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

Condition 5b(vi): Noise and Vibration Management Plan – Stage 3

Document reference: 151667-TSA-00-TRU-REP-W-EN-000096

Network Rail

April 2023

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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 Noise and Vibration Management Plan (NVMP) sets out details in relation to Condition 5b(vi) 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.
W3.3-3	East of Bradley Junction - Earthworks E9	• Probe hole at proposed locations of OLE foundations. Grouting of voids if encountered. • Geosynthetic reinforcement for mining for track
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 a 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. RELEVANT PLANNING CONDITION

3.1.1 The wording of Condition 5 sub section (vi) is reproduced as follows:

5.a) No stage of the development (including preliminary works) is to commence until a Code of Construction Practice (CoCP) Part B for that stage, including the relevant plans and programmes referred to in (b) below (which incorporates the means to mitigate the construction impacts identified by the Environmental Statement), has been submitted to and approved in writing by the local planning authority. For the avoidance of doubt this does not include approval for Part A of the CoCP (a general overview and framework of environmental principles and management practice to be applied to the scheme along with all construction-led mitigation identified in the Environmental Statement) which has been submitted as part of the Order.

5.b) 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:-

vi. A noise and vibration management plan including a construction methodology assessment;

The development must be implemented in accordance with the approved CoCP and the relevant plans or programmes unless otherwise agreed in writing with the local planning authority shall be implemented in full throughout the period of the works.

***Reason:** To mitigate expected construction impacts arising from the development and to protect local and residential amenity and to ensure the development is carried out in accordance with Kirklees Local Plan policies LP51 and 52.*

4. PURPOSE OF THIS DOCUMENT

4.1.1 The purpose of this NVMP, which has been prepared in relation to Stage 3 of the Scheme, is to define the framework by which construction noise and vibration will be managed. The NVMP therefore sets out the principles and procedures for the management of noise and vibration during the construction of Scheme.

4.1.2 The NVMP includes details in relation to:

- How works are to be conducted in accordance with Section 61 consents in consultation with the local authority;
- The scheduling of staged Section 61 applications;
- Construction noise and vibration thresholds in terms of significance and the criteria for noise insulation and temporary re-housing;
- How noise and vibration sensitive receptors (NSR), such as households, will be kept informed of construction works and how they can contact Network Rail; and
- Best practicable means (BPM) to reduce noise and vibration during construction.

4.1.3 It also includes a construction noise and vibration assessment methodology (which includes requirement to secure consents under Section 61 of the Control of Pollution Act 1974 (CoPA)).

5. NOISE AND VIBRATION MANAGEMENT PLAN

5.1 Management Framework

Roles and responsibilities

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

5.1.2 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 5-1. The roles outlined may be substituted as required providing that the key environmental responsibilities are clearly and appropriately allocated.

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

Table 5-1 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 meeting environmental performance objectives and targets. • Ensures adequately trained and competent resources are provided to implement the NVMP. • 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. • Responsible for implementing a Noise Insulation and Rehousing Policy (where required)
Site Environment Manager	• Responsible for providing a focal point for all communications between the construction team and outside environmental bodies. • Completion of screening risk assessment to identify requirement for S61 application associated with the works • Liaison with Environmental Health Officer (EHO) at Kirklees Council • Identifying noise insulation and rehousing requirements • Maintaining and revising the NVMP and all specific or specialist environmental procedures that are required.

Role	Key environmental responsibilities
	• All measures in the NVMP 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 construction phase, 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.
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

5.1.4 All personnel will receive specific and targeted information during site induction.

5.1.5 All personnel, whose work may result in noise and vibration that has the potential to 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.

5.2 Community liaison

5.2.1 Good relations with people living and working in the vicinity of site operations are of paramount importance. Early establishment and maintenance of these relations throughout the carrying out of site operations will go some way towards allaying people's fears.

5.2.2 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) planning reference 2022/93858).

5.2.3 Good relations can be developed by keeping people informed of progress and by treating complaints fairly and expeditiously. There will be a dedicated TRU communications team working on the Scheme throughout the construction work. The TRU communications team will be supported by Network Rail's wider communications team.

5.2.4 It is well established that people's attitudes to noise can be influenced by their attitudes to the source or activity itself. Noise from a site will tend to be accepted more readily by residents, if they consider that the contractor is taking all possible measures to avoid unnecessary noise. The attitude to the contractor can also be improved through good community liaison and information distribution and the provision of a helpline to respond to queries or complaints. The acceptability of the project itself can also be a factor in determining community reaction.

5.2.5 With regards to vibration, adverse community reaction is sometimes based upon concern over building damage, even when vibration is experienced as just perceptible. It is therefore important to assure the community that vibration levels generally need to be of significant magnitude for even cosmetic damage to occur. That said, residents should be advised that there is the potential for movement of non-fixed items within their homes (such as ornaments on shelves) due to vibration from specific activities and, as such, items at risk of damage should be relocated to a suitably safe location (e.g. removed from shelves/boxed).

5.2.6 Local residents will be notified of any works at least 14-days in advance of commencement via a letter drop. The notification letters will include contact details for the Network Rail helpline (03457 11 41 41) and the website so that recipients are able to make a request for further information, should they want to. The helpline is available 24 hours a day, 365 days a year and all notification letters will be assigned to the TRU communications team to respond to.

5.2.7 In accordance with Network Rail standards, letter drops will be sent to addresses within a 200m radius of where the work is due to take place, unless the work is piling, in which case letters will be sent to addresses within a 500m radius. A copy of all letters will also be sent to Kirklees Council and relevant council member representatives (if living outside the letter drop area) for their information and reference.

5.2.8 Where appropriate, community events may also be held to notify the local community about forthcoming works.

5.2.9 The TRU communications team regularly update the TRU website, which can be accessed via the following link:

- TRU website: https://thetrupgrade.co.uk/

5.2.10 In line with good practice the helpline team will be briefed on the Scheme in advance of works. The Network Rail helpline details are as follows:

- Freephone: 03457 11 41 41
- Web: https://www.networkrail.co.uk/communities/contact-us/

5.2.11 Site staff will be required to familiarise themselves with the locations of nearby NSR as part

of the site induction process. There are limited NSR close to the Stage 3 works; these include the following:

- W3.1-3 (Huddersfield Station):
  - National Children's Centre; and
  - Platform 1 Men's Community Group.
- W3.2-1 (Hillhouse Mainline):
  - Residential properties on Alder Street, Hammond Street, Abbey Place, and Red Doles Road.
- W3.3-1 (Area of Bradley's No. 2 (BBW/1) Overbridge (MVL3/105)):
  - Residential properties on Station Road
- Road W3.3-3 (East of Bradley Junction – Earthworks E9):
  - Residential properties on Station Road
- W3.5-1 (Mirfield Station):
  - Residential properties on Back Station Road and Brewery Wharf.

5.3 Noise generating mining remediation activities

5.3.1 The NSR identified in paragraph 5.2.11 have the potential to be impacted by noise generating activities associated with the mining remediation works.

5.3.2 Noise generating activities during Stage 3 works that would occur in proximity to NSR include:

- Drilling activities in order to inject grout into the open mine workings below ground
- Installing concrete cover slabs
- Activities associated with track bed reinforcement including removal and laying of ballast
- Use of plant and equipment to undertake the above activities

5.3.3 It is anticipated that the works will be carried out during night time possessions of the railway and therefore whilst the NSR which may potentially experience significant adverse noise effects from the works include the National Children's Centre and Platform 1 Men's Community Group, associated with W3.1-3 (Huddersfield Station), it is unlikely that these NSRs will be in use during the works thereby reducing any potential effects.

5.3.4 Noise during the mining remediation activities will be mitigated with the noise control measures outlined in Section 5.5.

5.4 Pre-commencement schedule of condition surveys

5.4.1 Building condition surveys will be conducted at buildings close to vibration generating activities, where construction vibration levels are expected to approach or exceed 12.5 mm/s peak particle velocity (PPV). The main significant sources of vibration during mining remediation activities are expected to be ground compaction, and percussive or vibratory piling. Compaction of ballast using a vibratory roller is likely to be required during geosynthetic reinforcement of the track.

5.4.2 During Stage 3, track bed reinforcement work is proposed to be undertaken at W3.3-3 East of Bradley Junction (Earthworks E9) and W3.5-1 at Mirfield Station, as outlined in Table 2-1. Potential building damage could occur where ground (ballast) compaction associated with geosynthetic reinforcement takes place less than 2m from the NSR. None of the NSR at Station Road (Bradley Junction), Back Station Road or Brewery Wharf are located within 2m of compaction works.

5.4.3 The works are therefore not expected to generate significant levels of vibration and no cosmetic damage to buildings is anticipated. Therefore, there is no requirement to carry out pre-commencement condition surveys for the Stage 3 works.

5.4.4 Whilst there is no formal requirement for surveys, given the works at Huddersfield are proposed in proximity to several Listed Buildings, condition surveys both pre and post mining works are proposed at the following locations to ensure protection of these assets;

- Huddersfield Station (Grade I Listed, NHLE 1277385)
- Two warehouses to the north of the station platforms, (NHLEs 1228533, 1287149)

5.4.5 Vibration monitoring will be carried out at these two assets during the works. The exact scope to be agreed with the Council's Conservation Officers via the Heritage Working Group prior to works taking place. This will set out the proposed monitoring proposal and action plans to be implemented during the works.

5.5 Working hours

5.5.1 Standard working hours for the Scheme are defined as 08:00 to 18:00 Monday to Friday; 08:00 to 13:00 on Saturdays with 30 minutes either side for setting up and organising/cleaning the site. However, as these works will be carried out during railway possessions then it is anticipated that the majority of the works will be undertaken during night time hours (11.00pm – 7.00am) when there will be less impact on the running of the railway.

5.6 Noise and vibration control measures

5.6.1 BPM will be employed to reduce noise impacts from the site and minimise noise at source. BPM are defined in Section 72 of the CoPA as those measures which are:

> *"reasonably practicable having regard among other things to local conditions and circumstances, to the current state of technical knowledge and to financial implications".*

5.6.2 British Standard BS 5228:2009+A1:2014 – Code of practice for noise and vibration control on construction and open sites – Part 1: Noise (BS 5228-1) and Part 2: Vibration (BS 5228-2) have Approved Code of Practice status (in England) under the powers conferred by sections 71(1)(b), (2) and (3) of the CoPA, as enacted under The Control of Noise (Code of Practice for Construction and Open Sites) (England) Order 2015. Compliance with the best practice noise and vibration requirements stated therein became a statutory obligation under the Act.

General mitigation measures

5.6.3 Contractors will be required to follow standard good construction practice as outlined in BS5228-1 and BS5228-2.

5.6.4 This will include following the general measures set out below which can reduce noise levels at source, such as:

- No unnecessary revving of engines and switch off equipment when not required;
- Internal haul routes will be kept well maintained and avoid steep gradients, where possible;
- Rubber linings in, for example, chutes and dumpers to reduce impact noise;
- Minimise drop height of materials;
- Start up of plant and vehicles will occur sequentially rather than concurrently;

- Continuous noisy plant should be housed in acoustic enclosures, where practicable;
- Exhaust silencing and plant muffling equipment will be fitted and maintained in good working order;
- Static plant known to generate significant levels of vibration will be fitted with vibration dampening features;
- Each item of plant used will be selected so as to comply with the noise limits quoted in the relevant European Commission Directive 2000/14/EC/United Kingdom Statutory Instrument (SI) 2001/1701;
- Consideration will be given to the recommendations set out in Annex B of BS5228-1, noise sources, remedies and their effectiveness;
- Equipment will be well maintained and where possible should be used in the mode of operation that minimises noise;
- Plant and equipment will be shut down when not in use;
- Semi-static equipment will be sited and orientated as far as is reasonable practicable away from occupied buildings and, where feasible, will be fitted with suitable enclosures;
- Materials will be handled in a manner that minimises noise; and
- All appropriate personnel will be instructed on BPM measures to reduce noise and vibration as part of their induction training.

5.6.5 If noisy processes can be avoided, then the amount of noise reaching NSR will be reduced. Alternative ways of reducing noise are to either increase the distance between the construction noise source and NSR or to introduce noise reduction screens, barriers or bunds.

5.6.6 The movement of plant onto and around the site will have regard to the normal operating hours of the site and the location of any noise sensitive premises as far as is reasonably practicable.

5.6.7 The use of conventional audible reversing alarms has caused problems on some sites and alternatives are available. Audible reversing warning systems on mobile plant and vehicles should be of a type which, whilst ensuring that they give proper warning, have a minimum noise impact on persons outside sites. When reversing, mobile plant and vehicles should travel in a direction away from noise sensitive properties whenever possible. Where practicable, alternative reversing warning systems should be employed to reduce the impact of noise outside sites.

5.6.8 The plant and activities to be employed on the site should be reviewed to ensure that they are the quietest available for the required purpose; this is in accordance with BPM. Where reasonably practicable, noisy plant or activities should be replaced by less noisy alternatives if noise problems are occurring.

5.6.9 Percussive or vibratory activities are not likely to be required for the remediation works and drilling would not be expected to generate material levels of vibration.

Specific mitigation measures

5.6.10 No significant noise and/or vibration impacts are expected from proposed works associated with Stage 3 of the Scheme. No specific mitigation measures are therefore proposed beyond the general mitigation measures identified. However, this would be subject to review during any Section 61 applications as required, and where appropriate specific details relating to plant and equipment would be considered through any Section 61 application.

Noise insulation and temporary rehousing

5.6.11 Households will be eligible for noise insulation or temporary rehousing where significant adverse effects are predicted to occur despite the implementation of BPM to minimise the effects of noise and/or vibration. To be eligible for noise insulation or temporary rehousing:

- The construction noise and/or vibration level (only temporary rehousing for significant vibration effects), despite implementation of BPM, must exceed either:
  - The construction noise SOAEL value at the residential NSR during the relevant period as defined in Table 5-2; or
  - A sustained vibration level of at least 1 mm/s at the residential NSR; and
- The duration of noise and/or vibration exceedance must be for a period of:
  - 10 or more days in any 15 consecutive days; or
  - 40 or more days in any 6 consecutive months.

Table 5-2 Construction noise SOAEL values

Day	Time (hours)	Averaging period, T	SOAEL threshold, dB $L_{Aeq,T}$
Mondays to Fridays	0700 – 0800	1 hour	70
	0800 – 1800	10 hours	75
	1800 – 1900	1 hour	70
	1900 – 2200	1 hour	65
	2200 – 0700	1 hour	55
Saturdays	0700 – 0800	1 hour	70
	0800 – 1300	5 hours	75
	1300 – 1400	1 hour	70
	1400 – 2200	1 hour	65
	2200 – 0700	1 hour	55
Sundays and Public Holidays	0700 – 2100	1 hour	65
	2100 – 0700	1 hour	55
[A)] All noise levels are predicted or measured at a point 1m in front of the most exposed of any windows and doors in any façade of any eligible dwelling			

5.6.12 No properties are expected to require noise insulation or temporary rehousing due to the proposed Stage 3 works. However, this would be subject to review during any Section 61 applications, as required.

5.7 Section 61 application process

Initial risk assessment

5.7.1 In order to streamline the construction noise and vibration assessment and Section 61 application process, it has been agreed with Kirklees Council, as the local authority, that the requirement for Section 61 applications for specific work packages or tasks is subject to an initial risk assessment. It is intended that the initial risk assessment would be conducted by a suitable qualified acoustician, and would consider:

- The nature of the works;
- The location of the works relative to noise sensitive receptors;
- The existing noise climate at nearby receptors;
- The duration of the works; and
- Whether works may be conducted during sensitive time periods (i.e. night-time).

5.7.2 The outcome of the initial risk assessment can fall under three categories: low, medium or high risk. In all cases professional judgement should be employed to determine the next

required step. However, generally:

- Where works are considered to be 'low risk', significant adverse impacts would not be expected and generally only a 'Statement of Intent' (SoI) would be required.
- Where the initial risk assessment indicates a 'medium risk', judgement is to be used to determine whether an SoI or Section 61 application is best applicable, in liaison and agreement with Kirklees Council EHO, with an assumption in favour of a Section 61 application.
- Where the initial risk assessment indicates a 'high risk', a Section 61 application would be required for the works.

5.7.3 The initial risk assessment template is provided in Appendix B. The risk assessment will be produced and submitted to the Local Authority as early as possible and not less than least three months prior to works commencing on site.

Statement of Intent

5.7.4 An SoI would be a non-statutory document submitted to Kirklees Council informing them of the works, including:

- The nature of the works;
- Proposed dates and times;
- Outcome of the initial risk assessment; and
- Details of any BPM to be employed to mitigation noise and vibration.

Section 61 application

5.7.5 Construction works will be managed through Section 61 applications through consultation with Kirklees Council. Section 61 of the CoPA allows developers to apply for 'prior consent' for noise and vibration generating activities during the construction phase of a development provided that BPM are employed to minimise the effects of noise and/or vibration.

5.7.6 Contractors would be required to follow good construction practices as outlined in BS 5228-1 and BS 5228-2 to control noise and vibration.

5.7.7 A Section 61 application for prior consent requires the assessment of the construction working methods that will be used to undertake the work as well as the general use of sites as construction compounds (detailed in submitted Stage 2 documents) and a prediction of the likely noise and/or vibration levels at nearby NSR. The Section 61 application(s) for the Scheme will detail the specific construction methods and the BPM, agreed with the local authority, to be used to reduce noise and/or vibration levels.

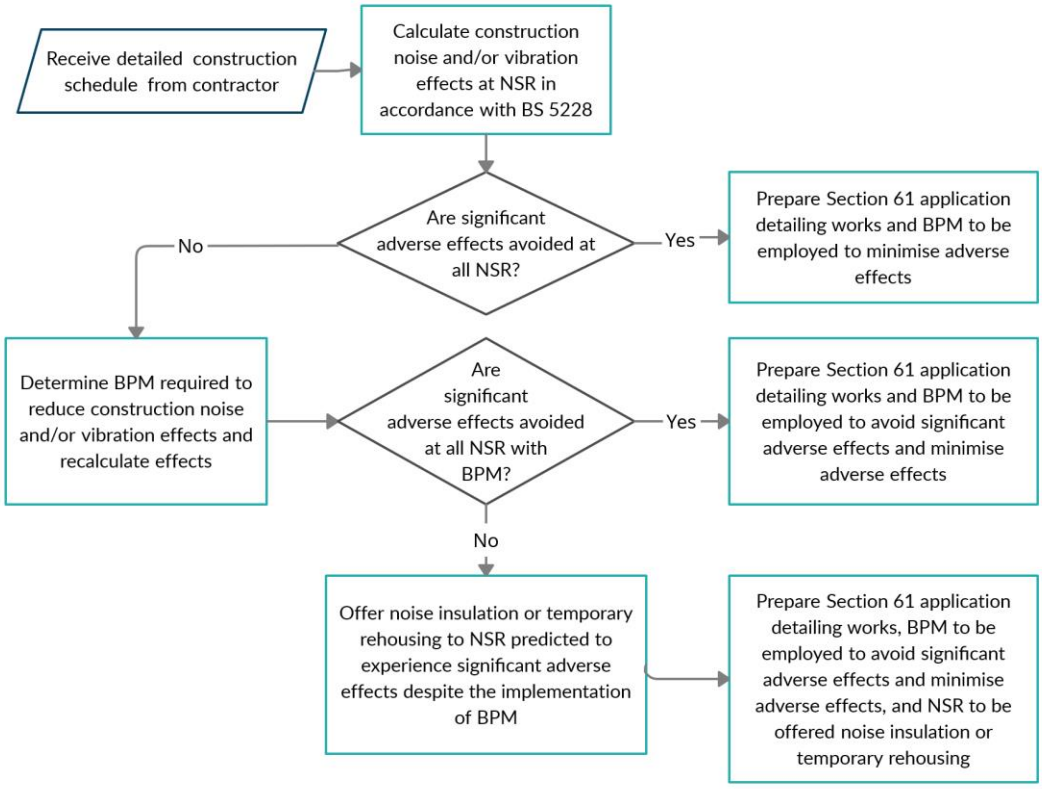
5.7.8 When approved, the contractor is required to carry out the works following the processes, including the implementation of BPM, as detailed in the Section 61 consent. The agreed methods will be included in the NVMP.

5.7.9 In summary, the Section 61 process identifies:

- NSR where significant adverse effects may occur due to construction noise and/or vibration;
- The BPM that will be applied to avoid these significant adverse effects; and
- NSR to be offered noise insulation or temporary rehousing (where significant adverse effects may still occur even following the implementation of BPM).

5.7.10 It should be noted that BPM are required to be applied at all times, even in the absence of significant adverse effects, in order to reduce adverse effects at nearby NSR.

5.7.11 The Section 61 process is outlined in Insert 5-1.



Insert 5-1 Section 61 construction noise and vibration assessment and mitigation process

5.7.12 Section 61 applications will be made either for specific tasks, or at regular periods covering the proposed works during a specific period as appropriate (e.g. 6-months). If required a Section 61 application will be submitted to the local authority 4-6 weeks prior to works starting on site to allow for their statutory 28-day period to respond. The Section 61 process will commence at least eight to ten weeks prior to the proposed start of the works.

5.8 Noise and persons on site

5.8.1 The employer shall ensure that risk from the exposure of their employees to noise is either eliminated at source or, where this is not reasonably practicable, reduced to as low a level as is reasonably practicable in accordance with The Control of Noise at Work Regulations 2005 which places a duty on employers within Great Britain to reduce the risk to their employees' health by controlling the noise they are exposed to whilst at work.

6. SUMMARY

6.1.1 This NVMP has been prepared to support the Stage 3 works of the Huddersfield to Westtown (Dewsbury) section of the TRU and details:

- How the local community will be informed of the proposed works;
- Pre-commencement schedule of condition surveys of buildings properties;
- Working hours;
- BPM to reduce the impacts of noise and vibration during construction;
- The criteria for noise insulation and temporary rehousing;
- How BPM will be managed through Section 61 applications; and
- How noise impacts on persons on site will be managed.

6.1.2 As stated, Section 61 applications will be made either for specific tasks, at specific locations or at regular periods covering the proposed works where consideration will be made to potential noise and/or vibration effects and how these will be managed.

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
Approved	P.Butler	Signed Electronically	Date 06/12/2022

Scale(s): 1:35,000

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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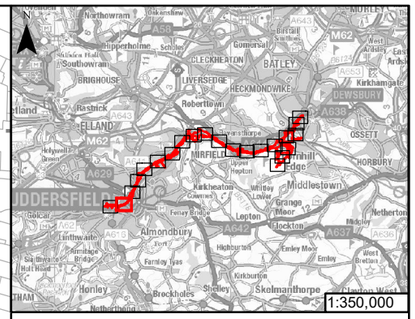
Continued on Page 1

Continued on Page 3

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

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**

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

Alternative Reference: ---
Sheet: 2 of 11

Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001288
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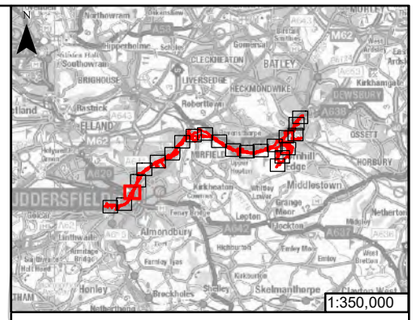
Continued on Page 4

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

Continued on Page 2



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
Suitability:

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ELR & Project Chainage: ---
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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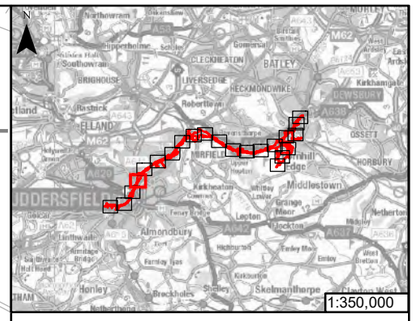
Continued on Page 4

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

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:

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Project: TRANSPENNINE ROUTE UPGRADE
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Scale(s): 1:2,500
ELR & Project Chainage: ---
Alternative Reference: ---
Sheet: 4 of 11
Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001288
Revision: P04

Continued on Page 3

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.**

Continued on Page 7

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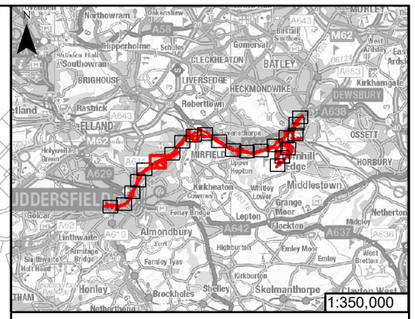

Scheme Boundary
Adjacent Map Sheet
Probe and grout
Track bed reinforcement
Works to mine shafts and adits

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

Rev	Date	Description of Revisions	Drwn	Chkd	Appr
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Status: SHARED
Suitability:

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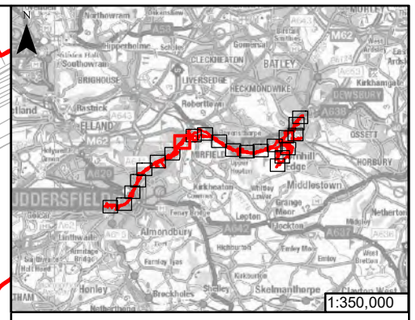
Area ID: W3.3-1
Area of Bradley's No. 2 (BBW/1)
Overbridge (MVL3/105)

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:

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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: 6 of 11

Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001288
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Sheet Size A3 297 x 420

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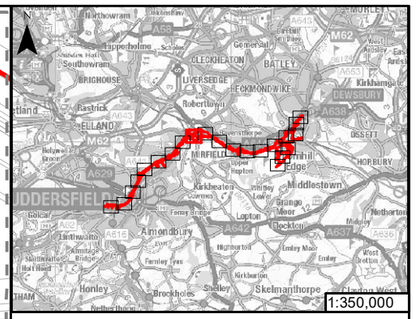
Continued on Page 7

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
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Status: SHARED

Suitability:

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

Alternative Reference: ---

Sheet: 7 of 11

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

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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**

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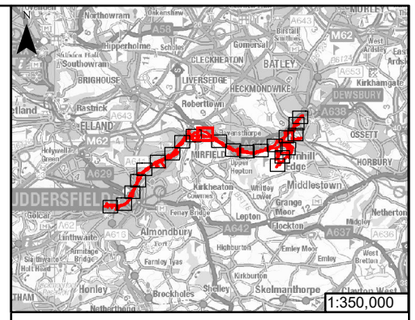

Scheme Boundary
Adjacent Map Sheet
Probe and grout
Track bed reinforcement
Works to mine shafts and adits

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

Rev	Date	Description of Revisions	Drwn	Chkd	Appr
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Sheet: 8 of 11
Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001288
Revision: P04
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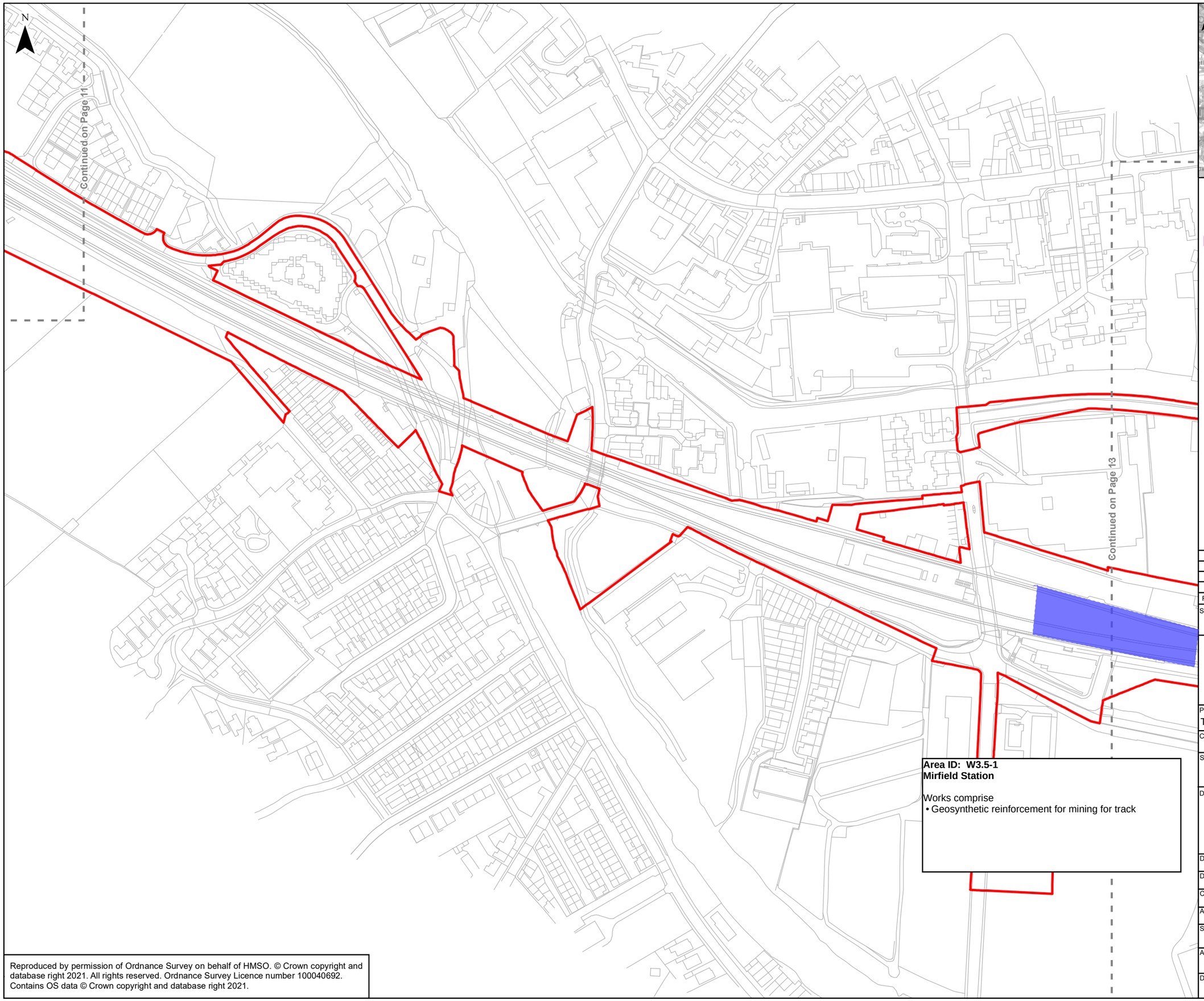

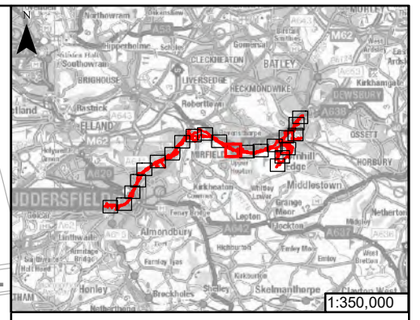

Scheme Boundary

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
P01	12/02/21	FIRST ISSUE	RB	PB	PB

Status: SHARED

Suitability:

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Project: TRANSPENNINE ROUTE UPGRADE

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Scale(s): 1:2,500

ELR & Project Chainage: ---

Alternative Reference: ---

Shee1: 9 of 11

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

Revision: P04

Sheet Size A3 297 x 420

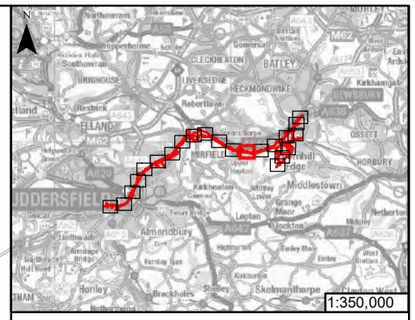
N

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:

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Project: TRANSPENNINE ROUTE UPGRADE

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Scale(s): 1:2,500

ELR & Project Chainage: ---

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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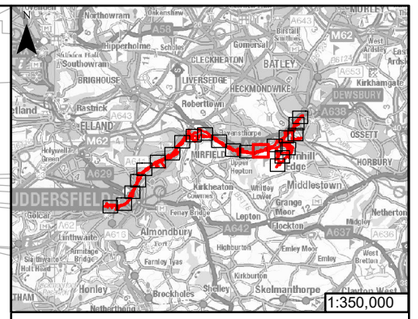
Continued on Page 13

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

SCALE 1:2,500

Rev	Date	Description of Revisions	Drwn	Chkd	Appr
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ELR & Project Chainage: ---

Alternative Reference: ---

Sheet: 11 of 11

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Revision: P04

Sheet Size A3 297 x 420

APPENDIX B – INITIAL CONSTRUCTION NOISE AND VIBRATION RISK ASSESSMENT

Introduction

This document provides an initial assessment of risk associated with potential noise and vibration impacts from proposed construction activities associated with the Trans-Pennine Rail Upgrade (TRU) project. The process is based on accepted methodology used for assessing construction noise and vibration in rural areas on the High Speed 2 (HS2) rail scheme, 'Guidance Note – HS2 Risk Assessment for Rural Areas' (RARA), which in turn is broadly based on the Chartered Institute of Environmental Health (CIEH) London Good Practice Guide (LGPG). Whereas LGPG is focused predominantly on impacts on urban areas, the RARA was produced to take account of the potential differences in sensitivity of rural areas with regards to construction noise and vibration.

A construction noise and vibration risk assessment (CNVRA) is proposed to be conducted for each works package associated with the scheme. The outcome of the CNVRA is used to determine an appropriate and proportionate approach to the assessment of construction noise and vibration impacts for the numerous construction activities required for the scheme in order to achieve an agreed, consistent, and efficient approach to assessment for the developer, the noise consultant, and the local authority, given the large and complex nature of the scheme.

This is achieved by focusing detailed assessments and subsequent Section 61 applications under Section 61 of Control of Pollution Act (CoPA) on construction activities with a medium or high noise and vibration risk. Construction activities with a low noise and vibration risk, indicative of where complaint is unlikely and which is likely to be the majority of works, will not be subject to a detailed assessment and subsequent Section 61 applications. However, a 'Statement of Intent' (SoI) will be provided to the local authority detailing the nature of the works and the rationale behind determining it as low risk, via a CNVRA.

Contractors should be aware that low risk activities will still be subject to potential risk of enforcement action under Section 60 of the CoPA, and use of best practicable means (BPM) to reduce levels of noise and vibration is still required.

Methodology

The assessment categorises proposed works into low, medium, and high risk categories based on a number of factors, including:

- the nature of the works;
- the location of the works relative to noise sensitive receptors;
- the existing noise climate at nearby receptors;
- the duration of the works; and
- whether works may be conducted during sensitive time periods (i.e. night-time).

The assessment is broken down into two parts. Part A considers the locality and site information. Part B considers the works information. Appropriate options are selection for each assessment, categorised as Low, Medium and High risk. The resulting total 'tick' for each risk category are summed separately for Part A and Part B. The assessment outcome is determined via adding an additional 'tick' to the Part A sums for the category with the highest number of 'ticks' in Part B. This approach provides a higher

weighting to the location, duration, and the time period of the works, rather than the nature of the works themselves.

The risk category with the highest resulting 'ticks' is then determined as the outcome of the assessment. A 'Low' risk is an indication that a statement of intent is appropriate. A 'Medium' or 'High' risk is an indication that a Section 61 application is appropriate.

If there is the same total in two risk categories, then the higher risk applicable mitigation measures should be employed.

It should be noted that the initial risk assessment is a tool and should be used in conjunction with professional judgement, taking account of the context of the area and the proposed works.

Assessment

	Risk Assessment A	Low	Medium	High
Locality/Site Information	**Works Duration**			
	<6 months	☐		
	6 months to 12 months		☐	
	>12 months			☐
	Proximity of the nearest sensitive receptor			
	>150m from the site boundary	☐		
	Between 50m and 150m		☐	
	<50m			☐
	Daytime ambient sound level at nearest sensitive receptor[1]			
	High (>65 dB LAeq,16h)	☐		
	Moderate (55 to 65 dB LAeq,16h)		☐	
	Low (≤55 dB LAeq,16h)			☐
	Number of receptors within 150m			
	Less than or equal to 5	☐		
	Greater than 5 but less than 20		☐	
	Greater than 20			☐
	Working hours			
	Core daytime only[2]	☐		
	Some extended evening or weekend working		☐	
	Some night-time working			☐
	SUBTOTAL A Add up the number of ticks in each column			

Note [1)] Can be determined via ES survey data, strategic noise mapping, or additional surveys

Note [2)] Core daytime: Monday to Friday, 08:00-18:00 hrs; Saturday 08:00-13:00 (excluding 1 hour start up/shut down)

	Risk Assessment B	Low	Medium	High
Works Information	**Ground works**			
	Limited to less than 1 month	☐		
	Between 1 month and 6 months		☐	
	Greater than 6 months			☐
	Percussive Activities			
	Limited to non-percussive methods (i.e. hand tools/small excavator / small backhoe	☐		
	Percussive methods less than 3 months		☐	
	Percussive methods greater than 3 months			☐
	Piling			
	Limited to 1 week or no piling	☐		
	Bored piling only. No impact or vibratory piling		☐	
	Impact or vibratory piling			☐
	Vibration generating activities (percussive or vibratory piling, or compaction)			
	Limited to less than 1 week or no piling	☐		
	Between 1 week and 1 month		☐	
	Greater than 1 month			☐
	SUBTOTAL B Add up the number of ticks in each column			

Total – Risk Assessment	Low (SoI)	Medium (S.61)	High (S.61)
Risk Assessment A – Locality / Site Information Carry over Subtotal A			
Risk Assessment B – Works Information Carry over SUBTOTAL B			
SUBTOTAL B TICK For the row with the highest number of ticks in Subtotal B, place '1' in the corresponding box			
Total **SUBTOTAL A + SUBTOTAL B TICK (Note: do not include SUBTOTAL B)** The column with the highest total indicates the outcome of the assessment, as follows: A 'Low' risk is an indication that a Statement of Intent is appropriate. A 'Medium' or 'High' risk is an indication that a Section 61 application is appropriate. If there are equal high values in the 'Low' and either the 'Medium' or 'High' column, professional judgement should be applied, with a tendency towards producing a Section 61 application where there are equal values shared between the 'Low' and 'High' risk categories.			

Outcome -

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