Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order

Condition 5b(v): Nuisance Management Plan – Stage 3

Document reference: 151667-TSA-00-TRU-REP-W-EN-001233

Network Rail

April 2023

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Contents

Tables

1. INTRODUCTION

1.1 Background

1.1.1 The Scheme is part of a wider programme of works under the Transpennine Route Upgrade (TRU) which will improve the Transpennine railway between Manchester, Huddersfield, Leeds and York and improve connections between key towns and cities across the north of England.

1.1.2 Planning Direction for the Huddersfield to Westtown (Dewsbury) section of the TRU was received from the Department for Transport referenced TWA/21/APP/03, dated 13 October 2022.

1.1.3 This Nuisance Management Plan (NMP) sets out details in relation to Condition 5b(v) of the Deemed Planning Permission.

2. STAGED APPROACH TO DISCHARGE

2.1.1 As set out in document ref 151667-TSA-00-TRU-REP-W-EN-001189 version 3 (submitted in relation to Condition 3 of the Deemed Planning) a staged approach is proposed in relation to discharge of the deemed planning conditions.

2.1.2 This document sets out details in relation to the Stage 3 works for the Huddersfield to Westtown (Dewsbury) Scheme.

2.1.3 Stage 3 comprises of the mining remediation works required in advance of construction of the Scheme. The mining remediation works required are set out in Table 2-1 and remediation methodologies described in paragraph 2.1.4, with location details set out in drawing 151667-TSA-00-TRU-REP-W-EN-001288 P04 in Appendix A.

Table 2-1 Proposed mining remediation mitigation measures

Area ID	Location of works	Mitigation measures
W3.1	Huddersfield South Tunnel	• Grouting of 2 mine shafts and 2 wells. All from tunnel level and below.
W3.1-3.3	Huddersfield Station	• Grid probing and grouting of voids for new structures: canopies, footbridge and subway extension. • Probe hole at proposed locations of Overhead Line Equipment (OLE) foundations. Grouting of voids if encountered. • Geosynthetic reinforcement for mining for track
W3.2-1, W3-2-3	Hillhouse Mainline	• Probe hole at proposed locations of OLE foundations. • Grouting of voids if encountered. • Geosynthetic reinforcement for mining for track
W3.3	West of Deighton Station (Area of Peels Pit underbridge)	• Capping and if necessary grouting of 2 mine shafts.
W3.3-1	Area of Bradley's No. 2 (BBW/1) Overbridge (MVL3/105)	• Grid probing and grouting of voids for track, OLE and adit.
W3.4-1 W3.4-3	Heaton Lodge curve (MVL3 and MVN4)	• Probe hole at proposed locations of OLE foundations. Grouting of voids if encountered.
W3.5-1	Mirfield Station	• Geosynthetic reinforcement for mining for track
W3.5-2	West of Sands Lane	• Probe hole at proposed locations of OLE foundations. Grouting of voids if encountered. • Geosynthetic reinforcement for mining for track

2.1.4 The following measures will be employed:

- Probe and grout – this will typically comprise of rotary open holes on a 6m grid, closing to 3m and finer if required. The area of the grid will be enclosed on the down dip side by perimeter holes at 3m closing to 1.5m spacing to confine grouting in the area of the grid, and prevent grout escaping beyond the area of works. Where voids are encountered around the perimeter, these will be filled with pea gravel and a viscous grout, to form an underground cutoff. In the area of the main grid of open holes, these will be filled with grout, with grout takes monitored, and paused at certain grout takes. Works will

generally target new foundations and new structures, where considered necessary. Water will be needed during the drilling and grouting process. The wastewater will be treated on site (Siltbuster) and this water will be fed back into the water tank for reuse within the process. Any waste material will be removed from site by a licenced carrier.

- Track – where shallow workings are anticipated underneath the track alignment, a high strength geosynthetic reinforcement will be employed below the track bed.
- Where required at locations of OLE foundations, a targeted probe hole will be drilled, and any voids will be grouted (process above).
- Adits – where assessed as requiring treatment, these will be sealed/excavated out depending on depth and relationship to the main works. Where necessary probing and grouting may be used on shallow adits.
- Shafts – where assessed as requiring treatment, shafts will typically either be capped (reinforced concrete slab, typically 2x shaft diameter) or infilled with grout / bulk fill and grout.

2.1.5 Mining remediation works covering the Ravensthorpe area are considered within the Stage 1 documentation (previously submitted planning application ref 2022/44/93858/W).

2.1.6 It is anticipated that works within Stage 3 will commence in July 2023 and are anticipated to be completed by September 2024.

3. INFORMATION INCLUDED IN THIS SUBMISSION

3.1.1 The wording of Condition 5b(v) is reproduced in Table 3-1. Based on the scope of works detailed above, Table 3-1 sets out how this document details the information required in conjunction with Condition 5b(v).

Table 3-1 Details of Condition 5b

Condition reference	Details of condition	Section reference
Condition 5b (Sub-section v)	Part B of the CoCP (as defined in the Environmental Statement: Volume 3, Appendix 2-1 Code of Construction Practice (Part A), Section 1.2.5) must include the following plans and programmes, for each stage as defined in condition 3:- v. A nuisance management plan concerning dust, wheel wash measures, air pollution and temporary lighting	Measures to control and minimise dust are contained in Section 5. Details on wheel wash measures are included in Section 5.4. Measures to minimise emissions to air are set out in Section 6. Detail on site lighting is included in Section 7.

4. NUISANCE MANAGEMENT

4.1 General

4.1.1 Some construction activities result in disturbance that cannot be avoided. However, with thorough planning and the application of mitigation measures, the effects of nuisance can be minimised.

4.1.2 Nuisance management measures were set out in Part A of the Code of Construction Practice (CoCP) in Appendix 2-1 of Volume 3 of the Environmental Statement (ES).

4.1.3 All reasonable steps will be taken to prevent or minimise a nuisance, or a potential nuisance.

4.1.4 Measures to minimise nuisance associated with dust, air pollution and temporary lighting are set out in the following sections.

4.2 Management framework

Environmental and social policies

4.2.1 To ensure nuisance is minimised as far as reasonably practicable, works will be carried out in accordance with the relevant Network Rail standards and procedures including:

- Network Rail Environmental Policy (NR/L2/ENV/015); and
- Procedure ENV05 Control of Site Nuisance.

4.2.2 Works will be undertaken in accordance with measures included in Chapter 7 (Air Quality)[1] and Chapter 8 (Noise and Vibration)[2] in Volume 2 of the ES.

4.2.3 In addition, all works will be carried out in accordance with the following contractor's procedures and guidance for managing nuisance:

- Environmental procedure NP27.4: Control of site nuisance (provided in Appendix B); and
- Environment guidance EG05: Managing site nuisance (provided in Appendix C).

4.2.4 It will be ensured that these policies, procedures and their requirements are made known to all relevant personnel. This will be undertaken through a number of methods including site inductions, Work Package Plans (otherwise known as method statements) and risk assessment briefings, and toolbox talks.

Roles and responsibilities

4.2.5 Staff, operatives and sub-contractors have the authority and responsibility to protect the environment at all times during execution of the works.

4.2.6 The responsibilities outlined in this section will be highlighted during site inductions. All personnel will be trained in the necessary skills to fulfil their role. Key personnel for specific job roles are set out in the Table 4-1. The roles outlined may be substituted as required providing that the key environmental responsibilities are clearly and appropriately allocated.

4.2.7 Contact details for all key contractors will be displayed on notice boards in the site offices.

[1] Ch07 Air Quality.pdf (windows.net)
[2] Ch08 Noise and vibration.pdf (windows.net)

Table 4-1 Roles and responsibilities

Role	Key environmental responsibilities
Project Manager	• Responsible for ensuring the Environmental Management System for the project is implemented. • Ensures that the Network Rail Environmental Policy is drawn to the notice of all employees under his control. • Establishes effective lines of communication with all employees under their control. • Promotes the continuous improvement of environmental performance • Monitors and reviews the implementation of environmental objectives and targets on the project.
Principal Environment Manager	• Carries overall responsibility for meeting environmental performance objectives and targets. • Ensures adequately trained and competent resources are provided to implement the NMP. • Ensures that environmental risks are evaluated and considered during the planning stage of the project. • Interfaces between various design disciplines to ensure that environmental considerations have been taken account of in final design output. • Approves all specific or specialist environmental procedures that are required. • Responsible for setting and meeting project objectives and targets.
Site Environment Manager	• Responsible for providing a focal point for all communications between the construction team and outside environmental bodies. • Maintaining and revising the NMP and all specific or specialist environmental procedures that are required. • All measures in the NMP are implemented on site. This includes ensuring that adequate resources are allocated to environmental management on site. • Collecting and collating the project's environmental performance records. • Collating reportable environmental incident and NCR data, establishing cause and implementing actions to prevent reoccurrence • Reviews and approves risk assessments and Work Package Plans (RAMS) for environmental content. • Ensuring that internal environmental audits are undertaken and reported. • Drawing up measures for emergency preparedness and response procedures. • Environmental issues in risk assessments are communicated effectively on site and that appropriate training is delivered. • Producing monthly environmental reports and forwarding them to the Site Manager.
Site Manager	• Responsible for management of the works under Stage 3, and ensuring compliance with all relevant legal requirements, commitments and targets. • Ensures that site-specific training needs are identified, and training programmes are effectively undertaken. • Establishes and implements comprehensive environmental inductions, training awareness and education programmes for all level of site staff and operatives.

Role	Key environmental responsibilities
Resident liaison officer	• Ensures any enquiries or complaints directed to site staff are submitted to the Network Rail helpline. • Is the first point of contact for the Network Rail Community Relations team for enquiries or complaints that have been submitted to the Network Rail helpline. • Role will link directly with the Network Rail Community Relations team
All site staff	• Protect the environment and act sustainably. • Report any environmental concerns to their supervisors. • Comply with specified systems of work. • Promote and communicate newly developed best practice. • Ensure only staff who have the required understanding, qualifications, and where necessary certification, carry out the specialised tasks.

Training awareness and competence

4.2.8 All personnel will receive specific and targeted information during site inductions.

4.2.9 All personnel, whose work may cause nuisance, will receive environmental training specific to their task. This will be appropriate to their level and role, and will include subcontractors and the wider supply chain, as appropriate.

Site inspections and monitoring

4.2.10 The Site Environment Manager will carry out regular site inspections to monitor compliance with dust control procedures in the NMP.

4.2.11 Where risk of nuisance is identified, monitoring in the form of audible/visual checks, or using specific apparatus, such as dust/noise monitors will be undertaken. To demonstrate compliance, records of all monitoring carried out on site should be maintained in accordance with site procedure.

4.2.12 Results of the inspections and monitoring will be recorded, including nil returns, in a site log book.

4.2.13 The Site Environment Manager will ensure that records required are completed and retained. These include

- Daily site inspection records;
- Details of all dust emission incidents including date, time, source and remedial action;
- Details of complaints, investigations and remedial action; and
- Details of site routine monitoring (e.g. weather) or additional quantitative monitoring introduced if required.

4.2.14 Any exceptional incidents causing dust episodes on or off the sites and the action taken to resolve the situation will also be recorded in the site log book.

5. DUST EMISSIONS

5.1 General

5.1.1 The management of construction dust is a key aspect of the environmental controls on site.

5.1.2 Construction activities associated with the Stage 3 works have the potential to result in dust emissions, such as drilling. This section identifies how dust emissions will be managed and outlines appropriate control techniques. These will be applied during Stage 3 of the Scheme.

5.1.3 The measures set out in the following section will be implemented to ensure that visible dust is not generated or can escape the immediate sites to affect nearby sensitive receptors.

5.2 Site operations

5.2.1 Drop heights will be minimised from loading and unloading of material. Fine water sprays will be used on the equipment, where appropriate.

5.2.2 Screens will be used to reduce dust emission from working areas, or sensitive receptors will be screened. Site fencing, barriers and scaffolding will be kept clean. Any hard surfaces which may give rise to dust will also be regularly swept/cleaned.

5.2.3 Any large quantities of cement, bentonite, grouts and other similar materials will be mixed in designated areas which will be enclosed or shielded.

5.2.4 Loaded bins and skips will be sheeted or otherwise enclosed.

5.3 Particulate dust from vehicle emissions

5.3.1 The generation of particulate dust by vehicle and plant emissions is not considered significant for Stage 3 works, as identified in Chapter 7 (Air Quality) in Volume 2 of the ES. In any event particulate dust will, through good site practice, be minimised so far as reasonably practicable thorough various methods that are outlined in this section.

5.3.2 Good site practice measures that will be implemented include:

- All vehicles carrying loose or potentially dusty material to or from the sites will be fully sheeted;
- Additive suppressants such as Dustbuster will be used where appropriate;
- Bulk cement and other fine powder materials will be delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery; and
- Site speed will be limited to 10mph while on the haul road with suitable signage referencing the limit.

5.4 Wheel wash measures

5.4.1 Where there is an identified risk of transporting material (through dirty wheels etc.) onto the local road network all reasonably practicable measures will be put in place to minimise highway debris and ensure local roads are kept clean and free from debris, dirt or mud.

5.4.2 Compound sites for the Scheme works were identified through the Stage 2 submission. The following compound will be used for Stage 3 works and was identified as requiring wheel wash facilities:

- Compound 15 Deighton Station Approach

5.4.3 Details for this were submitted as part of the Stage 2 documentation (previously submitted planning application ref 2022/44/93945/W).

5.4.4 The wheel cleaning facilities will be located near the site egress wherever there is a potential for carrying dust or mud off the site. The wheel wash facilities will be regularly maintained and an adequate water supply on the compound site will be ensured.

5.4.5 Close supervision of the HGV activity will allow wheel wash facilities to remain redundant if the HGV movements are noted as not tracking mud on to public roads.

5.4.6 The remaining compounds have been designed so that HGVs making deliveries do not attract mud to the wheels of each vehicle, avoiding unsealed areas where reasonably practicable. A stretch of hard surfaced road before the exit from the compound sites will be provided to enable site vehicles and plant to clean off prior to joining the public highway.

5.4.7 Vehicles entering the compound sites will be parked on an area of hardstanding within the compounds. This will ensure that vehicles do not drive onto loose ground where mud and debris can accumulate on the vehicle and be transported off site and onto the road. Any heavily used areas will be paved or covered with a geotextile.

5.4.8 Good site practice measures will minimise particulate dust from vehicles and plant. However, on occasions where a perceived risk is identified that tracking debris on to public roads will be unavoidable, a mechanical road sweeper combined with water spray for the suppression of dust will be employed where necessary, both on internal access/haul roads and also onto the public highway assumed to be Whitacre Street and the A62.

5.4.9 Haul roads and vehicle holding areas will be inspected to ensure they remain free of deposits of dusty materials.

5.4.10 Plant and vehicles will not exit the site until they have been washed down on-site and inspected to ensure the wheels and wheel arches are clean and clear of debris. The gateman will be responsible for reporting on the condition of the public highway whether it is not affected by deposits of mud or debris from the sites or that a sweeper needs to be deployed.

6. AIR POLLUTION

6.1.1 Emissions to the atmosphere in terms of gaseous pollutants from vehicles and plant used on the sites are not considered significant for Stage 3 works, as identified in Chapter 7 (Air Quality) in Volume 2 of the ES.

6.1.2 However, in line with best practice, emissions to the atmosphere will be controlled and limited as far as reasonably practicable through the following measures:

- Ensuring that the engines of all vehicles and plant on site are not left running unnecessarily;
- Using low emission vehicles and plant fitted with catalysts, diesel particulate filters or similar devices;
- Requiring that plant will be well maintained, with routine servicing of plant and vehicles to be completed in accordance with the manufacturers' recommendations and records maintained for the work undertaken;
- Requiring that all project vehicle, including off-road vehicles, will hold current MOT certificates, where required due to the age of the vehicle, (or to be tested to an equivalent standard) and that they will comply with exhaust emission regulations for their class;
- Siting plant away from potential sensitive receptors;
- Maximising energy efficiency (this may include maximising vehicle utilisation by ensuring full loading and efficient routing); and
- All commercial road vehicles used in construction must meet the European emission standards pursuant to the EC directive 98/69/EC of Euro 5 and Euro 6 under the regulation (EC) no. 715/2007.

6.1.3 Real-time monitoring is not required for this stage of the works.

7. SITE LIGHTING

7.1.1 The lighting scheme will be designed to ensure that minimum standards such as the Health Service Executive (HSE) guidance *HSG 38 Lighting at Works* regarding the minimum measured illuminance for getting to and from the worksites are met.

7.1.2 The lighting of the site could potentially create visual impacts for external areas. Therefore, on-site lighting will be designed to be orientated into the site to avoid light spillage.

7.1.3 Flood lighting will be required during winter months where working hours fall outside daylight hours. Where lighting is needed to coincide with less active periods for nocturnal species of greater-sensitivity, lighting shall be designed with the following in mind:

- Do not provide excessive lighting. Use only the minimum amount of light needed for safety.
- Minimise light spill. Eliminate any bare bulbs and any upward pointing light. The spread of light should be kept near to or below the horizontal. Flat cut-off lanterns are best.
- Where possible use narrow spectrum bulbs to lower the range of species affected by lighting.
- Where possible use light sources that emit natural minimal ultra-violet light and avoid the white and blue wavelengths of the light spectrum to avoid attracting lots of insects.
- Reduce the height of lighting columns. Light at a low level reduces impact. However, higher mounting heights allow lower main beam angles, which can assist in reducing glare.
- Lighting to be controlled to ensure there is minimal light spill on habitats used by nocturnal species (e.g. foraging and commuting bats).

7.1.4 If appropriate, consideration will be given to fitting passive infra-red motion sensors to lighting within the light sensitive areas to reduce disturbance by light spillage.

7.1.5 Lights will also be positioned to avoid light spillage outside the site boundary. Specifically designed lighting equipment that minimises the spread of light, and shields or baffles will be used to reduce spillage.

7.1.6 Lighting will only be used for safety or security purposes, where required.

7.1.7 Secure hoarding will be erected with a minimum height of 2.4m around compounds and worksites such that the dimensions reduce visual nuisance to the lowest practicable levels.

7.1.8 In consideration of the general public and other amenity users affected by the construction of the Scheme, site lighting may be required to illuminate footpaths adjacent to hoardings.

8. PROTECTION OF SENSITIVE RECEPTORS

8.1 Heritage assets

8.1.1 The nuisance management measures outlined in sections 4 to 7 will ensure that all heritage assets are protected during construction works and nuisance reduced where possible.

8.1.2 There are a number of heritage assets in the vicinity of the Stage 3 works including:

- Huddersfield Town Centre Conservation Area;
- Huddersfield Station (Grade I Listed);
- Hurst Lane Underbridge (MVN2/194) (Grade II Listed); and
- Hirst bridge (ATK199).

8.1.3 Construction works and activity at and around Huddersfield Station and Huddersfield Viaduct will impact the Huddersfield Town Centre Conservation Area by temporarily altering its character. Measures to protect the Huddersfield Town Centre Conservation Area are detailed in the document submitted for Stage 2, pursuant to Condition 5b(viii) of the Deemed Planning Permission (document ref: 151667-TSA-00-TRU-CNT-W-EN-001222).

8.1.4 Potential dust infiltration from remediation works in the vicinity of Huddersfield Station (Grade I listed) will impact the setting of the station.

8.1.5 Stage 3 works in the area of Mirfield Station have the potential to impact on Hirst Bridge (ATK199), a non-designated heritage asset. If there is a requirement to transport construction traffic and move heavy plant over these structures for Stage 3 works, protective measures, such as protective panels, and/or warning signs will be installed to avoid physical damage to the structure.

8.1.6 The nuisance management measures outlined in sections 4 to 7 will ensure that all heritage assets are protected during construction works and nuisance reduced where possible.

8.2 Biodiversity

8.2.1 All construction works will be undertaken in accordance with “best practice” and appropriate guidelines, with due regard given to current wildlife legislation.

8.2.2 Works will avoid/minimise generation of excessive litter, dust, noise, pollution, and vibration.

8.2.3 The nuisance management measures outlined in sections 4 to 7 will ensure that biodiversity is protected during construction works.

8.3 Users of recreational routes

8.3.1 There are a series of Public Rights of Way (PRoW) within the vicinity of the Stage 3 works and therefore there is potential to cause nuisance due to construction activities to recreational users using these routes.

8.3.2 During Stage 3, there will be no requirement to temporarily stop up any PRoWs.

8.3.3 Best practice environmental management measures outlined in sections 4 and 5 will be implemented to reduce dust and other potential nuisance during the mining works.

8.4 Site neighbours

8.4.1 Site neighbours will be kept informed of operations, in particular any activity that could cause nuisance, through appropriate modes of communication.

8.4.2 Checks will be undertaken near the boundary of the site during different operating conditions and at different times of the day to establish whether there is potential to cause nuisance to neighbours.

8.4.3 Further details are available in the External Communications Programme (document ref: 151667-TSA-00-TRU-CNT-W-LP-000552) submitted in relation to Condition 5b(i).

Appendices

APPENDIX A – LOCATIONS OF MINING REMEDIATION WORKS

Stage 3 comprises of the mining remediation works required in advance of construction of the Scheme.

The following works are planned:

- Track bed reinforcement at various locations throughout the Scheme;
- Remediation of existing mine shafts, including backfill where appropriate;
- Probe and grout of voids in the area around Huddersfield Station;
- Probe and grout of voids in the track area near Hillhouse sidings; and
- Probe and grout of voids in the track area near Station Lane (Bradley Junction area);
- Probe and grout of voids in the track area near Sands Lane.

Track bed reinforcement

Track bed reinforcement

Area near Sands Lane

Hillhouse Sidings

Area near Station Lane

Mirfield Station

Huddersfield Station

1:350,000

Scheme Boundary

Probe and grout

Track bed reinforcement

Works to mine shafts and adits

0 125 250 500 750 1,000 1,250 1,500 Metres

SCALE 1:35,000

P01	19/03/21	FIRST ISSUE	KS	PB	PB
Rev	Date	Description of Revisions	Drwn	Chkd	Appr

Status: SHARED

Suitability:

NetworkRail

Project: TRANSPENNINE ROUTE UPGRADE

Contract No.: 151667

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

Drawing Title: Stage 3 works

Designed	K.Stenson	Signed Electronically	Date 19/03/2021
Drawn	P.Butler	Signed Electronically	Date 06/12/2022
Checked	P.Butler	Signed Electronically	Date 06/12/2022
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ELR & Project Chainage: ---

Alternative Reference: ---

Sheet: 1 of 11

Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001288

Revision: P04

Sheet Size A3 297 x 420

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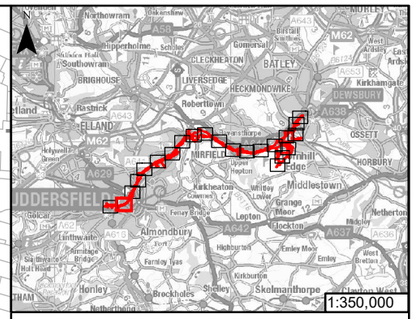
Area ID: W3.1
Huddersfield South Tunnel

Works comprise
- Grouting of 2 mine shafts and 2 wells. All from tunnel level and below.

Stage 3 works



Scheme Boundary
Adjacent Map Sheet

Probe and grout
Track bed reinforcement
Works to mine shafts and adits

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SCALE 1:2,500

Rev	Date	Description of Revisions	Drwn	Chkd	Appr
P01	12/02/21	FIRST ISSUE	RB	PB	PB

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Drawing Title: **Stage 3 works**

Designed	R.Bowes	Signed Electronically	Date 12/02/2021
Drawn	R.Bowes	Signed Electronically	Date 12/02/2021
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Approved	P.Butler	Signed Electronically	Date 12/02/2021

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Sheet: 2 of 11

Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001288
Revision: P04

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Area ID: W3.1-3.3
Huddersfield Station

Works comprise
- Grid probing and grouting of voids for new structures: canopies, footbridge and subway extension.
- Probe hole at proposed locations of Overhead Line Equipment (OLE) foundations. Grouting of voids if encountered.
- Geosynthetic reinforcement for mining for track

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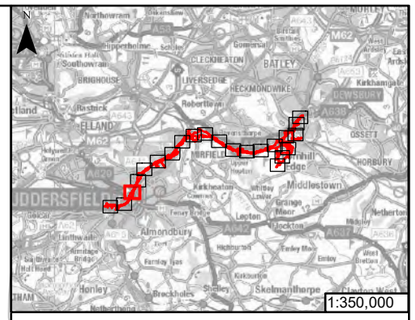

Scheme Boundary
Adjacent Map Sheet

Probe and grout
Track bed reinforcement
Works to mine shafts and adits

0 10 20 40 60 80 100 Metres
SCALE 1:2,500

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Alternative Reference: ---
Sheet: Page 3 of 11
Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001288
Revision: P04

Sheet Size A3 297 x 420

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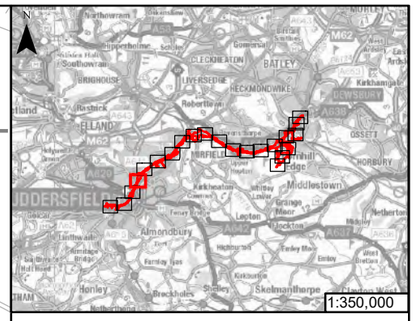
Area ID: W3.2-1, W3.2-2
Hillhouse Mainline

Works comprise
- Probe hole at proposed locations of OLE foundations with grouting of voids if encountered.
- Geosynthetic reinforcement for mining for track



Scheme Boundary
Adjacent Map Sheet
Probe and grout
Track bed reinforcement
Works to mine shafts and adits

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Sheet: 4 of 11
Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001288
Revision: P04

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Sheet Size A3 297 x 420

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Area ID: W3.3
West of Deighton Station (Area of Peels Pit underbridge)

Works comprise
- **Capping and if necessary grouting of 2 mine shafts.**

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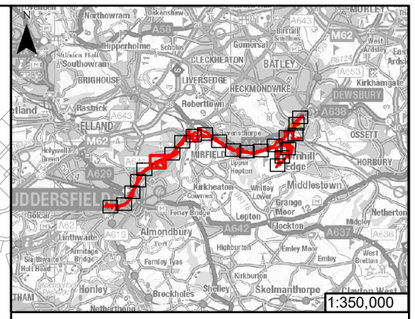

Scheme Boundary
Adjacent Map Sheet
Probe and grout
Track bed reinforcement
Works to mine shafts and adits

0 10 20 40 60 80 100 Metres
SCALE 1:2,500

Rev	Date	Description of Revisions	Drwn	Chkd	Appr
P01	12/02/21	FIRST ISSUE	RB	PB	PB

Status: SHARED
Suitability:

NetworkRail

Project: TRANSPENNINE ROUTE UPGRADE
Contract No.: 151667
SchemeTitle: THE NETWORK RAIL (HUDDERSFIELD TO WESTTOWN (DEWSBURY) IMPROVEMENTS) ORDER
Drawing Title: **Stage 3 works**

Designed	R.Bowes	Signed Electronically	Date 12/02/2021
Drawn	R.Bowes	Signed Electronically	Date 12/02/2021
Checked	P.Butler	Signed Electronically	Date 12/02/2021
Approved	P.Butler	Signed Electronically	Date 12/02/2021

Scale(s): 1:2,500
ELR & Project Chainage: ---
Alternative Reference: ---
Sheet: 5 of 11
Drawing Number: 151667-TSA-00-TRU-REP-W-EN-01288
Revision: P04

Sheet Size A3 297 x 420

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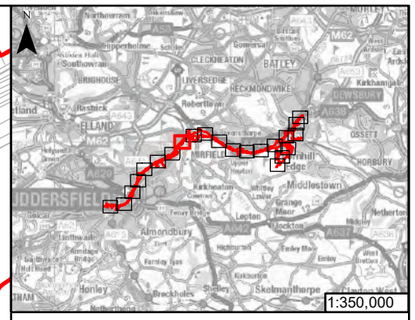
Area ID: W3.3-1
Area of Bradley's No. 2 (BBW/1)
Overbridge (MVL3/105)

Works comprise
• Grid probing and grouting of voids for track, OLE and adit.

Continued on Page 7



Scheme Boundary
Adjacent Map Sheet

Probe and grout

Track bed reinforcement

Works to mine shafts and adits

0 10 20 40 60 80 100 Metres
SCALE 1:2,500

Rev	Date	Description of Revisions	Drwn	Chkd	Appr
P01	12/02/21	FIRST ISSUE	RB	PB	PB

Status: SHARED
Suitability:

NetworkRail

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

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Checked	P.Butler	Signed Electronically	Date 12/02/2021
Approved	P.Butler	Signed Electronically	Date 12/02/2021

Scale(s): 1:2,500
ELR & Project Chainage: ---

Alternative Reference: ---
Sheet: 6 of 11

Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001288
Revision: P04

Sheet Size A3 297 x 420

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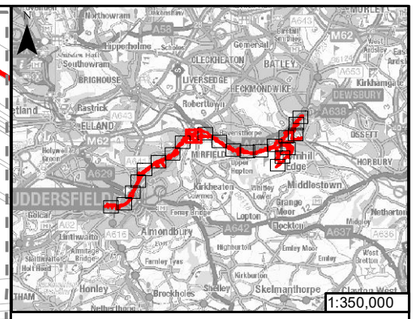
Continued on Page 7

Continued on Page 8

Area ID: W3.3-3
East of Bradley Junction - Earthworks E9

Works comprise
• Probe hole at proposed locations of OLE foundations. Grouting of voids if encountered.
• Geosynthetic reinforcement for mining for track

Continued on Page 9



Legend

- Scheme Boundary
- Adjacent Map Sheet
- Probe and grout
- Track bed reinforcement
- Works to mine shafts and adits

0 10 20 40 60 80 100 Metres

SCALE 1:2,500

Rev	Date	Description of Revisions	Drwn	Chkd	Appr
P01	18/03/21	FIRST ISSUE	KS	RA	PB

Status: SHARED

Suitability:

NetworkRail

Project: TRANSPENNINE ROUTE UPGRADE

Contract No.: 151667

Scheme Title: THE NETWORK RAIL (HUDDERSFIELD TO WESTTOWN (DEWSBURY) IMPROVEMENTS) ORDER

Drawing Title: **Stage 3 works**

Designed	K.Stenson	Signed Electronically	Date 11/04/2023
Drawn	Samsath S. Gowda	Signed Electronically	Date 11/04/2023
Checked	Farah Meraj	Signed Electronically	Date 11/04/2023
Approved	P.Butler	Signed Electronically	Date
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Alternative Reference: ---

Sheet: 7 of 11

Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001288

Revision: P04

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Area ID: W3.4-1 - W3.4-3
Heaton Lodge curve (MVL3 and MVN4)

Works comprise
- **Probe hole at proposed locations of OLE foundations. Grouting of voids if encountered**

Continued on Page 7

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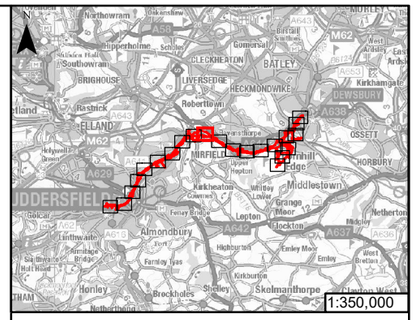

Scheme Boundary
Adjacent Map Sheet
Probe and grout
Track bed reinforcement
Works to mine shafts and adits

0 10 20 40 60 80 100 Metres
SCALE 1:2,500

Rev	Date	Description of Revisions	Drwn	Chkd	Appr
P01	12/02/21	FIRST ISSUE	RB	PB	PB

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Project: TRANSPENNINE ROUTE UPGRADE
Contract No.: 151667
SchemeTitle: THE NETWORK RAIL (HUDDERSFIELD TO WESTTOWN (DEWSBURY) IMPROVEMENTS) ORDER
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Scale(s): 1:2,500
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Alternative Reference: ---
Sheet: 8 of 11
Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001288
Revision: P04
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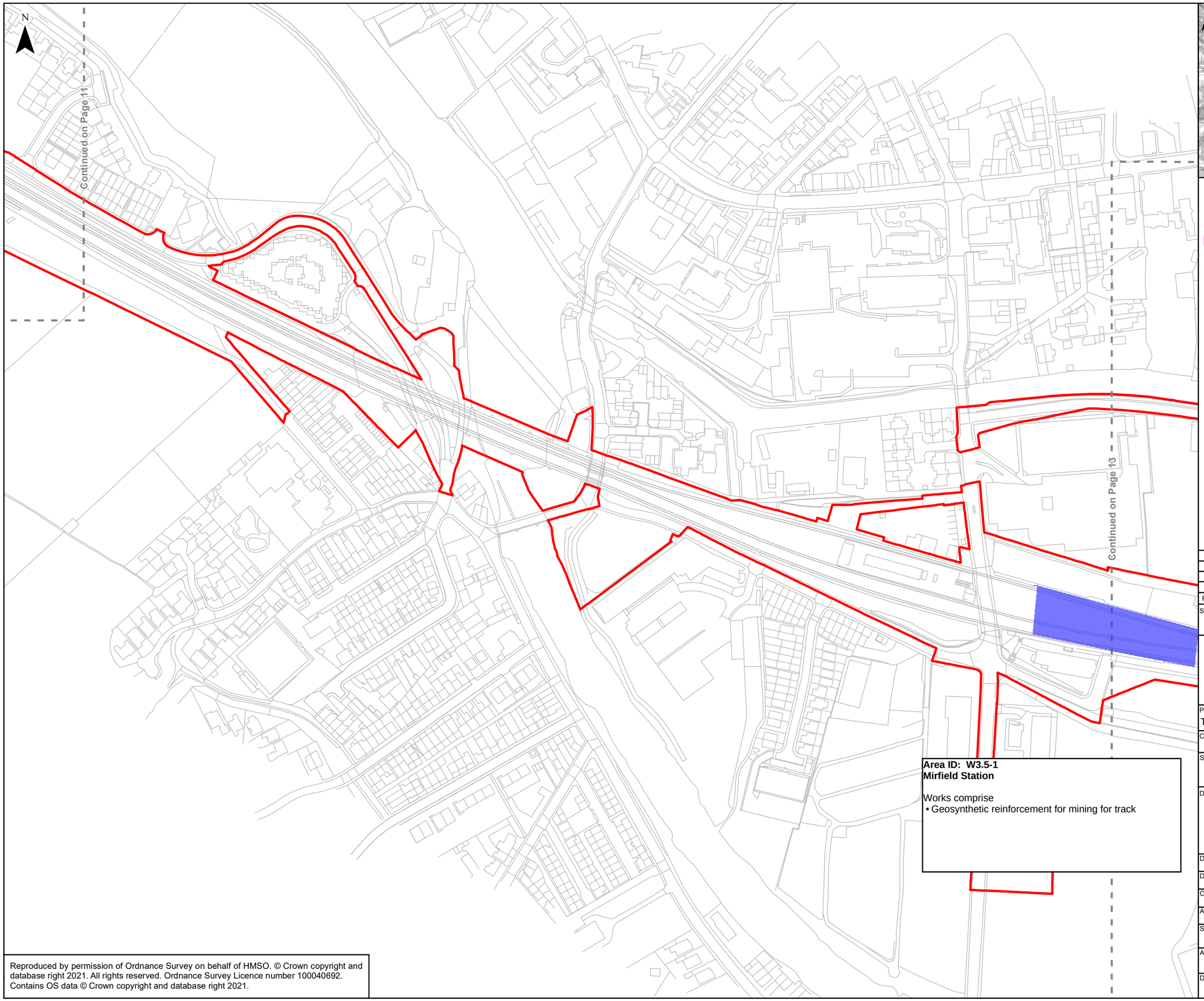

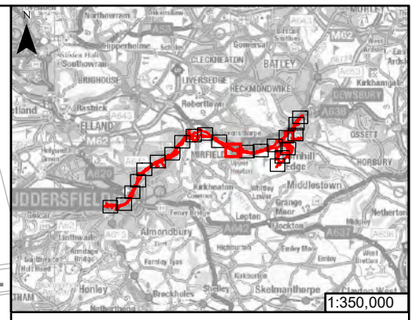

Scheme Boundary

Adjacent Map Sheet

Probe and grout

Track bed reinforcement

Works to mine shafts and adits

0 10 20 40 60 80 100 Metres

SCALE 1:2,500

Rev	Date	Description of Revisions	Drwn	Chkd	Appr
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Status: SHARED

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NetworkRail

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Scale(s): 1:2,500

ELR & Project Chainage: ---

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Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001288

Revision: P04

Sheet Size A3 297 x 420

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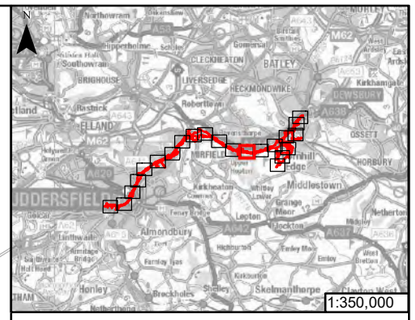
Area ID: W3.5-1
Mirfield Station

Works comprise
- Geosynthetic reinforcement for mining for track

Continued on Page 12

Continued on Page 14



Scheme Boundary

Adjacent Map Sheet

Stage 3 works

Probe and grout

Track bed reinforcement

Works to mine shafts and adits

0 10 20 40 60 80 100 Metres

SCALE 1:2,500

Rev	Date	Description of Revisions	Drwn	Chkd	Appr
P01	12/02/21	FIRST ISSUE	RB	PB	PB

Status: SHARED

Suitability:

NetworkRail

Project: TRANSPENNINE ROUTE UPGRADE

Contract No.: 151667

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

Drawing Title: **Stage 3 works**

Designed	R.Bowes	Signed Electronically	Date 12/02/2021
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Scale(s): 1:2,500

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Alternative Reference: ---

Sheet: 10 of 11

Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001288

Revision: P04

Sheet Size A3 297 x 420

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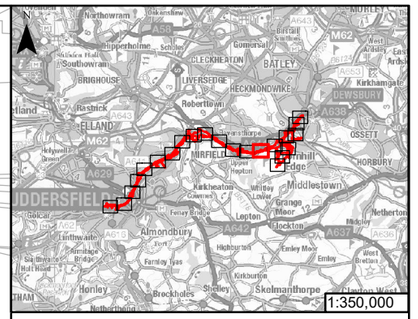
Continued on Page 13

Continued on Page 15

Area ID: W3.5-2
West of Sands Lane

Works comprise
- Probe hole at proposed locations of OLE foundations with grouting of voids if encountered.
- Geosynthetic reinforcement for mining for track



Scheme Boundary

Adjacent Map Sheet

Probe and grout

Track bed reinforcement

Works to mine shafts and adits

0 10 20 40 60 80 100 Metres

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Rev	Date	Description of Revisions	Drwn	Chkd	Appr
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Alternative Reference: ---

Sheet: 11 of 11

Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001288

Revision: P04

Sheet Size A3 297 x 420

APPENDIX B – CONTRACTOR'S ENVIRONMENTAL PROCEDURE NP27.4: CONTROL OF SITE NUISANCE

BAM Nuttall management system

Procedure NP27.4: Control of site nuisance

1.0 Scope of procedure

This procedure is a sub-procedure of NP27: *Environmental management* and describes the BAM Nuttall arrangements for control of site nuisance. It deals with the identification of risks and opportunities from BAM Nuttall activities and the control measures to be implemented by managers at all BAM Nuttall sites, area offices and depots. This procedure is also applicable to work carried out by BAM Nuttall subcontractors.

This procedure only defines arrangements for environmental nuisance (including noise nuisance). For occupational noise, refer to safety procedure NP1.5 *Control of occupational noise.*

2.0 Purpose of procedure

Compliance with this procedure ensures:

- compliance with relevant UK legislation and industry best practice (see EG05: *Managing site nuisance* and EG23: *Mobile crushing and screening activities).*
- construction activity is controlled to enhance environmental performance, were possible

3.0 Definitions

Within this procedure the term agent is used to denote the manager with overall responsibility for a project site, office, department, or depot.

Nuisance is defined as something that is likely to cause interference with people's quality of life, their use of enjoyment of land, or cause injury to health.

4.0 Responsibility

The agent as defined above is responsible for ensuring compliance with the requirements of this procedure within the area of his/her operational responsibility.

All BAM Nuttall personnel are responsible for complying with the overall requirements of this procedure, with specific responsibilities for individuals defined within the process section of this procedure.

5.0 Process

5.1 Identification of risk and opportunities

Design: During design delivery environmental considerations are taken into account as required by NP7: *BAM Nuttall Design Services* & NP20: *Design Management for design services* considering a life cycle perspective and opportunities for beneficial environmental impacts.

Site activities: When preparing the project or depot execution plan (PEP / DEP) the agent identifies activities likely to cause nuisance and considers appropriate control measures to control them to an acceptable level. These are set out in the plan.

In identifying activities with the potential to cause nuisance, and the likely extent of this nuisance, the agent takes into account the proximity of an activity to local residents and businesses, facilities such as hospitals and schools and areas for recreation and considers the impact that activity may have on the local community.

5.2 Interested parties (inc. Local authority consultation)

Following identification of potential nuisance and prior to works commencing, the agent contacts the relevant regulatory body (normally the local authority environmental health officer) to notify them of the project works and discuss and agree the selected control measures.

The agent ensures that any arrangements agreed with regulatory bodies are confirmed in writing at the earliest opportunity and retained as site records. All contact with regulators is recorded in accordance with NP1.16: *Contact with regulatory authorities* using form SF505 or alternatively a copy of relevant correspondence (including email) is forwarded to the environment department.

Communication with regulatory bodies is maintained throughout the duration of activity and local procedures are established to ensure this happens.

Contact is required with more than one environmental health department if the site straddles several local authority boundaries.

5.3 Consultation with other interested parties

Subject to any contract restrictions, the agent gives consideration to consultations with other interested parties within the local community, including:

- residents and resident associations
- businesses
- schools
- sports clubs
- other local organisations

Generally, the level of nuisance experienced is reduced when those affected expect it, know of its likely duration, and appreciate that all practicable measures are being adopted to reduce it.

The agent selects an appropriate method of consultation taking into consideration the extent of likely nuisance and the number of people or organisations affected.

In order to portray the correct company image, newsletters and posters are produced following consultation with the BAM Nuttall public relations manager, who also provides assistance and guidance concerning public meetings.

5.4 Compliance obligations

The agent ensures:

- compliance obligations e.g. legal, contractual, voluntary commitments is documented within the system documentation.
- the need for any permits, licenses or consents are identified in consultation with regulatory bodies and the BAM Nuttall environment department.
- identifies the party responsible for obtaining permits, licenses or consents (BAM Nuttall, client or designer) and ensures that they are obtained and referenced within PEP / DEP.

Any conditions imposed by a permit, licence, consent must be communicated to relevant members of the site team.

Copies of permits, licenses or consents (including those obtained by third parties) are retained on site, available for inspection in accordance with section 6.0 of this procedure. Environment guidance EG07: *Section 61 consents* provides information on the process for obtaining a Section 61 noise and vibration consent. Whilst Environmental guidance EG23: *Mobile crushing and screening activities provides guidance on permits* and exemptions required to undertake crushing and screening activities.

5.5 Operational planning and control

Control measures are summarised in the aspects and impacts register and environmental constraints map within the PEP / DEP and selected to be suitable, proportional, effective, and practicable.

Guidance on avoiding and controlling site nuisance is provided in Environmental guidance EG05: *Managing site nuisance.*

Where dust generation resulting specifically from mobile crushing and screening activities is identified as a key nuisance, refer to environmental guidance EG23: *Mobile crushing and screening activities.*

Where control measures cannot be fully identified within the PEP / DEP, reference is made to future consultation or the production of a detailed activity plan at an appropriate time.

5.6 Arrangements for complaints & incidents

The agent makes suitable arrangements to enable members of the community to contact a nominated person on the site in the event of a query or complaint. This is particularly important during weekend or night work when the site office may be unmanned but when nuisance is more likely to be caused. Complaints are logged and dealt with in accordance with procedure MG15: *Complaints procedure*.

In accordance with procedure NP27.7 *Reporting environmental incidents*, justifiable complaints from the public constitute environmental incidents and these are reported accordingly.

5.7 Communication

Site wide compliance obligations and control measures as defined within the PEP / DEP are communicated to the entire workforce as part of site induction.

The agent ensures that particular attention is given to communicating requirements for compliance obligations and control measures to subcontractors and relevant suppliers (particularly delivery frequency and times) during pre-start meetings.

Activity plans are prepared to incorporate all identified controls. The agent ensures that controls identified within activity plans are understood and fully implemented (in accordance with procedure NP24: *Activity plans).*

5.8 Monitoring

The agent ensures that suitable arrangements are made for the regular monitoring of environmental performance, including checks as part of the agent's weekly safety and environment tour and the site environment engineers' regular inspections.

The agent establishes a regime for the monitoring of potential nuisance in consultation with the client, regulator and BAM Nuttall environment department.

Where required, monitoring is undertaken:

- prior to works commencing – to confirm background nuisance levels
- regularly during the works – to confirm compliance with BAM Nuttall compliance obligations

This regime is recorded in the PEP / DEP, and the arrangements and responsibilities for onsite monitoring are described in project specific procedures and activity plans. The agent ensures site personnel are suitably trained and competent.

Environment guidance EG05: *Managing site nuisance* and EG06: *Environmental noise monitoring* provide information on environmental noise, vibration and dust monitoring.

Results from nuisance monitoring may be required for legal purposes and are retained as part of the site records in accordance with section 6.0 of this procedure.

5.9 Surrender of permits, licenses, and consents

On completion of the project works, the agent notifies the regulator in writing that the works are complete and surrenders any consents or permits or transfers them in accordance with contract requirements.

6.0 Records

The following records are maintained in accordance with the site document control procedures:

- permits, licenses or consents
- minutes of meetings with the regulator
- contact with regulators and third parties (SF505 or other)
- nuisance monitoring records
- noise monitoring records sheet (EF02 or other)
- inspection and maintenance records (EC01 or other)
- complaints registers

Records are readily available for inspection by the regulator at all times.

7.0 Training

Training on the implementation of this procedure is provided:

- as part of the BAM Nuttall environment training programme
- by agents during the instruction and coaching of personnel who are nominated to operate it
- by supervisors during briefings and toolbox talks to the workforce
- by environmental advisors during site and office inspections

8.0 References

BAM Nuttall procedure NP27.7: *Reporting environmental incidents*
BAM Nuttall procedure NP1.16: *Contact with regulatory authorities*
BAM Nuttall procedure NP1.5: *Control of occupational noise*
BAM Nuttall procedure NP24: *Activity plans*
BAM Nuttall procedure MG15: *Complaints procedure*
Environment guidance EG05: *Managing site nuisance*
Environment guidance EG06: *Environmental noise monitoring*
Environment guidance EG07: *Section 61 consents*
Environmental guidance EG23*: Mobile crushing and screening activities*

APPENDIX C – CONTRACTOR'S ENVIRONMENT GUIDANCE EG05: MANAGING SITE NUISANCE

BAM Nuttall management system
Environment guidance EG05: Managing site nuisance

1.0 Scope

This guidance note describes the current industry best practice methods for controlling site nuisance and is intended for use by managers at all BAM Nuttall site, offices and depots in working to environmental procedure NP27.4: *Control of site nuisance.*

2.0 Definitions

Nuisance	Something that is likely to cause interference with people's quality of life, their use of enjoyment of land, or cause injury to health.
Common law nuisance	In the UK, nuisances are dealt with through both common law and statute law. Common law consists of the laws and customs of the realm which have been declared to be the law by judges in cases brought before them. Nuisance can be defined in two ways through common law: • **Public** nuisance: An act or activity which affects the comfort and quality of life of the public in general or of the wider community • **Private** nuisance: An act or activity which affects the quality of life of individual or a small number of people (generally less than three)
Statute law nuisance	Written and passed by parliament. Specific nuisances in common law have been included in statutes to create statutory nuisances. There is no legal definition of a statutory nuisance. For action to be taken, the nuisance must, or be likely to, be prejudicial to people's health or interfere with a person's legitimate use and enjoyment of land. This particularly applies to nuisance to neighbours in their homes and gardens.
Environmental Health Officer (EHO)	Deal with statutory nuisances and complaints. Under the Environmental Protection Act 1990, local authorities are required to investigate all complaints relating to nuisance and, in doing so, have the power to serve abatement notices under Section 60 of the Control of Pollution Act 1974.
Abatement notice	Served by the local authority upon a person, persons or premises who are creating a nuisance to such an extent that it leads to numerous complaints arising. Local authorities have powers to gain entry to premises to enable them to abate a noise nuisance. This may result in the work that is causing the nuisance to be stopped altogether or limited to certain times of the day.
Section 60	An abatement notice that is served by the local authority on the person responsible for the noise or vibration and requires specific controls to be put into place to minimize noise and vibration, eg maximum noise levels, defined hours of work, type of plant and equipment to be used.
Section 61	A formal agreement between the contractor and the local authority. This agreement has to be applied for before work commences and allows the contractor and local authority to agree controls that protect the contractor from local authority action under Section 60

3.0 Legal status

The **Environmental Protection Act 1990 [part III]** draws together most of the statutory nuisances with respect to the construction industry (ie noise, dust, vibration, smoke and odour).

The **Noise and Statutory Nuisances Act 1993** extend the powers of entry for local authority officers and amends the Environmental Protection Act 1990 to include noise from vehicles, machinery and equipment which may be relevant in the context of construction site noise.

The **Control of Pollution Act 1974** is replaced for the most part by the more recent legislation above but sections 60 and 61 (relating to noise and vibration from construction sites) are still in force. The basis of the Control of Pollution Act legislation is that 'best practical means' (BPM) should be used to control nuisances on a site.

Nuisance is regulated by the local authority environmental health department. If as a result of BAM Nuttall activities on site, levels of noise, dust, vibration, light, smoke or odour are created that cause (or have the potential to cause) damage to property, or disturbance to the surrounding community, the environmental health department can:

- Use powers of entry with intentions to abate nuisance
- Impose restrictions on site operations
- Stop site operations; and/or
- Require BAM Nuttall to take steps to abate the nuisance

Section 60 abatement notices are served by the local authority upon a person, persons or premises that are creating a nuisance to such an extent that it leads to numerous complaints arising. Local authorities have powers to gain entry to premises to enable them to abate a noise nuisance. This may result in the work that is causing the nuisance to be stopped altogether or limited to certain times of the day. A person or site to which an abatement notice has been served has a right of appeal within 21 days of it being served.

If a person or site to which an abatement notice has been served fails, without reasonable cause, to comply, he will have committed an offence. For offences relating to industrial, trade or business premises, the maximum fine is £20,000.

Construction projects can use a formal Section 61 agreement between contractor and local authority to agree acceptable works and limits. This allows the contractor and local authority to agree controls that protect the contractor from local authority action under Section 60.

For more information and guidance on Section 60 and 61, refer to EG07: *Section 61 consents.*

4.0 Planning and mitigation

Some construction activities result in disturbance that cannot be avoided. However, with thorough planning and the application of mitigation measures, the effects of nuisance can be minimised. Mitigation should be considered as early as possible in a projects conception:

- Wherever possible, consider the potential nuisance impacts of site activities at design stage. For example the use of bespoke conveyor belt systems with integrally designed noise absorption to reduce plant movements around sensitive sites.
- Many potential sources of nuisance can be mitigated at the project planning stage. One common example is the usage of site cabins and hoarding to surround continuous noise sources like generators. The location of haul routes and site compounds can be a common cause of nuisance, due to the fact that they are relatively permanent features throughout the duration of a project. Consider their location and the effects they might have on neighbours
- Consult with the Local Authority Environmental Health Officer proactively about project activities and mitigation measures. Establish a good relationship, irrespective of whether a Section 61 licence is required or not. Provide the EHO with a list of key activities to be carried out and forewarn them of works outside of normal hours.

- Consult with site neighbours at project planning stages. Sensitive and pragmatic consultation can reduce nuisance with minimal impact on the project programme. Previous examples include restrictions on concrete breakout and the use of hand tools between 1230 – 1330hrs twice a week to accommodate religious services. At the very least establish good relationships with neighbours and inform them if a particular activity could cause an adverse effect or nuisance. If neighbours are kept informed of operations through appropriate modes of communication, they will be less inclined to complain.
- Identify if there are neighbouring construction projects operating in the area and use this information to assess whether a Section 61 may be required. Where possible, develop a relationship with these sites in the event that complaints occur.
- Consider reduced noise options when procuring plant and equipment. Super silenced plant is often in high demand and it is advisable to place orders with good notice.
- Ensure a good level of 'housekeeping' on site and ensure employees are aware of the importance of minimising nuisance on site. Brief site staff on the importance of public courtesy, appropriate volumes and types of communication. Regularly check the site for any waste accumulations, evidence of vermin, noise or smells. Nuisance is highly visual, and evidence has shown that visual impact greatly affects a person's perception of noise (if you can see noise source, it is perceived to be 3dB louder).

Establish whether you might cause a nuisance to neighbours by checking noise, odours and other emissions near the boundary of the site during different operating conditions and at different times of the day. Take all reasonable steps to prevent or minimise a nuisance or a potential nuisance:

4.1 Noise

Noise is often defined as being sound that is unwanted by the listener. Noise causes more complaints than any other form of nuisance and can rapidly result in problems with the local community.

The following measures can be adopted to control noise:

- Where practicable, avoid operations that are likely to create noise (eg select methods to avoid cutting back concrete or scabbling, use shop made steel components to avoid the need to burn and grind on site)
- Consider alternative methods of work (eg silent piling techniques, hydraulic bursting or chemical methods to avoid breaking down piles to cut-off level)
- Select plant appropriate to the operation and, where practicable, use silenced plant
- Consider haulage routes for site deliveries and if possible divert traffic away from residential areas. Pay particular attention to reversing sirens, deliveries and radios
- Where possible, plan noisy works for less sensitive times (eg during 'normal' working hours)
- When works must be carried out during nights or weekends, ensure the local authority and local community are made aware
- Select the location of noisy plant and activities to reduce the impact upon site neighbours (eg locate batching plant away from residential areas, schools, etc) and orientate plant so that directional noise is away from sensitive areas
- Maintain plant and equipment with adequate lubrication to reduce squeaks and tightening of nuts and bolts to prevent rattling
- Ensure compressor, generator and engine compartment doors are kept closed and plant turned off when not in use
- Screen equipment and operations with acoustic barriers or acoustic blankets. Make use of existing buildings, stockpiles or topography as noise barriers
- Communicate to the workforce the need to keep noise to a minimum at all times
- Ask a third party (eg Environment advisor) to monitor activities and identify potential sources of nuisance during site operations. Examples include the installation of foam baffles on scaffold gates to reduce banging on work zone entrance / exit.

4.2 Vibration

Operations that create vibration (including movement of heavy plant and traffic, blasting, pile driving and breaking) can often give rise to complaint. For those affected vibration can feel worse than it actually is, leading to anxiety and stress. There is however, the potential risk of structural damage to properties and it is important therefore to avoid being falsely accused of damage.

The following measures can be adopted to minimise vibration complaints:

- Assess whether sensitive infrastructure exists in the vicinity of the project and identify the potential vibration impacts from site activities. Where significant risk exists, review methodologies and consider developing a monitoring and management plan.
- Keep neighbours informed and give advance warning about works.
- Where possible locate the source of vibration away from properties
- Select appropriate plant and equipment for the job (ie keep the type and size of plant proportionate to the operation)
- Substitute for non or low vibratory techniques where practicable
- Keep operational time of equipment to a practicable minimum
- It may be necessary to establish baseline conditions surveys of structures, and resurvey conditions after works are completed

4.3 Dust

Dust can be a major problem on site not only for the workforce but also for local residents and the general public.

The following measures can be adopted to control dust:

General site operations

- Carry out cutting and grinding operations with equipment and techniques to suppress and reduce dust emissions such as water feed and vacuum systems (irresponsible use of cut-off / Stihlsaws are generally the worst offenders)
- Fit dust extractors, filters or scrubbers to equipment likely to emit excessive dust emissions
- Use screens to reduce dust emission from working areas, or screen sensitive receptors
- Cover all dust generating materials transported to and away from site

Demolition works	• Damp down buildings prior to and during demolition • Screen buildings and structures to contain dust • Avoid storing demolition debris on site long term • Sheet vehicles carrying demolition material before leaving site • Control crushing and screening works in accordance with environment guidance EG23: *Mobile crushing and screening activities*.
Bulk material storage, stockpiling and handling areas	• Inspect storage areas regularly to ensure dust is controlled • Locate material storage, stockpile and handling areas away from site boundaries and any sensitive receptors [eg residential areas, watercourses • Protect stockpiles from wind • Keep stockpile heights to a practicable minimum • On dry days damp down stockpiles
Haul roads and vehicle movements	• Inspect haul roads and vehicle holding areas to ensure they remain free of deposits of dusty materials • Where practicable locate haul roads away from sensitive receptors • Provide damping down equipment during periods of dry weather • Use additive suppressants such as Dustbuster to reduce dust from activities • Set site speed limits to reduce the amount of airborne dust • Regularly sweep roads and hard surfaces that may give rise to dust • Pave or cover with a geotextile in heavily used areas • Provide a stretch of hard surfaced road before the exit from site to enable site vehicles and plant to clean off prior to joining the public highway

4.4 Odour

Care must be taken to ensure that sites are not generating odours that may give rise to complaint. Although such complaints are not as common as those concerning other types of nuisance, sites that use large amounts of chemicals or store waste incorrectly may receive complaints from the public. The nuisance experienced by a site neighbour can arise from odours generated or the attraction of vermin/ insects.

The following measures can be adopted to control odour:

- Use covered skips/bins to prevent odours from escaping
- Regularly empty waste receptacles to reduce the potential for decomposing waste to give off odours
- Provide suitable storage for all chemicals, including empty containers
- Be aware that disturbance of contaminated ground can result in odours being generated; consider use of masking agents
- Ensure all plant is properly serviced and maintained to reduce polluting emissions
- Position site toilets away from public areas and ensure they are kept clean and hygienic
- Do not burn waste on site

4.5 Light

The spilling of light beyond the site boundary has the potential to cause nuisance. It is however relatively easy to control.

The following measures can be adopted to control light:

- Plan the site layout including the location of lights
- Switch off lights when not required for safety or security reasons
- Direct light downward to illuminate the required area only
- Position lights to avoid light spillage outside the site boundary
- Use shields or baffles to reduce light spillage
- Use specifically designed lighting equipment that minimises the spread of light

5.0 Monitoring

Sufficient arrangements must be made for the monitoring of nuisance. The requirement for monitoring may be stated in the contract documents, or be the result of discussion with the local authority. Monitoring should be appropriate to the assessed risk and can be undertaken using specific apparatus, such as dust/noise monitors, or be in the form of a visual/audible check.

The Agent, following consultation with the regulatory body, determines the method of monitoring appropriate to the perceived nuisance and the frequency at which monitoring should take place. Sites located away from local communities will require less stringent monitoring techniques than those in close proximity.

To demonstrate compliance, records of all monitoring carried out on site should be maintained in accordance with consent conditions or site filing procedures.

5.1 Noise monitoring

For further information on noise monitoring, refer to BAM Nuttall guidance EG06: *Environmental noise monitoring.*

5.2 Vibration monitoring

There are various methods of vibration monitoring that vary in effectiveness and cost. The cost should be proportionate to the potential impact.

For purposes of measuring most site generated vibration, a vibration meter with either a hand-held probe or with fixed vibration sensors can be used. These are compact, portable, battery powered devices and operation is relatively simple.

5.3 Dust monitoring

There are several different methods that vary in cost.

- Directional dust flux (qualitative assessment) – an inexpensive method using adhesive strips on a vertical cylinder on a stand. The amount of deposit on the strips is assessed manually
- Soiling of glossy surfaces (glass slide gauge) – inexpensive method whereby deposits are collected on a glass slide
- Frisbee gauge – a relatively inexpensive method. The deposited material covers the frisbee plate and an assessment is carried out based on the quantity of dust that has settled over a set period of time
- Directional dust flux (quantitative assessment) – A relatively expensive method using filter tubes that require laboratory analysis

Dust monitoring can be expensive and the results may not be immediate. Monitoring equipment should be located as near to sensitive receptors as practicable. Simple visual assessments of dust on site with a record of site conditions and activities as well as methods of dust suppression employed can be a good method of dust monitoring.

6.0 References

BAM Nuttall procedure NP27.04: *Control of site nuisance*
BAM Nuttall guidance EG06: *Environmental noise monitoring*
BAM Nuttall guidance EG07: *Section 61 consents*
BAM Nuttall guidance EG23: *Mobile crushing and screening activities*
BS5228: Part 1: 2009: Noise and vibration control on construction and open sites. Code of practice for basic information and procedures for noise and vibration control
BS5228: Part 2: 2009: Noise and vibration control on construction and open sites. Guide to noise and vibration control legislation for construction and demolition including road construction and maintenance
Greater London Authority best practice guidance: The control of dust and emissions from construction and demolition sites

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