TRANSPORT AND WORKS ACT 1992

TRANSPORT AND WORKS (INQUIRIES PROCEDURES) RULES 2004

NETWORK RAIL (HUDDERSFIELD TO WESTTOWN (DEWSBURY) IMPROVEMENTS) ORDER

Calder Road – Design Refinement

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1. INTRODUCTION

1.1 Background

1.1.1 This Technical Note has been prepared to set out the proposed refinement of the railway alignment vertical design which in turn provides an opportunity to refine the design of the Calder Road overbridge, highway layout and Calder Road/Ravensthorpe Road roundabout location. The resulting changes that the proposed design refinements would have for third-party landowners (relative to the scheme submitted as part of the Network Rail (Huddersfield to Westtown (Dewsbury) Improvements Order ('the Order')).

1.1.2 Details of this are provided in this note and include:

- Summary of the works as per the Order
- Reasons for the railway vertical alignment design refinement
- Proposed highway design refinement
- Impact on third-party landowners

1.1.3 The design refinement has not yet been discussed with any of the relevant parties (Kirklees Council (either in the context of the Dewsbury Riverside development or with in terms of highway design), Newlay, Dewsbury Riverside Limited or Veolia). The purpose of this Technical Note is to provide an update to all parties and to inform ongoing discussions.

2. ORDER WORKS

2.1.1 The Scheme layout, as included in the Order, is provided in Appendix A and a summary description is provided in this section.

2.1.2 The existing Calder Road highway crosses the River Calder and the railway to the west of Ravensthorpe Station on two overbridge structures. The two bridges and highway provide a well-used vehicular route between Ravensthorpe to the north and Thornhill to the southeast. The proposed elevated fast lines clash with the existing railway overbridge and its southern abutment and the bridge is also two low to allow the proposed overhead electrification equipment to pass beneath.

2.1.3 To provide sufficient vertical clearance to the fast lines for trains and the OLE, it is proposed as part of the Order to construct the new Calder Road overbridge at a higher level than existing with the highway approaches on either side modified to suit. It is not possible to reconstruct the Calder Road overbridge on its current highway alignment without significantly increasing the vertical gradients on each approach to the bridge. This would also result in a reduced vertical alignment geometry over the bridge and reduced forward visibility.

2.1.4 To minimise disruptive highway closures and to facilitate utility diversions, it is proposed to construct a new railway overbridge adjacent to the west side of the existing bridge. This will require modifications to the highway alignment including a slight steeping of the northern approach gradient to achieve clearances to the electrified railway. It is proposed to construct a footway to the northeast of the bridge to a shallower alignment gradient to suit persons with reduced mobility (PRM). As part of the highway vertical re-alignment, the road levels on the River Calder bridge at the southern end of the bridge will be raised up slightly together with modifications to the existing vehicle parapets.

2.1.5 The highway would comprise the following:

- 7.3m wide carriageway over the new Calder Road overbridge, tying back into the existing carriageway at the Calder River bridge to the north.
- 3m wide footways on either side of the carriageway.

2.1.6 This is an overall improvement on the existing highway (on the overbridge) which provides a carriageway width of approximately 7.3m and a footway width of approximately 1.6m on the eastern side of the bridge. A narrow verge is also provided on the western side of the structure. The existing highway narrows to 7m on the radius onto Ravensthorpe Road.

2.1.7 The proposed highway realignment includes a roundabout to the south of the railway. This is included to minimise third-party land use as far as reasonably practicable and to avoid the need for tight bends in the horizontal geometry where it

ties back into Ravensthorpe Road. The new Ravensthorpe Station is accessed via the roundabout and access to all existing third-party properties (Newlay Concrete, Calder Road Business Park and Veolia) are maintained.

2.1.8 The design of the Calder Road highway realignment and roundabout has been undertaken in accordance with the Design Manual for Roads and Bridges (DMRB). This standard has been used to develop the design in terms of geometry, visibility, and other relevant requirements. The ongoing design of the highway will be undertaken in accordance with this and the relevant standards in discussions with Kirklees Council.

3. RAILWAY ALIGNMENT VERTICAL DESIGN REFINEMENT

3.1 Background

3.1.1 Following the submission of the Order documents, considerable efforts have been made through the ongoing GRIP4 design development to optimise all aspects of railway geometry, so that it achieves the best balance in vertical alignment through the Calder Road and Ravensthorpe cutting area. This is in consideration of all affected boundaries and adjacent third-party land and property owners. This has resulted in an overall lowering of the fast line alignment by approximately 0.6m (600mm) under the Calder Road Overbridge.

3.1.2 Many design refinements have required the agreement of key stakeholders to assure that they can be realised within the design, and this has been achieved through the rigorous Interdisciplinary Design Co-ordination (IDC) and Network Rail professional review process that is undertaken through GRIP4. Refinements in vertical geometry have been achieved by a combination of many factors, but the principal drivers are as described below.

3.2 Fast Line Rail Gradients

3.2.1 Although proposed at the time of the Order submission, agreement and GRIP4 (Approval in Principle) technical assurance had to be obtained with Network Rail Technical and Operational departments to use steeper rail gradients for the fast lines over the Flyover (intersection) structure. This agreement has now been obtained through the GRIP4 assurance process and associated IDC reviews.

3.2.2 Post-Order submission, the GRIP4 design of the track has now been developed to take full advantage of the above agreement including detailed studies of the cross-sectional geometry of the Track and Flyover structural interface to achieve an optimal track position within reasonable survey and installation tolerances. This has taken account of further refinement of the intersection structure geometry as described below.

3.3 Intersection Structure

3.3.1 Since the submission of the Order, the structural design has been further optimised as part of the GRIP4 design development. This is illustrated in the visualisations in Figure 1 and Figure 2.

Figure 1: Flyover Structure, structural optimisation view looking west through structure

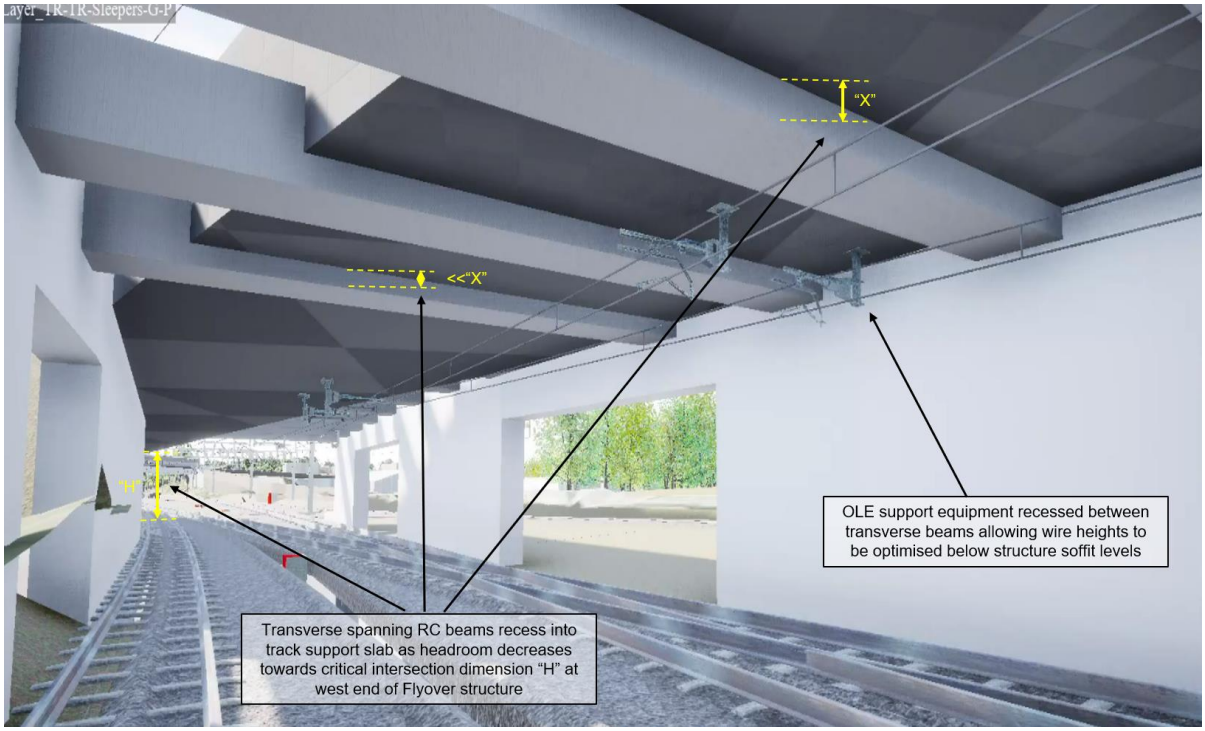
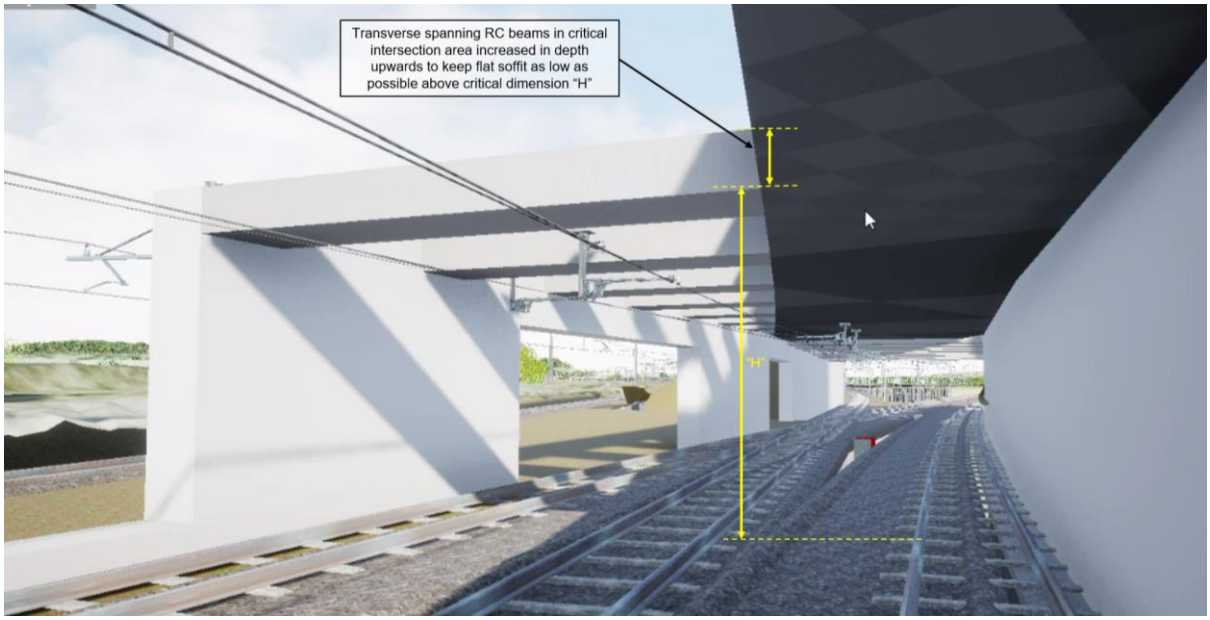


Figure 2: Flyover Structure, structural optimisation looking east through structure



3.4 Electrification Clearances

3.4.1 Electrification clearances at both the Flyover and Intersection structures have been further optimised. This includes recessing wire support arms within the structural arrangement of the Flyover as illustrated in the Figure 1 and further reducing installation and maintenance tolerances. These electrification clearances

and equipment specifications have also been through the GRIP4 assurance process and associated IDC reviews. The actual electrification clearances achieved at GRIP4 (highest rail to lowest structural soffit) are as follows (marked dimension H on the visualisation sketches):

- Flyover Structure c. 4.75 m
- Calder Road Overbridge c. 4.65 m

3.4.2 These clearances are obtained by reducing static electrical clearances to live equipment to minimum values (within safe standards) and using recessed equipment attachments to the structures. This has achieved operational clearances well below a normal preferred free running OLE system clearance of about 5.1m

3.5 Baker Viaduct Vertical Alignment

3.5.1 The viaduct vertical geometry has been adjusted slightly to enable the spans carrying the Up Slow chord to be reduced in level over the Network Rail access which is situated in front of the west bridge abutment. This highway access serves the new SFC transformer site situated in the Ravensthorpe Triangle. A minimum headroom of 5.0m has been agreed with the Network Rail maintainer to provide sufficient clearance for the transportation of new or replacement transformer equipment.

3.5.2 The level of the highway access itself has been positioned to maintain a level above the predicted 1 in 100-year flood event. The SFC site is positioned above the 1 in 1000-year flood event. Should flood levels exceed the 1 in 100-year event, emergency access can still be achieved via the railway corridor and RRAP situated on the Wakefield lines.

3.6 Design Tolerances

3.6.1 At the time of submission of the Order, the design had been developed to a sufficient degree to set Limits of Deviation (LoD) for the Scheme footprint. In line with Network Rail data accuracy requirements (at different GRIP Stages) and good practise, dimensional tolerances were maintained at key points (both vertically and horizontally), to allow for design development and any inaccuracies in data.

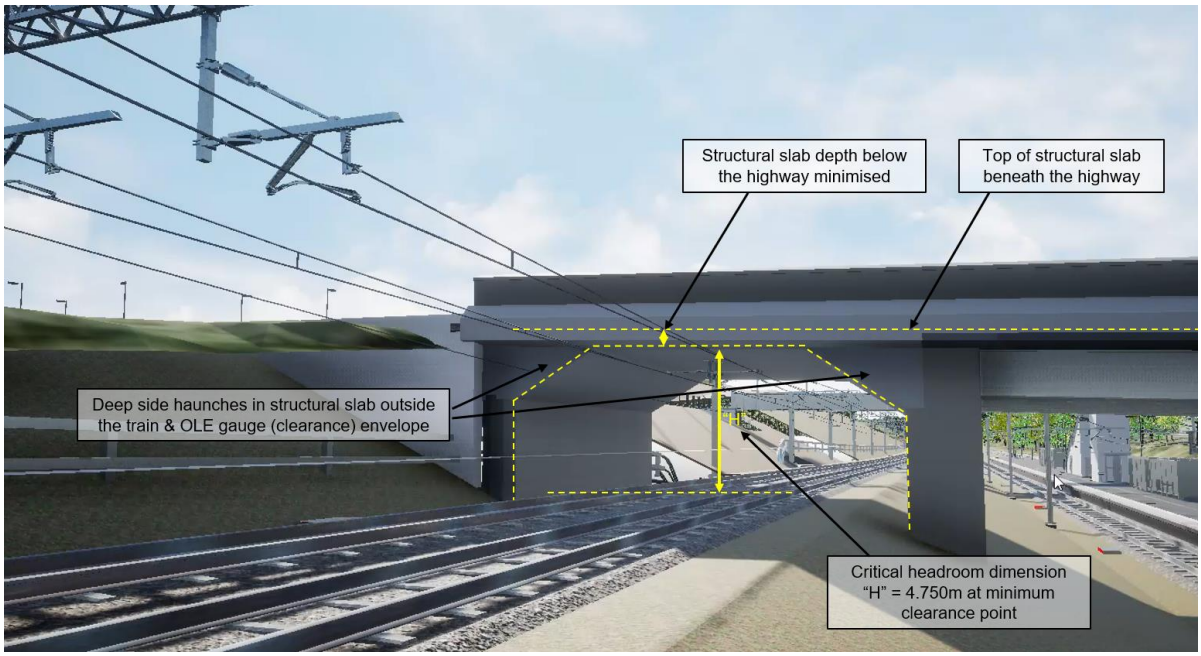
3.6.2 Following GRIP4 design development, these additional tolerances have been reduced to minimum values corresponding to the confidence achieved at this improved level of design.

3.7 Highway Alignment Vertical Design – Calder Road Structure

3.7.1 At GRIP4, a further design refinement has been made to the fast line span. This has involved reducing the effective overall span by the addition of deep side haunches and re-positioning of large high voltage (HV) utility sleeves to the outer

edges of the structure. In total the above refinements have reduced the effective structural depth above the minimum clearance point by approximately 0.3m (300mm). This is illustrated in the visualisation below:

Figure 3: Calder Road Overbridge, structural optimisation looking east through structure



4. PROPOSED DESIGN REFINEMENT

4.1 Bridge location/highway alignment

4.1.1 The proposed design refinement is provided in Appendix B. The key changes to this relative to the Order scheme are:

- The refinement of the railway vertical geometry and reduction in the structural depth of the Calder Road overbridge described in Section 3.
- This enables the proposed Calder Road bridge and associated highway to be located further east and closer to the existing Calder Road bridge due to the lower bridge level required.
- While a roundabout is still proposed, this would be relocated 45m to the east of the location shown in the Order.

4.1.2 Like the Order, the design of the Calder Road highway realignment and roundabout has been undertaken in accordance with the DMRB. However, the proposed refined design includes the following changes:

- A reduction in the carriageway superelevation from 5% to 2.5% over the bridge to suit the revised horizontal highway geometry.
- The removal of the separated footway/cycleway on the northeast side of the bridge. This is replaced with a footway/cycleway which follows the vertical alignment of the main carriageway.
- The provision of sufficient width to cater for both pedestrians and cyclists on the highway and at the roundabout. The exact form of this will be discussed and agreed with Kirklees Council.

4.1.3 Changes to the third-party land and property impacts are addressed in Section 5.

4.1.4 The roundabout and highway can be accommodated within the LoD for Work No. 17 (A realignment of Calder Road) and Work No. 17A (A realignment of Ravensthorpe Road).

<u>Status of the Design</u>

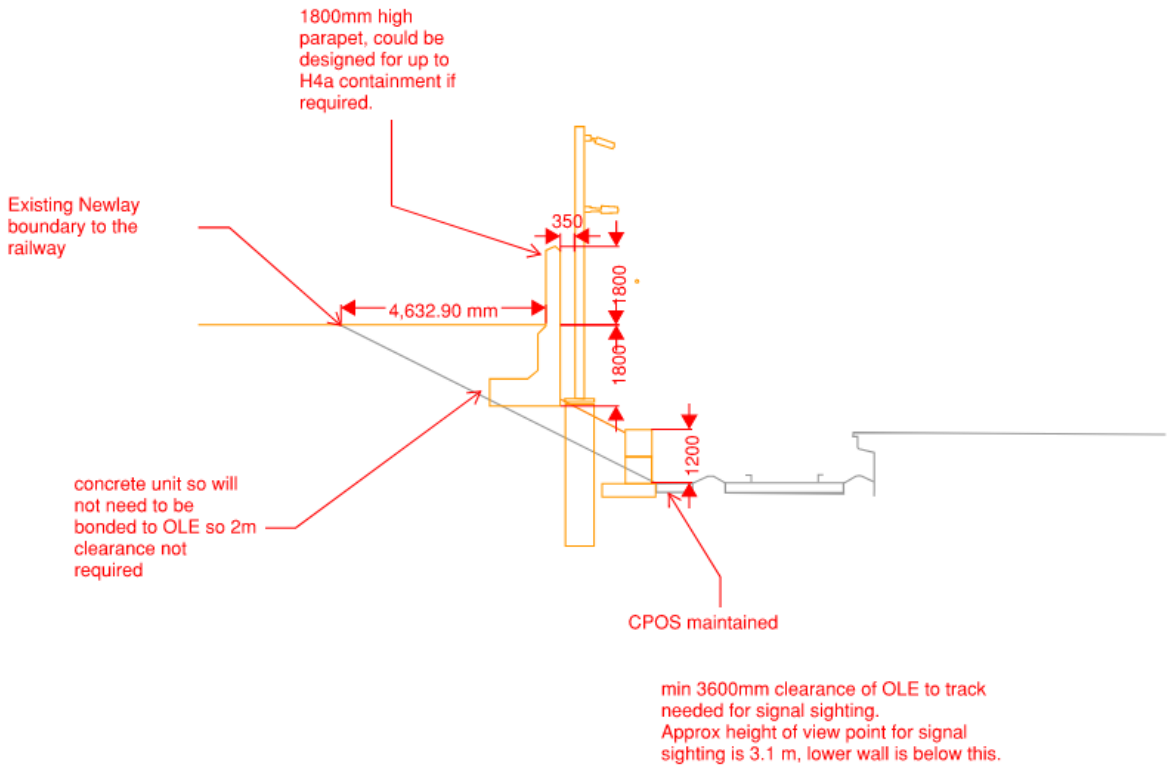
4.1.5 The railway design proposed as part of this design refinement has been assured for the GRIP 4 design as part of the ongoing Inter Disciplinary Coordination (IDC) process. The location of the Calder Road bridge had undergone informal assurance at GRIP 4 such that key disciplines such as signal sighting and OLE were satisfied on its location. However, the proposed design refinement moves the bridge a further 8m to the east. Further reviews with the relevant discipline experts within the design team has confirmed that relocating the bridge to the east would not introduce any design issues for the railway operation.

4.1.6 As is the case for all highway elements of the Scheme, the design will be subject to ongoing discussions with and approval from Kirklees Council as Highways Authority. The need for access to inspect and maintain any highway supporting structures will also be subject to discussion with Kirklees Council.

4.2 Retaining Wall

4.2.1 An opportunity to provide an additional retaining wall parallel to the railway is being explored on the north side of the railway (to the south of the Newlay Readymix site area). This would enable an opportunity to move the railway boundary south which would in-turn mean that a section of land that is currently within the existing Network Rail boundary could be provided to form part of the Newlay Readymix site. The location of the wall is highlighted on the drawing in Appendix B and a proposed section is shown indicatively in Figure 4. The retaining wall and area created by the retaining wall are within the LoD of Work No. 15.

Figure 4: Retaining Wall indicative layout



4.2.2 Any disposal of existing Network Rail land/property will be subject to Network Rail securing the necessary clearances/approval of the business and subject to Network Rail satisfying ORR Licence Condition 17 in terms of consent to any disposal.

4.3 Phasing

4.3.1 The phasing for construction of the refined option is still being developed. South of the railway, this would be like that for the Order Scheme. North of the railway, we envisage that due to the closer proximity of the highway realignment to the existing highway, there would be a need to manage the works in a slightly different manner. The indicative phasing would be as follows:

- Phase 1 – construct the new retaining wall (as proposed above) adjacent to the railway and extend the existing Newlay Readymix site area by infilling behind the wall. It is envisaged that this work will be, as far as reasonably practicable, undertaken from within the existing Network Rail boundary; however, access through the Newlay site may be required to facilitate the works including delivery of materials.
- Phase 2 – implement the temporary reconfiguration of the Newlay Readymix operation (including any requirement to use the Northern Powergrid land).[1]
- Phase 3 – construct the new highway retaining wall adjacent to the Newlay Readymix site, the new bridge abutment, and the works to the east and west of the existing highway to the north of the Newlay and Calder Road Business Park accesses. Calder Road would remain open in this phase.
- Phase 4 – undertake the Calder Road River Bridge works under single lane traffic management.
- Phase 5 – raise the level of Calder Road north of the Calder Road Business Park access. This section of Calder Road would be closed during this period.
- Phase 6 - raise the level of Calder Road between the Newlay and Calder Road Business Park accesses and build the first part of the retaining wall adjacent the Spenborough Engineering building (expected to be along the boundary of the existing highway). This section of Calder Road would be closed during this period.
- Phase 6 - raise the level of Calder Road between the Newlay and the new bridge and build the remainder of the retaining wall adjacent the Spenborough Engineering building (expected to be along the boundary of the existing highway). This section of Calder Road would be closed during this period.
- Phase 7 – Creation of the new Newlay access. This would be managed overnights for a period currently estimated to be a week to avoid disruption to the Newlay operations.

[1] This is in relation to Options 4A and/or 4B, however, any reconfiguration for Options 1 or 2 could be undertaken in this phase also.

4.3.2 Details of the phasing for this area are provided in Appendix C.

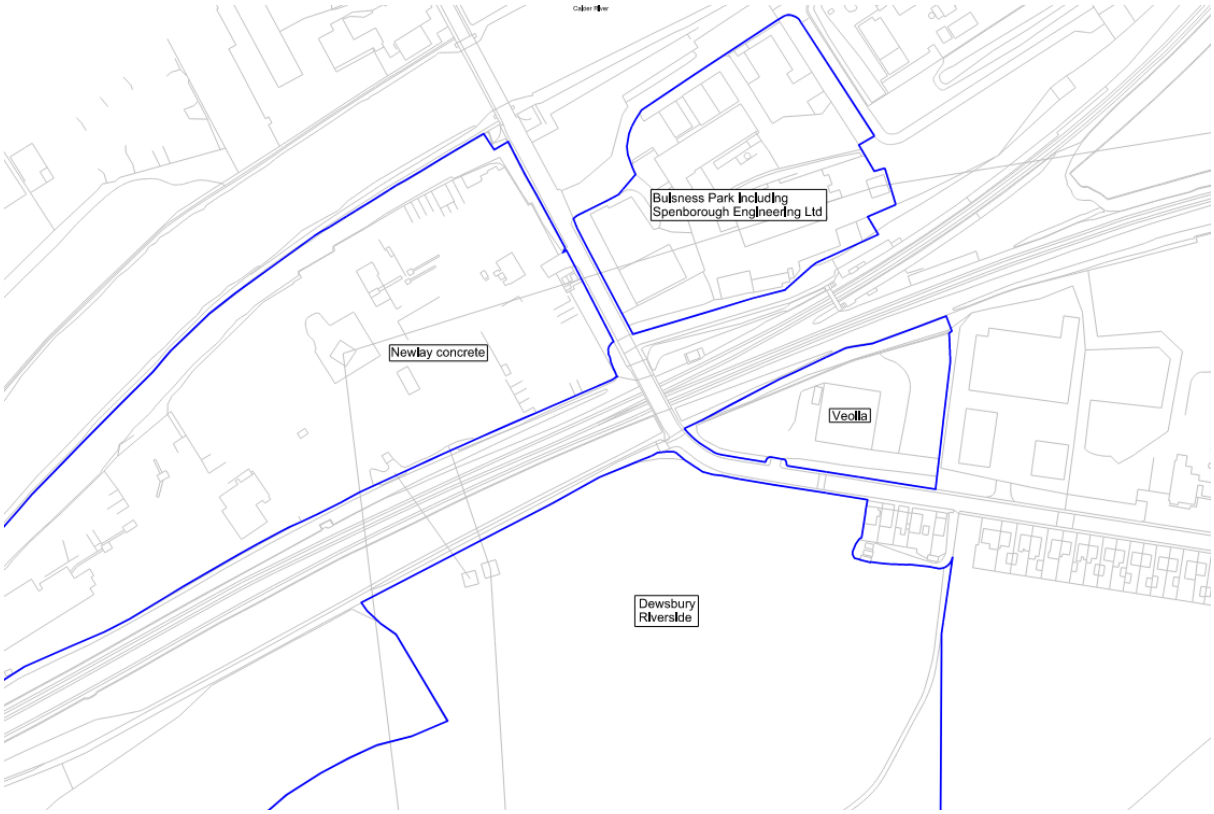
4.3.3 At this stage, it is expected that the overall closure duration of Calder Road would not exceed that previously reported for the closure of river bridge; however, the works would be managed differently to that phasing.

5. LAND IMPACTS

5.1 Overall Impacts

5.1.1 The changes proposed as part of the design refinement would have different effects on landowners, which include Newlay, Veolia, Dewsbury Riverside and Spenborough Engineering and other business as part of the Calder Road Business Park. The location of these businesses is highlighted on Figure 5.

Figure 5: Landowners



5.1.2 The impacts for each landowner are set out in this section.

5.1.3 An overall consequence of the proposed design refinement would result in a reduction in the quantity of earthworks required, which would in turn result in fewer construction vehicle movements in the area. This would benefit all landowners and users of the highway network in the area.

5.2 OBJ 18-21, 29 Newlay

<u>Newlay Readymix reconfiguration</u>

5.2.1 To-date, several reconfiguration options for Newlay's Readymix's have been considered. Options 1 and 2 are included in Appendix C for ease of reference. For

each option, as shown, it provides an alternative configuration for the facility. However, there may be other configurations within this space that would work.

5.2.2 A third option has been considered which sought to provide a reconfigured layout within the footprint of the existing facility with the TWAO layout. This has not been included as it does not provide a layout in the permanent case which works operationally.

5.2.3 Considering the highway alignment shown in Appendix B, two further options (Option 4A and 4B) for the temporary and permanent reconfiguration of the Newlay Readymix site has been explored. These are also shown in Appendix D.

5.2.4 For Option 4A, in the temporary case, the key pieces of equipment would be relocated to the west side of the footprint of the existing Newlay Readymix facility, retaining its existing configuration with respect to the positioning of the ancillary equipment (e.g. silos and conveyor). The aggregate storage would be relocated to the southern boundary. The remainder of the facilities, including the offices and other storage areas, would be relocated to west (onto the Northern Powergrid land) on a temporary basis, and would then be relocated back adjacent to the realigned Calder Road on a permanent basis.

5.2.5 For Option 4B, in the temporary case, the key pieces of equipment would be relocated to the south side of the footprint of the existing Newlay Readymix facility, retaining its existing configuration with respect to the positioning of the ancillary equipment (e.g. silos and conveyor). The aggregate storage area would be relocated to the north-east of the area. The drainage pits have been relocated to the north-west for this option with the remainder of the ancillary facilities relocated to the northern boundary or retained in their existing location.

5.2.6 For all options, access during construction would be maintained via the existing access, which would also be used by Network Rail construction traffic in accessing relevant elements of the works. There would be no requirement to relocate the existing site office either on a temporary or permanent basis.

<u>Overall summary</u>

5.2.7 The impacts on Newlay that result from the proposed design refinement are summarised in Table 1.

Table 1: Summary of changes for Newlay

Landowner	TWAO Design	Proposed Refined Design
Newlay OBJ18-22, 29	Highway works - total permanent land take: 2,600m^2 including non-operational existing land. Excluding non-operational existing land, this would equate to a land take of approximately 1,000m^2.	Highway works - total permanent land take: TWAO – 1,850m^2 including non-operational existing land. Excluding non-operational existing land, this would equate to a land take of approximately 250m^2.
	No retaining wall so no additional Newlay land in this area	Retaining wall – land within the existing Network Rail boundary to be provided approximately 175m^2 (therefore overall reduction in Newlay operational land approx. 75m^2). This will be subject to Network Rail securing the necessary clearances/approval for disposal of the land.
	Temporary land take for the highway/bridge works in additional to the permanent land take: 3,000m^2	Temporary land take for the highway/bridge works in additional to the permanent land take: 2,100m^2
	Shared access during construction using the existing access	Shared access during construction using the existing access
	Relies on the Northern Powergrid land for temporary reconfiguration of the Newlay Readymix facility and potentially relies on part of all of this land for the permanent reconfiguration.	Relies on part of the Northern Powergrid land for the temporary reconfiguration of the Newlay Readymix facility. Would allow for reconfiguration permanently within the footprint of the existing site including the additional land gained by the retaining wall
	Works would require six-month closure of Calder Road River Bridge requiring all traffic to travel to/from the south. Separate short closure (number of weeks) would be required further south on Calder Road requiring all traffic to travel to/from the north	Works would require a shorter period of closure of the Calder Road River Bridge requiring all traffic to travel to/from the south. There would be a longer period of closure to the south requiring all traffic to travel to/from the north. Overall, the combined periods of closure would be like the TWAO design.

5.3 OBJ 36 Dewsbury Riverside Limited

5.3.1 The proposed design refinement maintains access for Dewsbury Riverside Limited to the land to the south of the realigned Ravensthorpe Road. If required (i.e. if the development has come forward), access to the 120 homes, which have Outline Planning Permission, could be provided from a fourth arm to the roundabout and can be achieved within the LoD of the Scheme. The roundabout would have capacity to

accommodate the wider Dewsbury Riverside development, albeit not as a single point of access (to the development).

5.3.2 Access to the land would be maintained from Ravensthorpe Road via a gated access (in the absence of any development).

5.3.3 As part of the design refinement, there would also be reduced land-take (associated with the highway design) from Dewsbury Riverside Limited when compared with the TWAO option.

5.3.4 The impacts on Dewsbury Riverside Limited that result from the proposed design refinement are summarised in Table 2.

Table 2: Summary of changes Dewsbury Riverside Limited

Landowner	TWAO Design	Proposed Refined Design
Dewsbury Riverside Limited OBJ36	Access can be maintained to the 120 homes development via a T-junction onto the realigned Ravensthorpe Road.	If required (i.e. if the development has come forward), access can be maintained to the 120 homes development although this would need to be from the roundabout but could be delivered within the LoD of the Scheme
	An alternatively aligned fourth arm could be provided from the roundabout to suit access to any development (should access to the 120 homes not be required).	An alternatively aligned fourth arm could be provided from the roundabout to suit access to any development (should access to the 120 homes not be required).
	In the absence of development, a gated access could be provided onto Ravensthorpe Road	In the absence of development, a gated access could be provided onto Ravensthorpe Road
	The roundabout would have capacity to accommodate the wider Dewsbury Riverside development, albeit not as a single point of access.	The roundabout would have capacity to accommodate the wider Dewsbury Riverside development, albeit not as a single point of access.

5.4 OBJ 42 Veolia

5.4.1 The proposed design refinement would result in a relocation of the roundabout to the east by approximately 45m and would be closer to the Veolia site. An access to the realigned Ravensthorpe Road would be provided, with 50m visibility splays to the east and west.

5.4.2 The temporary and permanent parking layouts for Veolia, as previously presented, would not be affected by the proposed design refinement.

5.4.3 The impacts on Veolia that result from the proposed design refinement are summarised in Table 3.

Table 3: Summary of changes for Veolia

Landowner	TWAO Design	Proposed Refined Design
Veolia OBJ 42	No change to temporary and permanent land take or the provision of temporary or permanent parking provision	
	Access from the realigned Ravensthorpe Road can be provided with appropriate visibility splays on both approaches.	Access from the realigned Ravensthorpe Road can be provided with appropriate visibility splays on both approaches, as shown in the drawing in Appendix B.

5.4.4 The phasing drawings previously discussed will be updated to reflect the amended highway layout.

5.5 Calder Road Business Park including Spenborough Engineering

5.5.1 The proposed define refinement would not result in any changes to the impacts on the Calder Road Business Park, including Spenborough Engineering.

Table 4: Summary of changes for the Calder Road Business Park including Spenborough Engineering

Landowner	TWAO Design	Proposed Refined Design
Spenborough Engineering (and Calder Road Business Park)	Access to the Business Park would be maintained at all times.	Access to the Business Park would be maintained at all times.
	Works would require six-month closure of Calder Road River Bridge requiring all traffic to travel to/from the south. Separate short closure (number of weeks) would be required further south on Calder Road requiring all traffic to travel to/from the north	Works would require a shorter period of closure of the Calder Road River Bridge requiring all traffic to travel to/from the south. There would be a longer period of closure to the south requiring all traffic to travel to/from the north. Overall, the combined periods of closure would be like the TWAO design.
	Boundary to the existing Calder Road would require a retaining wall along the boundary of the existing highway. Buildings of Spenborough Engineering would be unaffected.	Boundary to the existing Calder Road would require a retaining wall along the boundary of the existing highway. Buildings of Spenborough Engineering would be unaffected.

6. RECOMMENDATIONS

6.1.1 It is proposed to progress with the development of the refined design on the basis that:

- It can be achieved within the LoD of the scheme, as per the submitted Order Scheme.
- The railway design can be achieved and has been assured through Network Rail's GRIP4 process.
- The highway design is fundamentally similar to the Order Scheme and provides additional space for the consideration of walking and cycling.
- Access for all third-party landowner is maintained and access to the proposed 120 homes can be facilitated.
- The third-party land take north and south of the railway is reduced.
- Following from this, the quantities of earthworks to be moved is reduced.

APPENDIX A – TWAO PLANNING DIRECTION DRAWING

Drawing Number
151667-TSA-W3-000-DRG-T-LP-162949 P02

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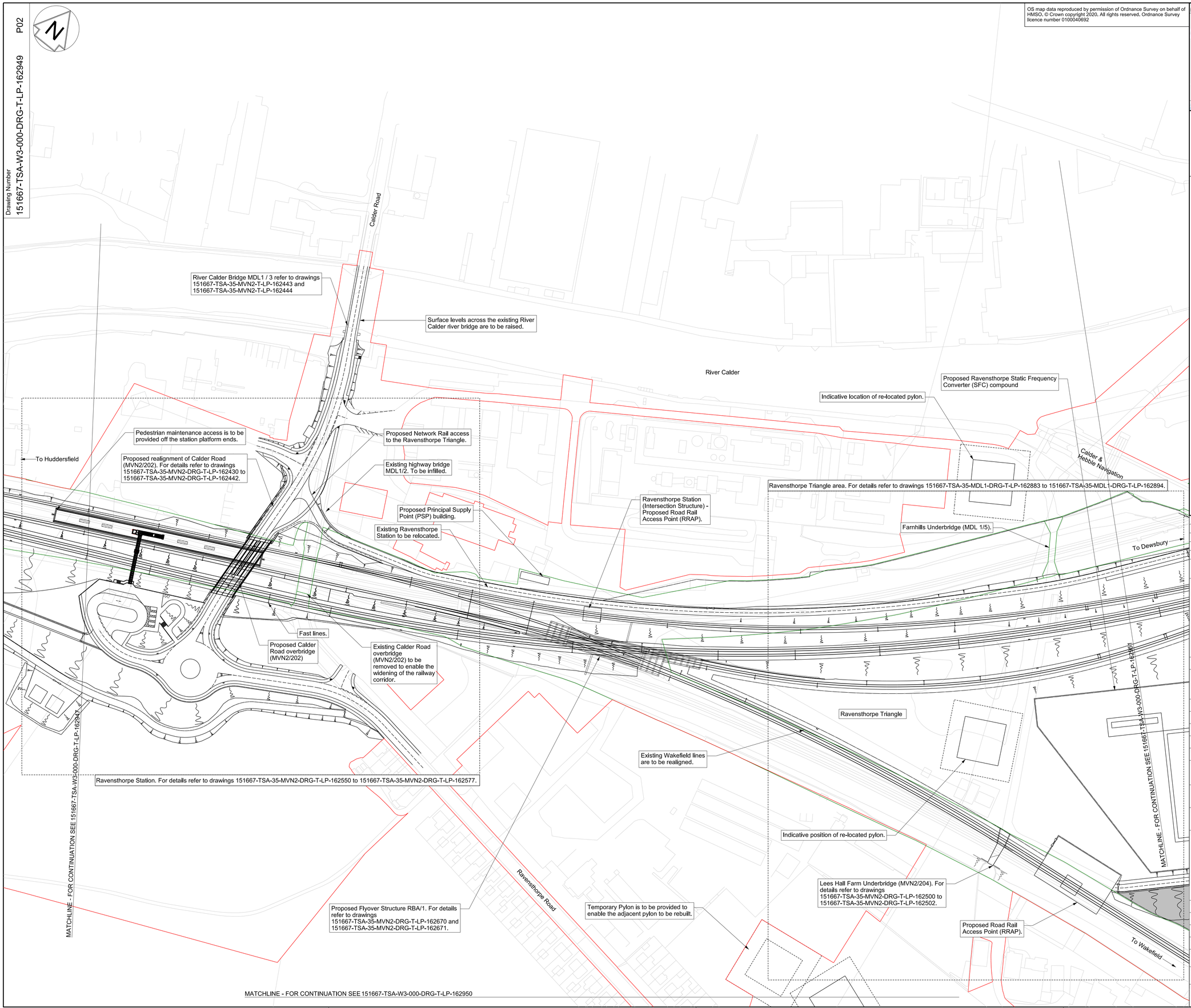

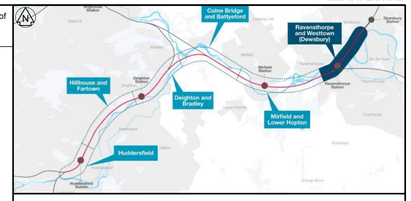

Legend

- Existing Network Rail Boundary
- Planning Application Boundary
- Proposed Rail Infrastructure
- Illustrative Overhead Line Equipment

Notes

1. All dimensions are in millimetres unless stated otherwise.
2. Do not scale from this drawing.
3. Overhead Line Equipment (OLE) shown indicatively only. For typical details refer to drawing 151667-TSA-W3-000-DRG-T-LP-162970.
4. In constructing or maintaining the works identified as Scheduled Works in Schedule 1 of the Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order Network Rail may deviate from the dimensions shown on this drawing to the extent permitted by the Order.
5. Overhead Line Equipment (OLE) is only shown on route drawings (refer to drawings 151667-TSA-W3-000-DRG-T-LP-162930 to 151667-TSA-W3-000-DRG-T-LP-162953) and for Listed Building Consent structures.
6. This drawing is to be read in conjunction with drawings:
   151667-TSA-W3-000-DRG-T-LP-162930
   151667-TSA-W3-000-DRG-T-LP-162931
   151667-TSA-W3-000-DRG-T-LP-162932
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   151667-TSA-W3-000-DRG-T-LP-162951
   151667-TSA-W3-000-DRG-T-LP-162952
   151667-TSA-W3-000-DRG-T-LP-162953

0 25 50 75 100 125m

SCALE 1:1250

THE NETWORK RAIL (HUDDERSFIELD TO WESTTOWN (DEWSBURY) IMPROVEMENTS) ORDER

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
P01	17/03/21	Second Issue	EC	CW	JH
P02	19/03/21	Second Issue	EC	CW	JH

Status: Fit for Contractor Design — Suitability: D3

NetworkRail

Authorised	T.Rivero	Signed: Electronically Signed	Date: 2021/03/19
Contractor(s): TRU West Alliance			
Location: MULTIPLE ELR			
Type: CAD Drawing		Sub-type	
Role: Town and Country Planner		Sub-Role: General	
Zone: Project W3 Holistic			
Phasing: Proposed		Grip Stage: 0	
Project: Transpennine Route Upgrade			
Contract No.: 151667			
Contract Title: West of Leeds			
Drawing Title: Planning Drawing Route Drawing Sheet 20 of 24			
Designed	J.Titley	Signed	Date 18/03/21
Drawn	E.Chatters	Signed: Electronically Signed	Date 18/03/21
Checked	C.Williams	Signed: Electronically Signed	Date 18/03/21
Approved	J.Haigh	Signed: Electronically Signed	Date 18/03/21
Scale(s): 1:1250		ELR & Mileage: 0 to 0	
Alternative Reference			Sheet 20 of 24
Drawing Number: 151667-TSA-W3-000-DRG-T-LP-162949			Revision: P02

Sheet Size A1 594 x 841

Published Published Published Published

APPENDIX B – PROPOSED DESIGN REFINEMENT

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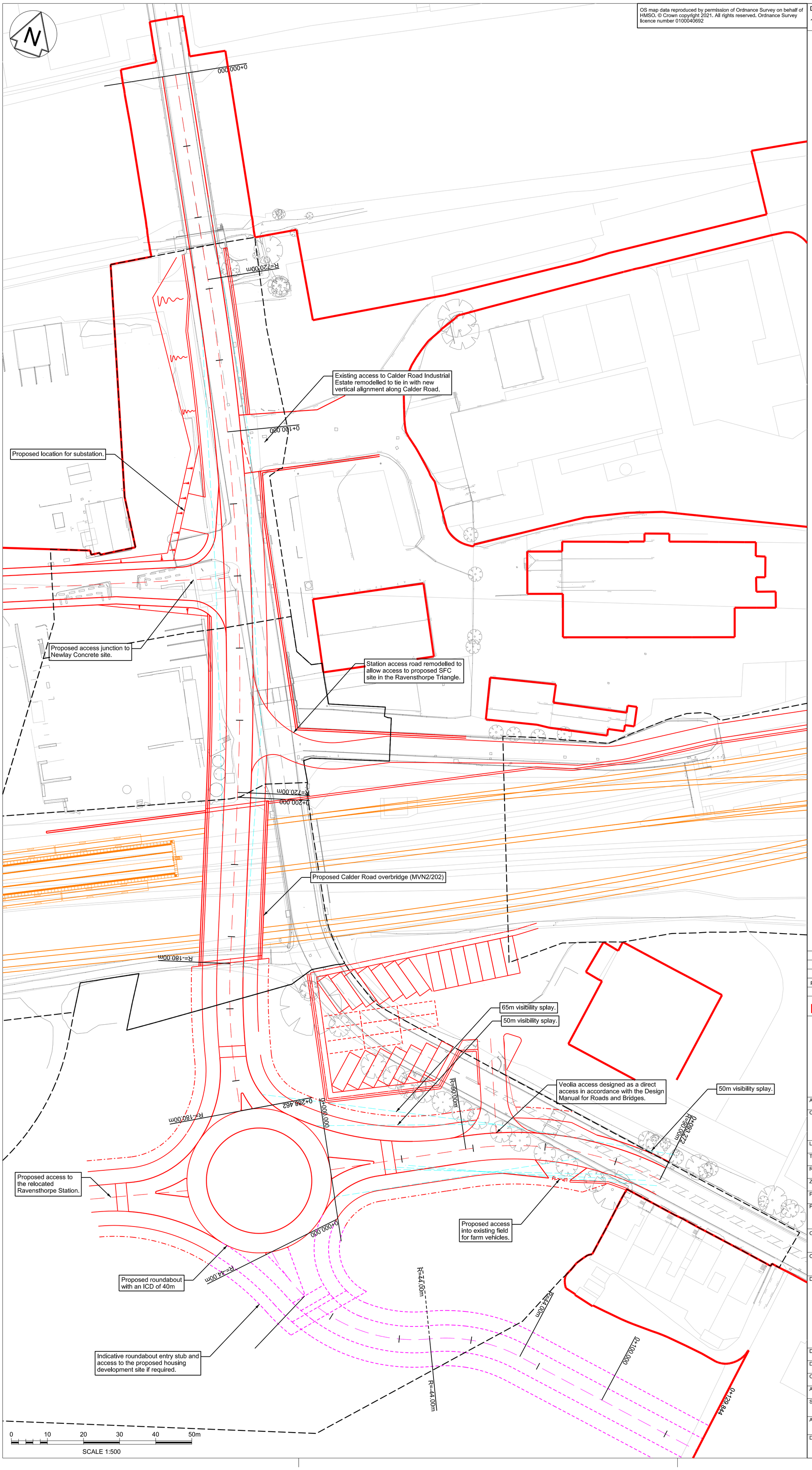
Drawing Number
151667-TSA-35-MVN2-DRG-T-LP-162470 P01.1

Notes:
1. All dimensions are in millimetres unless stated otherwise.



Key:
- Planning Application Boundary
- Scheme Limits of Deviation
- Proposed works
- Proposed non-highway TRU works
- Indicative tie in to housing development
- Visibility Splay (70m unless specified otherwise)
- 3m wide verge

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
P01.1	04/11/21	First Issue	EC		

Status: Initial Status WIP
Suitability: S0

NetworkRail

Authorised | Signed | Date

Contractor(s): TRU West Alliance

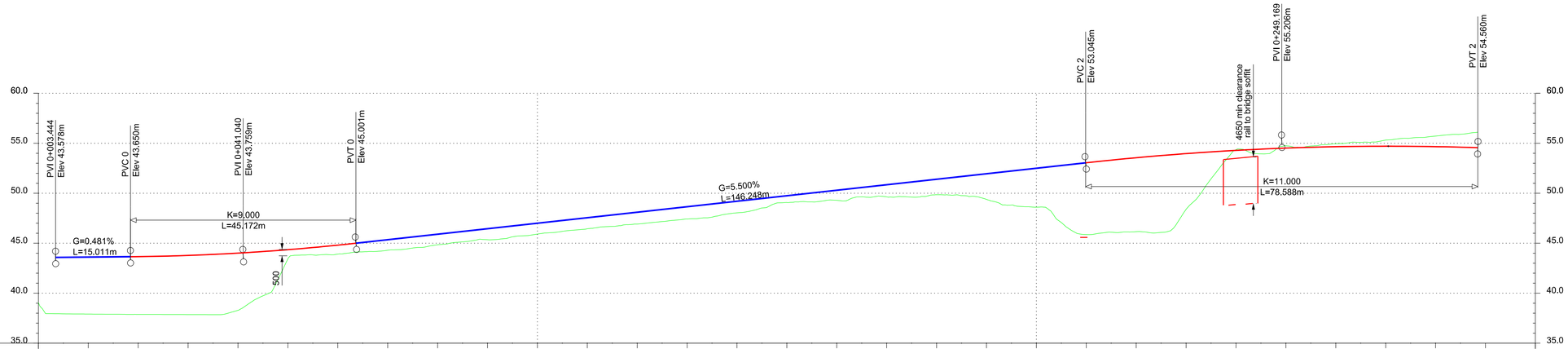
Location: THORPES BRIDGE JN - NORMANTON (MANCHESTER - NORMANTON LI
Type: CAD Drawing
Sub-type:
Role: Town and Country Planner
Sub-Role: General
Zone: Ravensthorpe and Westown (Dewsbury)
Phasing: Proposed
Project Stage: GRIP 4

Project: Transpennine Route Upgrade
Contract No.: 151667
Contract Title: West of Leeds
Drawing Title: Planning Drawing Proposed Calder Road Highway Alignment

Designed	J. Titley	Signed	Date 04/11/21
Drawn	E.Chatters	Signed	Date 04/11/21
Checked		Signed	Date
Approved		Signed	Date

Scale(s): 1:500
ELR & Mileage: 002.0248 to 050.0691
Alternative Reference
Sheet of
Drawing Number: 151667-TSA-35-MVN2-DRG-T-LP-162470
Revision: P01.1

Drawing Number
151667-TSA-35-MVN2-DRG-T-LP-162471 P01.1



Chainage	Proposed Level	Existing Level
0+000.000	43.585	37.976
0+005.000	43.610	37.938
0+010.000	43.634	37.912
0+015.000	43.659	37.890
0+020.000	43.705	37.880
0+025.000	43.780	37.872
0+030.000	43.882	37.860
0+035.000	44.012	37.850
0+040.000	44.169	38.286
0+045.000	44.355	39.738
0+050.000	44.568	43.437
0+055.000	44.809	43.834
0+060.000	45.077	43.911
0+065.000	45.352	44.140
0+070.000	45.627	44.300
0+075.000	45.902	44.521
0+080.000	46.177	44.847
0+085.000	46.452	45.136
0+090.000	46.727	45.354
0+095.000	47.002	45.640
0+100.000	47.277	45.914
0+105.000	47.552	46.190
0+110.000	47.827	46.444
0+115.000	48.102	46.689
0+120.000	48.377	46.917
0+125.000	48.652	47.171
0+130.000	48.927	47.429
0+135.000	49.202	47.615
0+140.000	49.477	48.040
0+145.000	49.752	48.525
0+150.000	50.027	49.073
0+155.000	50.302	49.139
0+160.000	50.577	49.290
0+165.000	50.852	49.646
0+170.000	51.127	49.642
0+175.000	51.402	49.616
0+180.000	51.677	49.852
0+185.000	51.952	49.762
0+190.000	52.227	49.388
0+195.000	52.502	48.824
0+200.000	52.777	48.608
0+205.000	53.052	47.070
0+210.000	53.315	45.870
0+215.000	53.555	46.101
0+220.000	53.773	46.155
0+225.000	53.967	46.086
0+230.000	54.140	48.399
0+235.000	54.289	51.442
0+240.000	54.416	54.361
0+245.000	54.520	53.945
0+250.000	54.601	54.754
0+255.000	54.659	54.723
0+260.000	54.695	54.956
0+265.000	54.708	55.098
0+270.000	54.699	55.318
0+275.000	54.666	55.522
0+280.000	54.611	55.726
0+285.000		55.901
0+290.000		
0+295.000		
0+300.000		

Horizontal Alignment: L 57.44 | Lc 143.90 R=720.00 | L 46.12 | Lc 41.00 R=-180.00

Vertical Alignment: L=15.011 Slp=0.48% | LVC=45.17 R900.00 | L=146.248 Slp=5.50% | LVC=78.59 R1100.00

Proposed Calder Road Vertical Alignment

Scale - 1:500 Horizontal 1:250 Vertical

0 10 20 30 40 50m

SCALE 1:500

Legend/Notes

Key:

Existing Ground

Vertical Profile

Notes

1. All dimensions are in millimeters unless stated otherwise.
2. Do not scale from this drawing.

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
P01.1	08/11/21	First Issue	EC		

Status: Initial Status WIP

Suitability: S0

NetworkRail

Authorised | Signed | Date

Contractor(s): TRU West Alliance

Location: THORPES BRIDGE JN - NORMANTON (MANCHESTER - NORMANTON LI

Type: CAD Drawing | Sub-type:

Role: Town and Country Planner | Sub-Role: General

Zone: Ravensthorpe and Westown (Dewsbury)

Phasing: Proposed | Project Stage: GRIP 4

Project: Transpennine Route Upgrade

Contract No.: 151667

Contract Title: West of Leeds

Drawing Title: Planning Drawing Proposed Calder Road Vertical Alignment

Designed	J.Titley	Signed	Date 08/11/21
Drawn	E.Chatters	Signed	Date 08/11/21
Checked		Signed	Date
Approved		Signed	Date

Scale(s): As Shown | ELR & Mileage: 002.0248 to 050.0691

Alternative Reference | Sheet of

Drawing Number: 151667-TSA-35-MVN2-DRG-T-LP-162471 | Revision: P01.1

Sheet Size A1 594 x 841

APPENDIX C – CONSTRUCTION PHASING

Phase 0

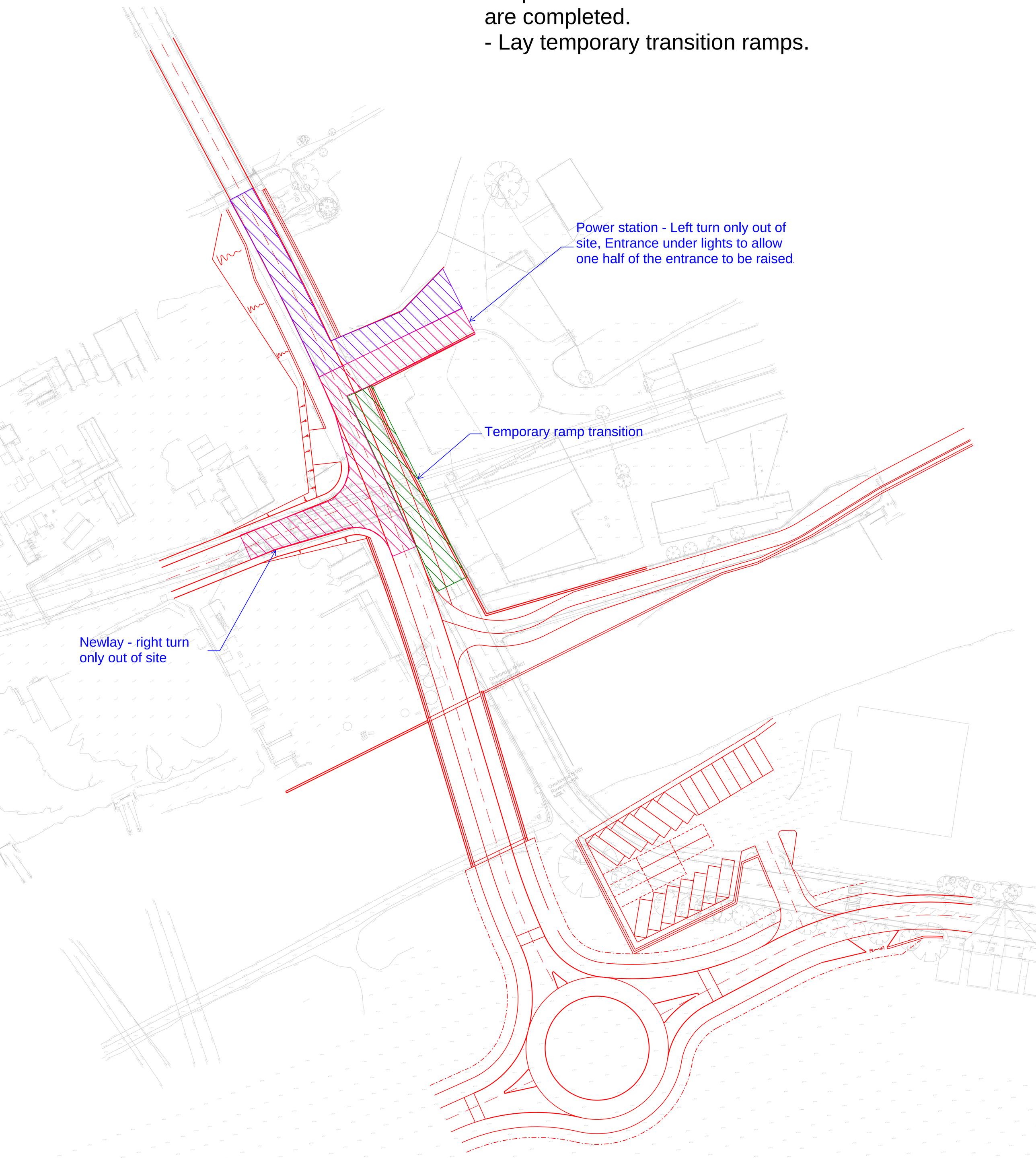
- Reconfigure Newlay Readymix Plant
- Temporary access through Newlay site to construct new rail facing retaining wall along slow line.
- Potential to divert overhead cables.

Phase 1

- Construct rail facing retaining structure, Calder Road bridge abutment and off line highway.
- Traffic management over Calder River bridge - single lane running to allow reconstruction of parapet string course and parapets.

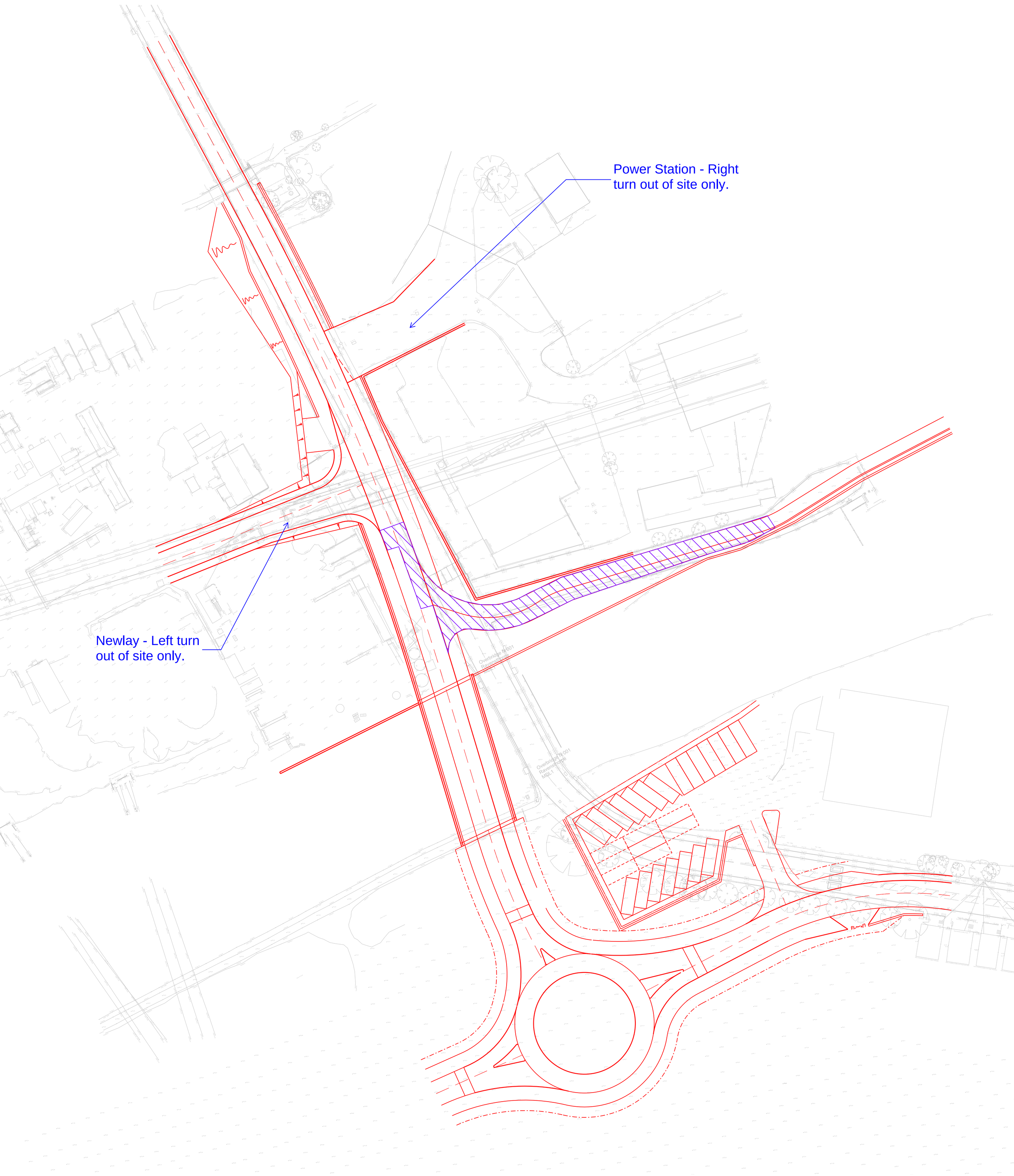
Phase 2

- Close Calder Road river bridge for level raising and resurfacing works
- Weekend opening of river bridge to provide access to the power station while second half of entrances works are completed.
- Lay temporary transition ramps.



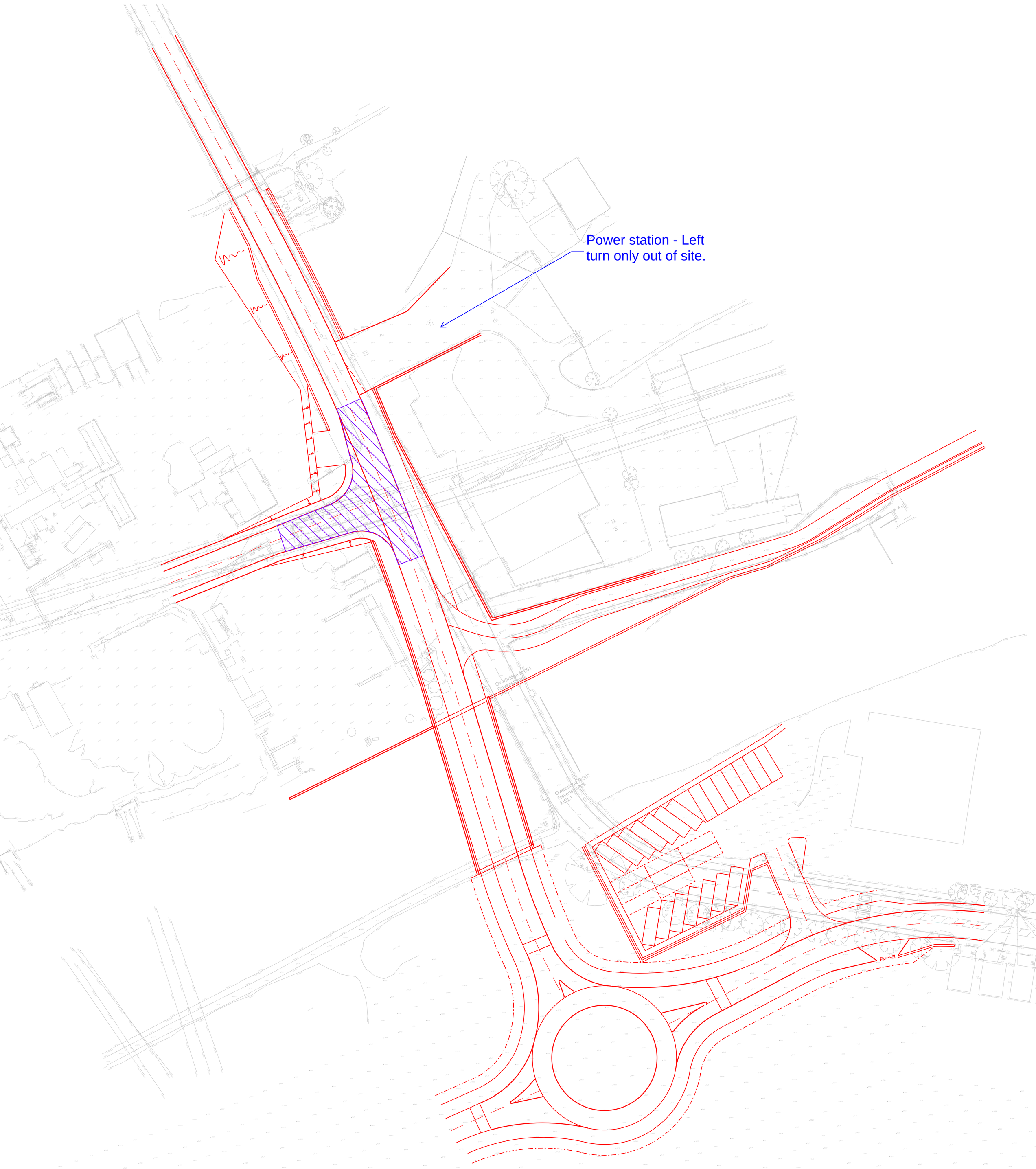
Phase 3

- Close existing station access and Calder Road south of Newlay site entrance.
- Construct road between the Phase 1 limit and Newlay site entrance.



Phase 4

- Weekend/ Bank holiday closure of Newlay entrance to allow completion of road raise.



Phase 5

- Road under traffic management to allow completion of verge works and service diversions.
- Complete Veolia's new site access.

APPENDIX D – NEWLAY RECONFIGURATION OPTIONS

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Drawing Number
151667-TSA-35-MVN2-DRG-T-LP-162461 P01.1

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Legend/Notes

Key:

- Planning Boundary
- Scheme Limit of Deviation

Notes

1. All dimensions are in millimeters unless stated otherwise.
2. Do not scale from this drawing.
3. All highway works are subject to approval from local authorities and may result in further design development.
4. Extents of earthworks are shown indicatively and are subject to design development.

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
P01.1	04/11/21	First Issue	EC		

Status: Initial Status WIP

Suitability: S0

NetworkRail

Authorised | Signed | Date

Contractor(s): TRU West Alliance

Location: THORPES BRIDGE JN - NORMANTON (MANCHESTER - NORMANTON LI

Type: CAD Drawing | Sub-type:

Role: Town and Country Planner | Sub-Role: General

Zone: Ravensthorpe and Westown (Dewsbury)

Phasing: Proposed | Project Stage: GRIP 4

Project: Transpennine Route Upgrade

Contract No.: 151667

Contract Title: West of Leeds

Drawing Title: Newlay Readymix Existing Configuration

Designed	S. Jones	Signed	Date 04/11/21
Drawn	E.Chatters	Signed	Date 04/11/21
Checked		Signed	Date
Approved		Signed	Date

Scale(s): 1:250

ELR & Mileage: 002.0248 to 050.0691

Alternative Reference

Sheet of

Drawing Number: 151667-TSA-35-MVN2-DRG-T-LP-162461

Revision: P01.1

Sheet Size A1 594 x 841

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Drawing Number
151667-TSA-35-MVN2-DRG-T-LP-162462 P01.1

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Legend/Notes

Key:

- Planning Boundary
- Scheme Limit of Deviation

Notes

1. All dimensions are in millimeters unless stated otherwise.
2. Do not scale from this drawing.
3. All highway works are subject to approval from local authorities and may result in further design development.
4. Extents of earthworks are shown indicatively and are subject to design development.

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
P01.1	04/11/21	First Issue	EC		

Status: Initial Status WIP

Suitability: S0

NetworkRail

Authorised | Signed | Date

Contractor(s): TRU West Alliance

Location

Type: CAD Drawing | Sub-type

Role: Town and Country Planner | Sub-Role: General

Zone: None

Phasing: Proposed | Project Stage: GRIP 4

Project: Transpennine Route Upgrade

Contract No.: 151667

Contract Title: West of Leeds

Drawing Title: Newlay Readymix Calder Road Highway Alignment

Designed	S.Jones	Signed	Date 04/11/21
Drawn	E.Chatters	Signed	Date 04/11/21
Checked		Signed	Date
Approved		Signed	Date

Scale(s): 1:250 | ELR & Mileage: 050.0691 to

Alternative Reference | Sheet of

Drawing Number: 151667-TSA-35-MVN2-DRG-T-LP-162462 | Revision: P01.1

Sheet Size A1 594 x 841

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Drawing Number
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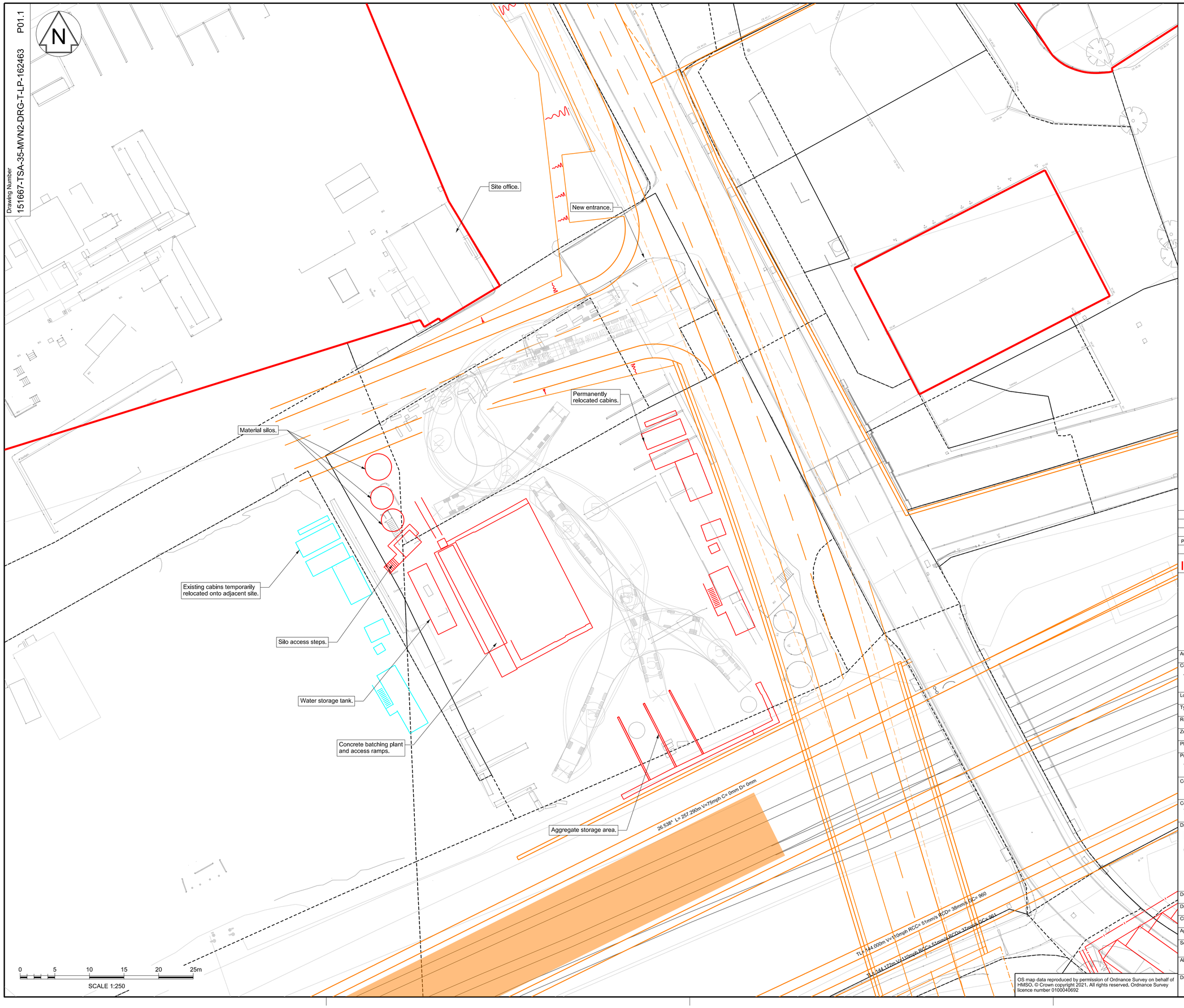

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Legend/Notes

Key:

- Planning Boundary
- Scheme Limit of Deviation

Notes

1. All dimensions are in millimeters unless stated otherwise.
2. Do not scale from this drawing.
3. All highway works are subject to approval from local authorities and may result in further design development.
4. Extents of earthworks are shown indicatively and are subject to design development.

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
P01.1	04/11/21	First Issue	EC		

Status: Initial Status WIP
Suitability: S0

NetworkRail

Authorised | Signed | Date

Contractor(s): TRU West Alliance

Location

Type: CAD Drawing
Sub-type

Role: Town and Country Planner
Sub-Role: General

Zone: None

Phasing: Proposed
Project Stage: GRIP 4

Project: Transpennine Route Upgrade

Contract No.: 151667

Contract Title: West of Leeds

Drawing Title: Newlay Readymix Option 4a

Designed	S. Jones	Signed	Date 04/11/21
Drawn	E.Chatters	Signed	Date 04/11/21
Checked		Signed	Date
Approved		Signed	Date

Scale(s): 1:250
ELR & Mileage: to 050.0691

Alternative Reference
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Drawing Number: 151667-TSA-35-MVN2-DRG-T-LP-162463
Revision: P01.1

Sheet Size A1 594 x 841

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Drawing Number
151667-TSA-35-MVN2-DRG-T-LP-162466 P01.1

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Legend/Notes

Key:

- Planning Boundary
- Land Ownership Boundaries

Notes

1. All dimensions are in millimeters unless stated otherwise.
2. Do not scale from this drawing.
3. All highway works are subject to approval from local authorities and may result in further design development.
4. Extends of earthworks are shown indicatively and are subject to design development.

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
P01.1	04/11/21	First Issue	EC		

Status: Initial Status WIP

Suitability: S0

NetworkRail

Authorised | Signed | Date

Contractor(s): TRU West Alliance

Location

Type: CAD Drawing | Sub-type

Role: Town and Country Planner | Sub-Role: General

Zone: None

Phasing: Proposed | Project Stage: GRIP 4

Project: Transpennine Route Upgrade

Contract No.: 151667

Contract Title: West of Leeds

Drawing Title: Newlay Readymix Option 4b

Designed	S.Jones	Signed	Date 04/11/21
Drawn	E.Chatters	Signed	Date 04/11/21
Checked		Signed	Date
Approved		Signed	Date

Scale(s): 1:250 | ELR & Mileage: to 050.0691

Alternative Reference | Sheet of

Drawing Number: 151667-TSA-35-MVN2-DRG-T-LP-162466 | Revision: P01.1

Sheet Size A1 594 x 841

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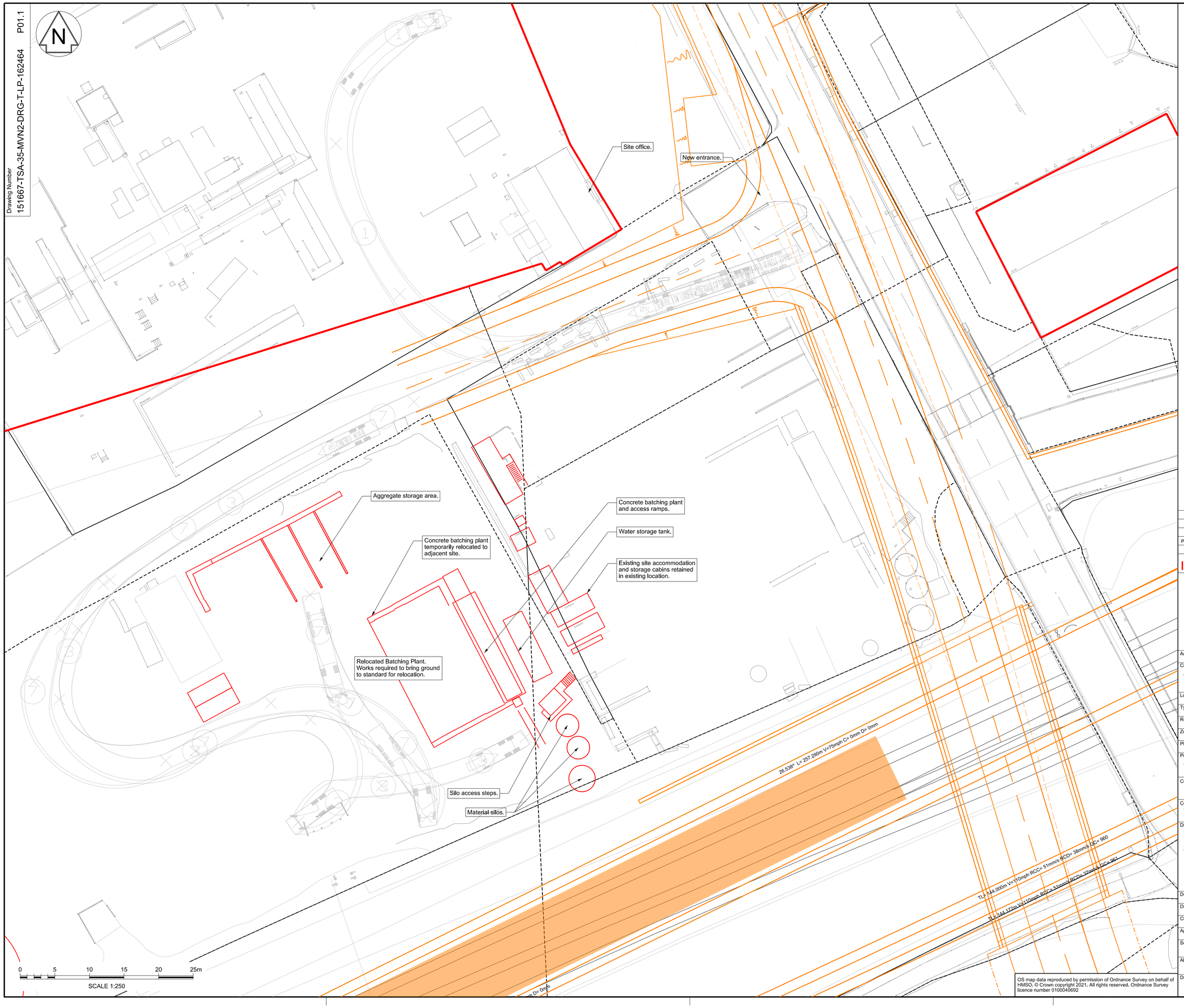

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Legend/Notes

Key:

- Planning Boundary
- Scheme Limit of Deviation

Notes

1. All dimensions are in millimeters unless stated otherwise.
2. Do not scale from this drawing.
3. All highway works are subject to approval from local authorities and may result in further design development.
4. Extents of earthworks are shown indicatively and are subject to design development.

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
P01.1	04/11/21	First Issue	EC		

Status: Initial Status WIP
Suitability: S0

NetworkRail

Authorised | Signed | Date

Contractor(s): TRU West Alliance

Location

Type: CAD Drawing | Sub-type

Role: Town and Country Planner | Sub-Role: General

Zone: None

Phasing: Proposed | Project Stage: GRIP 4

Project: Transpennine Route Upgrade

Contract No.: 151667

Contract Title: West of Leeds

Drawing Title: Newlay Readymix Option 1

Designed	S.Jones	Signed	Date 04/11/21
Drawn	E.Chatters	Signed	Date 04/11/21
Checked		Signed	Date
Approved		Signed	Date

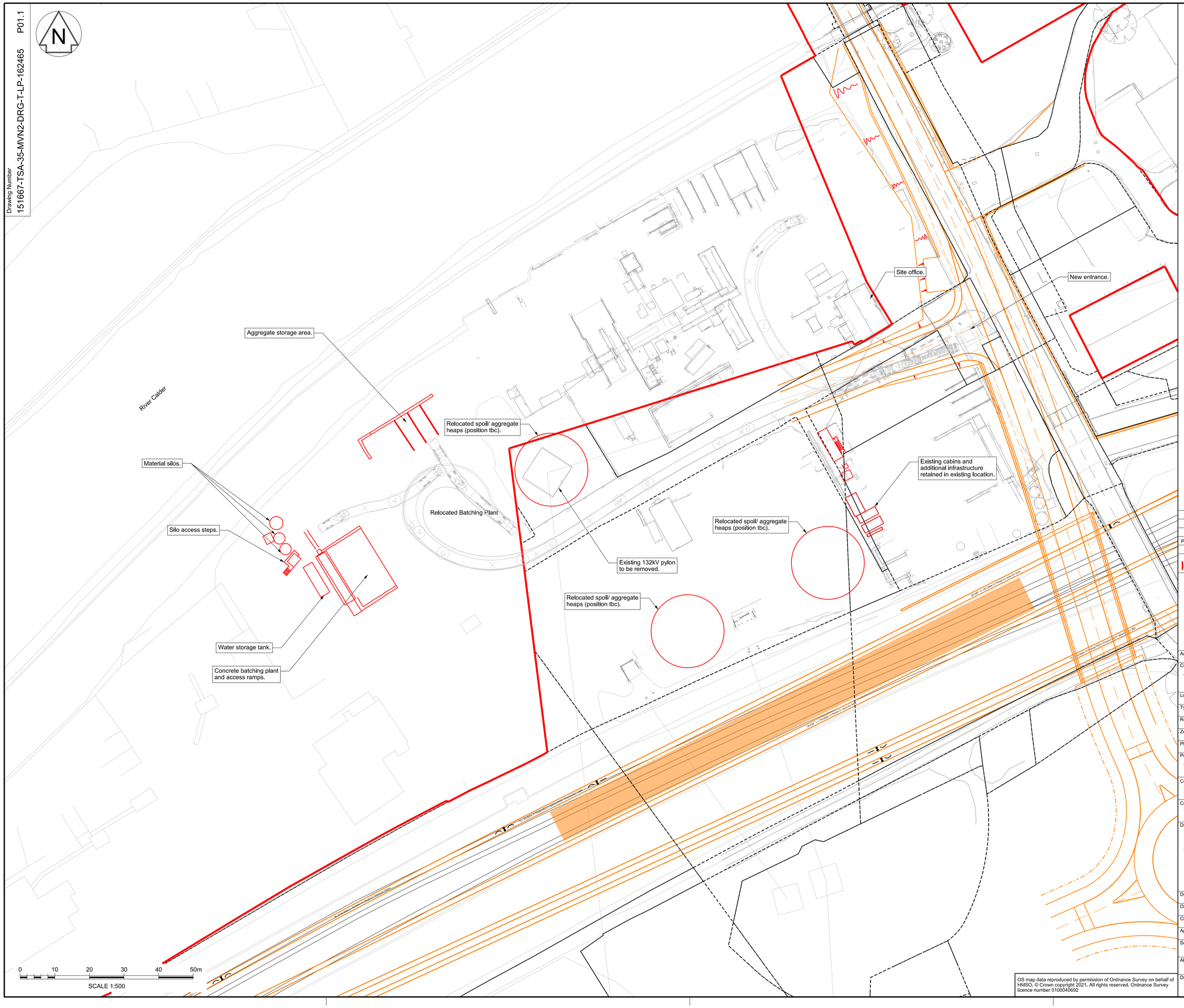
Scale(s): 1:250 | ELR & Mileage: to 050.0691

Alternative Reference | Sheet of

Drawing Number: 151667-TSA-35-MVN2-DRG-T-LP-162464 | Revision: P01.1

Sheet Size A1 594 x 841

Drawing Number
151667-TSA-35-MVN2-DRG-T-LP-162465 P01.1



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Legend/Notes

Key:

- Planning Boundary
- Scheme Limit of Deviation

Notes

1. All dimensions are in millimeters unless stated otherwise.
2. Do not scale from this drawing.
3. All highway works are subject to approval from local authorities and may result in further design development.
4. Extents of earthworks are shown indicatively and are subject to design development.

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
P01.1	04/11/21	First Issue	EC		

Status: Initial Status WIP
Suitability: S0

NetworkRail

Authorised | Signed | Date

Contractor(s): TRU West Alliance

Location: THORPES BRIDGE JN - NORMANTON (MANCHESTER - NORMANTON LI

Type: CAD Drawing
Sub-type:
Role: Town and Country Planner
Sub-Role: General
Zone: Ravensthorpe and Westown (Dewsbury)
Phasing: Proposed
Project Stage: GRIP 4

Project: Transpennine Route Upgrade

Contract No.: 151667

Contract Title: West of Leeds

Drawing Title: Newlay Readymix Option 2

Designed	S.Jones	Signed	Date 04/11/21
Drawn	E.Chatters	Signed	Date 04/11/21
Checked		Signed	Date
Approved		Signed	Date

Scale(s): 1:500
ELR & Mileage: 002.0248 to 050.0691
Alternative Reference
Sheet of

Drawing Number: 151667-TSA-35-MVN2-DRG-T-LP-162465
Revision: P01.1

Sheet Size A1 594 x 841