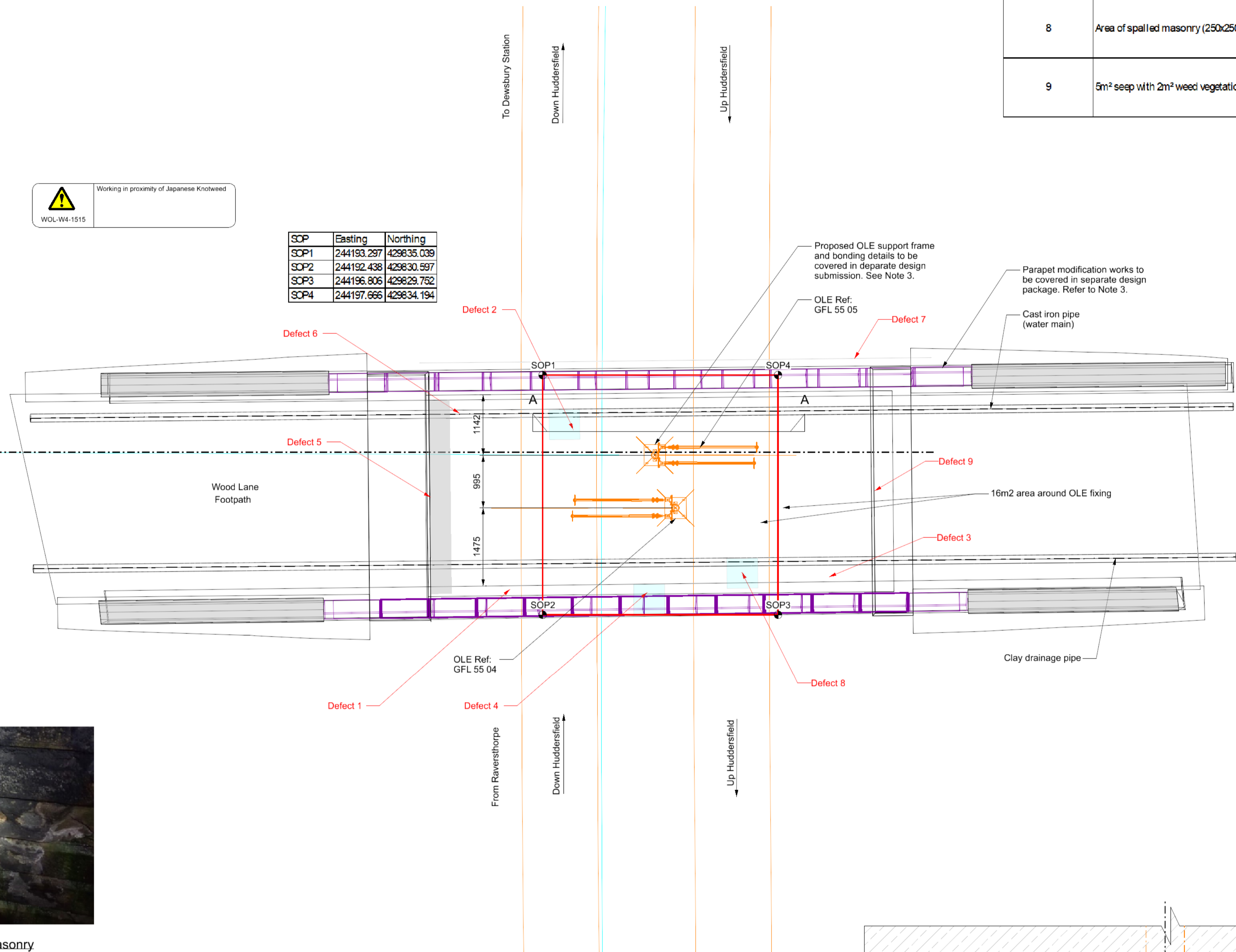


Photo 3: Defect 8 - Spalled Masonry

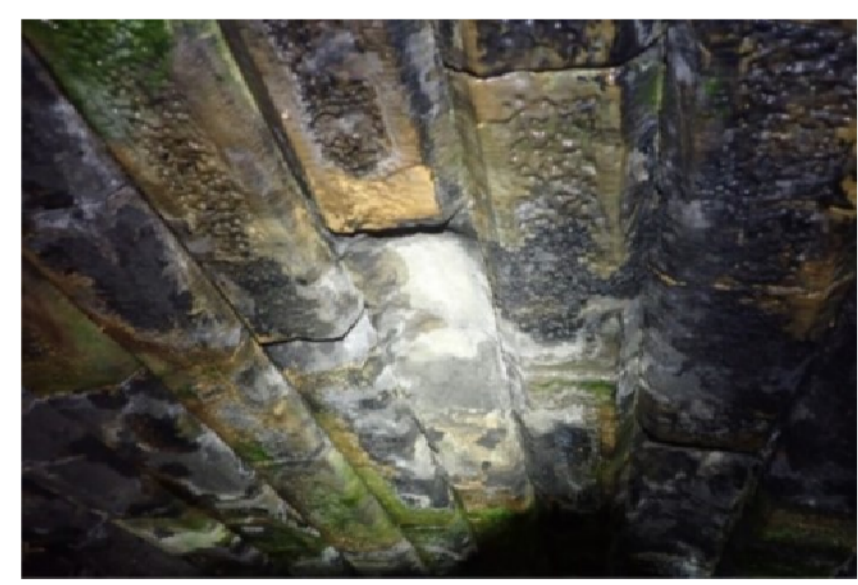
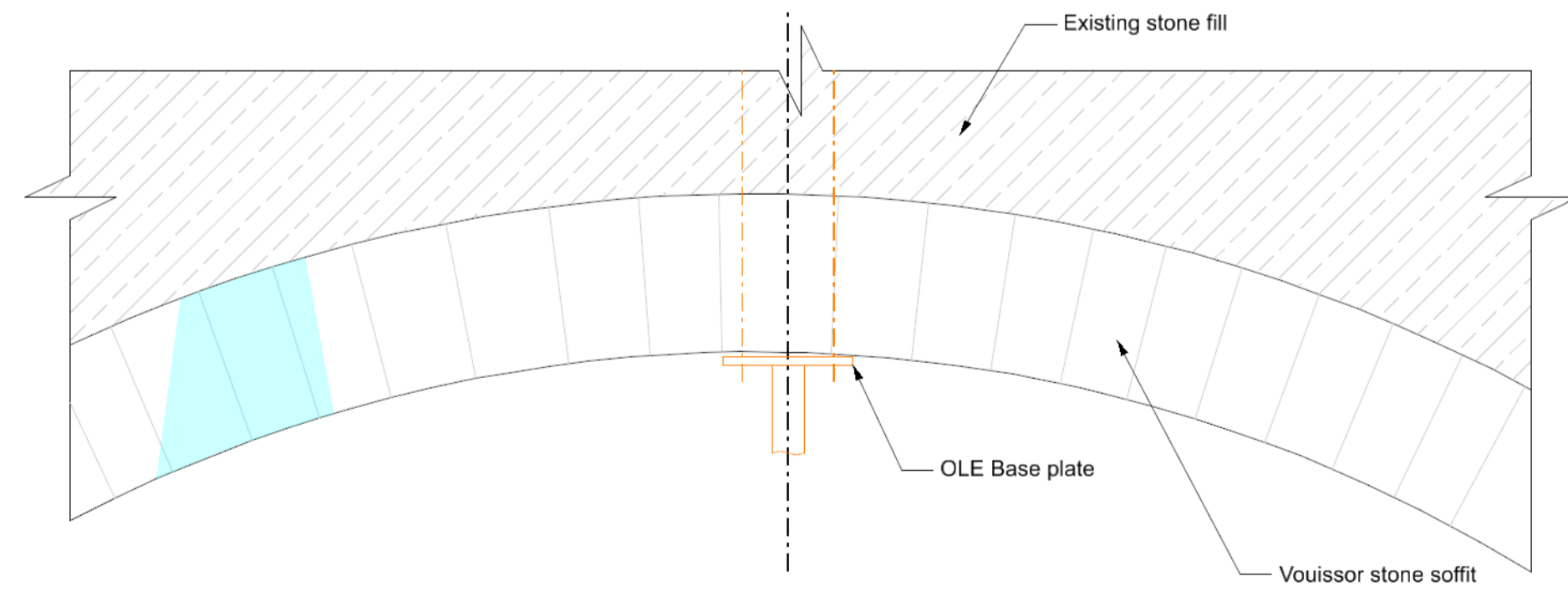


Photo 1: Defect 2 - Spalled Masonry



Photo 2: General Soffit View

Plan on Defects at MDL1/23  
Scale 1:50



Section A-A - Through Soffit  
Scale 1:10

Reference	Defects	Repair Details
1	Area of spalled masonry (420 x 150 x 80mm).	Defect outside of 2m repair zone.
2	Area of spalled masonry (360 x 160 x 60mm).	Remove loose and spalled masonry as per NR/CIV/SD/101. Repair using lime-based mortar (NHL 3.5), mortar to match existing joints.
3	Longitudinal voussoir separation fracture (8000 x 1-4mm max).	Fracture to be stitched and grouted in accordance with NR/CIV/SD/108.
4	Area of hollow masonry (16m²).	Area to be inspected for hollow-sounding masonry, with grouting applied as necessary if identified.
5	Hairline 2mm x 8000mm Longitudinal Fracture	Defect outside of 2m repair zone
6	1-2mm x 5000mm longitudinal fracture	Defect outside of 2m repair zone
7	Area of hollow masonry (16m²).	Defect outside of 2m repair zone
8	Area of spalled masonry (250x250x40mm).	Remove loose and spalled masonry as per NR/CIV/SD/101. Repair using lime-based mortar (NHL 3.5), mortar to match existing joints.
9	5m² seep with 2m² weed vegetation to joints	Defect outside of 2m repair zone. Invasive vegetation to be removed and treated with herbicide. If found within repair zone.

Where defects fall within 2m of OLE fixing locations (16m² total area), remediation works requirement as specified within NR/CIV/SD/TUM/101 and associated drawings (NR/CIV/SD/101-106).

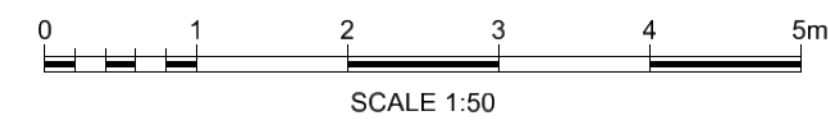
- Legend/Notes
- All dimensions are in millimetres unless stated otherwise.
  - This drawing is to be read in colour.
  - This submission package includes the repair and remediation works only. Civils designs for OLE and parapet modifications are covered in separate design packages.
  - Works are to be carried out in accordance with NR/L3/CIV/140 NR Model clauses for specifying engineering work.
  - All masonry repairs to be carried out in accordance with Network Rail technical user manual NR/CIV/SD/TUM/101 and standard drawings NR/CIV/SD/101-106 where appropriate.
  - For CDM significant risks see W4 CDM Hazard Record: 151667-TSA-W4-MDL1-REG-W-SS-000001
  - This drawing is formed from latest available Network Rail visual and detailed examination reports. It should be noted that the latest examinations do not record any live significant defects.
  - Any unforeseen repairs within the 16m² repair zone shown to be undertaken in line with the Network Rail standard for masonry repair NR/CIV/SD/TUM/101.
  - NHL 3.5 or 5 lime mortar to be used for repair works to satisfy Listed Building Consent requirements.

- Key
- 16m² OLE fixing repair zone
  - Defect Area
  - Area of Repair
- Legend
- Proposed
  - To be removed
  - To be modified
  - Existing
  - Ordnance survey data
  - Aerial survey data (LIDAR)
  - Indicative Network Rail land boundary
  - Intervention proposed to create position(s) of safety
  - Proposed future works
  - Temporary works
  - Works by other disciplines
  - Proposed discipline details not the focus of this drawing
  - Passive provision

Rev	Date	Description of Revisions	Drawn	Chkd	Appr	Suitability
P01	06/03/25	For IDC				S2



Authorised	Signed	Date
Contractor(s) <b>Transpire Alliance</b>		
Location THORNHILL LNW JN - HOLBECK EAST JN (MIRFIELD - LEEDS)		
Type	Sub-type	
CAD Drawing	General Arrangement	
Role	Sub-Role	
Civil Engineer	Structures and Buildings	
Zone Dewsbury to Batley - Area A		
Phasing	Project Stage	
Proposed	GRIP 5	
Project <b>Transpennine Route Upgrade</b>		
Contract No. <b>151667</b>		
Contract Title <b>TRU - West of Leeds</b>		
Drawing Title <b>W4 - Area A - MDL1/23 Wood Lane OLE Bridge Defects Plan View</b>		
Designed	Signed	Date
Y. Vorajee	Electronically Signed	05/03/25
Drawn	Signed	Date
J. Osullivan	Electronically Signed	05/03/25
Checked	Signed	Date
H. Tariq	Electronically Signed	06/03/25
Approved	Signed	Date
Scale(s) As Shown		
ELR & Mileage 34.0472 to 0		
Alternative Reference		Sheet 1 of 1
Drawing Number 151667-TSA-40-MDL1-DRG-C-ST-042320		Revision P01



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