

TRANSPORT AND WORKS ACT 1992

**TRANSPORT AND WORKS (INQUIRIES PROCEDURES)
RULES 2004**

**NETWORK RAIL (STALYBRIDGE TO DIGGLE
(SADDLEWORTH) ENHANCEMENTS) ORDER**

**NOISE AND VIBRATION
PROOF OF EVIDENCE
of
Adam Lawrence**

Document Reference	167037-NWR-W2B-MVL3-EVI-W-LP-000019
Author	Network Rail
Date	12 th May 2026

[this page is intentionally left blank]

CONTENTS

1. INTRODUCTION.....	1
1.1 Introduction	1
1.2 Structure of the Proof of Evidence	1
2. SCOPE OF EVIDENCE	2
2.1 Adequacy of Environmental Report	2
2.2 Approach to Assessment	2
2.3 Construction Noise Impacts and Mitigation	3
2.4 Construction Vibration Impacts and Mitigation	4
2.5 Construction Traffic Impacts and Mitigation	4
2.6 Operational Railway Noise Impacts and Mitigation	5
2.7 Operational Railway Vibration Impacts and Mitigation	7
2.8 Operational Road Traffic Noise Impacts and Mitigation	8
3. RESPONSES TO OBJECTORS.....	10
3.2 Impact of construction noise on children at school.....	10
3.3 Disruption from noise during construction	10
3.4 Building damage	11
3.5 Noise from relocated Mossley station	11
3.6 Railway noise and vibration	12
3.7 Noise mitigation	13
3.8 Compensation	13
4. CONCLUSION	14
4.1 Conclusion	14
5. WITNESS DECLARATION	15
5.1 Statement of declaration	15
Appendices	16
APPENDIX A	16

[this page is intentionally left blank]

1. INTRODUCTION

1.1 Introduction

1.1.1 My name is Adam Lawrence. I am an Associate acoustician with AtkinsRéalis. I hold a Bachelor's degree (with Honours) in Electroacoustics from the University of Salford. I am a Fellow of the Institute of Acoustics and a Chartered Engineer.

1.1.2 I have worked in acoustics for over 30 years, being primarily concerned with transportation and environmental noise issues. I have been responsible for aspects of the noise impact assessment and design of noise mitigation measures for railway schemes including; other sections of the Transpennine Rail Upgrade, East West Rail, Bicester Oxford Railway, Docklands Light Railway, Tilbury 2, High Speed 1 and High Speed 2. I have given evidence to inquiries and hearings in support of road and railway schemes including other sections of the Transpennine Rail Upgrade, the M25, the M2 and the A21 and supported other witnesses giving noise evidence for East West Rail and Tilbury 2. I have been involved with the noise and vibration assessment of this Scheme since late 2025.

1.2 Structure of the Proof of Evidence

1.2.1 I provide evidence on the following topics:

- The adequacy of the assessment
- The approach to the assessment
- The extent of noise and vibration impacts and proposed mitigation measures.
- Responses to specific objectors.

2. SCOPE OF EVIDENCE

2.1 Adequacy of Environmental Report

2.1.1 My evidence shows that the noise and vibration chapter of the Environmental Report (ER) submitted with the TWA Order [NR14] deals with noise and vibration impacts in an appropriate way.

2.1.2 The ER considers the noise and vibration impacts of the Scheme on sensitive receptors, both temporary impacts during the construction phase and permanent impacts from the operation of the completed Scheme.

2.1.3 The evaluation considers likely impacts in the context of relevant regulations and guidance, as set out in Section 9.1 of the ER [NR14, Volume 1], with more detail given in Section 2 of Appendix 9A of the ER [NR14, Volume 3]. Appropriate mitigation measures are outlined.

2.2 Approach to Assessment

2.2.1 The assessment considers all elements of the Scheme, both those which are part of the proposed Order, and those which are available to Network Rail under Permitted Development rights.

2.2.2 In addition to the scheme, under Permitted Development rights, Network Rail can intensify the use of the line. This intensification can include changes to the types of train, level of service and train speed/stopping patterns along the line. Changes in noise and vibration from intensification have been excluded from the assessment.

2.2.3 Therefore, the principal elements of the assessment are the construction of the scheme and the operation of the relocated Mossley station. Across the Scheme, the majority of the works are elements which can be constructed under Permitted Development rights.

2.2.4 Separate consideration has been given to construction noise, construction vibration, operational noise and operational vibration. The scheme is unlikely to result in significant noise or vibration effects.

2.2.5 The methodologies for assessing construction impacts are described in Section 2.4 of Appendix 9A of the ER, which identifies thresholds for significance for noise and vibration.

2.2.6 Where mitigation measures are needed, there are three main approaches available. The first approach is to reduce noise levels at source, followed by attenuating noise between source and receptors. Lastly, attenuation measures at the receptor can be considered.

2.3 Construction Noise Impacts and Mitigation

2.3.1 Construction noise impacts at receptors are considered significant when noise levels exceed the threshold for significant adverse effects (SOAEL) for a specified duration. The assessment considers receptors within 300m of works areas.

2.3.2 The key control for construction noise and vibration is the Code of Construction Practice (CoCP). The main controls and measures for managing construction noise are set out in paragraphs 9.3.2 to 9.3.11 of the ER, with further details in paragraphs 4.1.1 to 4.1.17 of Appendix 9A of the ER.

2.3.3 Part A of the CoCP [NR17] sets out that a Noise and Vibration Management Plan (NVMP) will be submitted to and approved by the Local Authorities, and that the NVMP would be within Part B of the CoCP.

2.3.4 The NVMP will set out the noise and vibration assessments that will be required, the reporting of those assessments, and the approach to noise mitigation where impacts are above appropriate thresholds. Assessments will be in line with BS5228 [NR72] and be undertaken by a competent person. Mitigation will include Best Practicable Means (BPM) and/or additional specific mitigation measures, as determined by the results of the assessments. Integral to the BS5228 approach is the changing significance thresholds with time of day, identified in Table 2-1 of Appendix 9A of the ER. Where works are required outside normal core working hours there will be tighter controls in place to minimise disturbance.

2.3.5 For construction activities, options for reductions at source are generally around choosing quieter methods of working, ensuring that plant and equipment is well suited for the job and is shut down after use, and ensuring that staff are aware of potential noise issues. Noise attenuation is generally covered by ensuring that noisy equipment is located away from receptors, orientated to minimise noise transmission or positioned behind structures to screen noise.

2.3.6 The NVMP will also set out requirements for monitoring and for notification of nearby residents. Notifications will be in line with the External Communications Plan. Noise from construction traffic will also be managed through the Construction Traffic Management Plan (CTMP), which will include controls on delivery hours and delivery routes. The NVMP will also describe how complaints about noise or vibration during construction will be managed.

2.3.7 Sufficient data was not available to undertake a detailed construction noise assessment at the time of the ER reporting. An outline assessment is reported in Appendix 9A of the ER. Table 2-7 identifies the receptors closest to the main works elements. Paragraphs 3.3.1 to 3.3.7 identify the anticipated works likely to generate noise.

2.3.8 It is considered there are sufficient controls in place to avoid significant impacts from construction noise. These controls are set out in the NVMP alongside the CoCP, in Network Rail's Environmental Minimum Requirements for Projects (NR/ENV/015) [NR14, Volume 3, Appendix 1A], and are reached through discussions with local authorities. The assessments required by the NVMP will set out appropriate mitigation to; avoid significant impacts, minimise adverse impacts and construct the scheme in line with policy requirements.

2.4 Construction Vibration Impacts and Mitigation

2.4.1 Construction vibration impacts at receptors are considered significant when vibration levels exceed the threshold for significant adverse effects (SOAEL) for a specified duration. Impacts are also considered in terms of vibration affecting the structure of buildings. It is important to note that humans can perceive vibrations at levels significantly lower than those with the potential to cause building damage. The assessment considers receptors within 100m of works areas.

2.4.2 The CoCP includes relevant controls for construction vibration, which adopt a similar approach to those set out for construction noise. In situations where vibration levels have potential to be high, controls include surveys/inspections prior to works and vibration monitoring during works.

2.4.3 Sufficient data was not available to undertake detailed a construction vibration assessment at the time of the ER reporting. An outline assessment is reported in Appendix 9A of NR14. Table 2-7 identifies the receptors closest to the main works elements. Paragraphs 3.3.1 to 3.37 identify the anticipated works likely to generate vibration.

2.4.4 It is considered there are sufficient controls in place to avoid significant impacts from construction vibration. These controls are set out; in the NVMP alongside the CoCP, in Network Rail's Environmental Minimum Requirements for Projects (NR/ENV/015), and are reached through discussions with local authorities. The assessments required by the NVMP will set out appropriate mitigation to; avoid significant impacts, minimise adverse impacts and construct the scheme in line with policy requirements.

2.5 Construction Traffic Impacts and Mitigation

2.5.1 Noise impacts from construction traffic would be considered significant at receptors when there would be a moderate or major change in noise, identified through changes in traffic on existing routes. Receptors would be identified on such routes that are within approximately 50m of the route and have a reasonably direct view of that route.

2.5.2 Construction traffic impacts are managed and mitigated through the CTMP.

2.5.3 In terms of traffic flows, the ER identifies in Section 10.4 [NR14, Volume 1] that potential changes in traffic during the construction of the scheme are unlikely to be significant. Therefore, with the CTMP in place, potential changes in road traffic noise during the construction are expected to be limited, with controls set out in the NVMP and CTMP.

2.6 Operational Railway Noise Impacts and Mitigation

2.6.1 As noted in section 2.2, changes to services along the line from intensification, and consequential changes in noise, have been excluded from the assessment.

2.6.2 The principal element of operational noise impacts relates to the relocation of Mossley Station. Other scheme elements with potential for changes in operational railway noise include; the re-alignment of track, Oaklands Road permanent maintenance facility, and changes at Greenfield station.

Mossley Station

2.6.3 At Mossley station the highest potential for changes in noise arise from changes to or the introduction of fixed plant and equipment, including the Public Address (PA) system at the new station building. As the station is moving some 300m north, changes could occur from the locations where trains would idle when stationary at the station, and from alterations to the station access. Potential noise impacts from road traffic are discussed in section 2.8.

2.6.4 For the location where trains would idle when stationary at the station, and consequential changes to speed profiles, potential changes would be assessed during detailed design, although mitigation is not expected.

2.6.5 For fixed plant and equipment, impacts would be considered significant if noise levels were sufficiently above existing background levels, and the design will seek to avoid significant impacts. Impacts will be assessed using British Standard BS4142 (Methods for rating and assessing industrial and commercial sound) [NR74]. Mitigation will include selection of plant and equipment and ensuring that these are positioned and orientated to minimise impacts.

2.6.6 Whilst the Scheme will include a public address system at the station, there is an existing system at the current station. During detailed design, the proposed public address system will be designed in line with both the Network Rail standard NR/L2/TEL/30134 [NR116] and the National Technical Specification Notice Accessibility (ACC) [NR117]. Impacts from its use would be considered significant if complaints were likely from the use of the system.

2.6.7 The design of the system will balance potential impacts from its use on nearby receptors against the need to operate the station safely. Mitigation for the public

address system can include restricting the timing of messages and limiting the types of messages used. Ambient noise sensors, orientation of speakers and the use of shielding may also be appropriate to minimise impacts at receptors.

2.6.8 Changes to the station access arrangements, including changes to the existing wall along Manchester Road, may affect the propagation of noise from the station to nearby receptors. Assessments during detailed design will include changes to noise propagation.

2.6.9 There is potential for changes in noise from these factors and from the new station layout at receptors within a few hundred meters of the station. Any impacts would be masked by noise from other sources, including road traffic noise. Each of these items will be assessed during the detailed design phase and appropriately mitigated.

Track re-alignment

2.6.10 The works under Permitted Development include altering the horizontal and vertical alignment of the railway in various places along the alignment. All proposed changes to the alignment are smaller than a few centimetres, except near Mossley Cottages.

2.6.11 At Mossley Cottages and Old Brow Court, the track is expected to be realigned, moving up to 1m away from Mossley Cottages and towards Old Brow Court. The shortest distance between the track and Mossley Cottages is around 3m. Should the track at this point be realigned to be 4m from Mossley Cottages, noise and vibration levels for trains travelling on the nearest track at the same speeds would reduce by around 1.2dB, with trains on the far track reducing by around 0.6dB. At locations where the track is further than 3m from the properties, or the alignment change is smaller than 1m, noise and vibration reductions would be smaller.

2.6.12 The shortest distance between the track and Old Brow Court is around 11m. Should the track at this point be realigned to be 10m from Old Brow Court, noise and vibration levels for trains travelling at the same speeds on the nearest track would increase by around 0.4dB, with trains on the far track increasing by around 0.3dB. At locations where the track is further than 11m from the properties, or the alignment change is smaller than 1m, noise and vibration increases would be smaller.

2.6.13 Changes in noise smaller than 1dB are not perceptible, and therefore overall changes in noise from the realignment of both tracks are unlikely to be perceptible. Although the track realignment works are not part of the Order, Network Rail have a legal requirement to conduct an assessment under the Noise Insulation Regulations for Railways [NR66] and determine eligibility for insulation. This assessment would take place during detailed design. Other mitigation measures are not expected.

2.6.14 In all other locations, changes in the horizontal and vertical alignment would not give rise to changes in noise or vibration at receptors. As changes in alignment are smaller than a few centimetres, these are negligible in comparison to the distances between the track and receptors. Such changes would result in no change to noise levels or vibration levels at receptors. These works are not part of the Order application. Given the expected level of impact, it is not necessary to consider noise mitigation for changes to the track alignment.

Oaklands Road permanent maintenance facility

2.6.15 The maintenance facility at Oaklands Road provides access to the line for maintenance works being undertaken at night during a possession, which may occur 2-3 times a month. It would also be used for line access during any larger scale maintenance works. The facility would not be used during the normal operation of the railway and operational noise impacts are not expected. Therefore it is not necessary to consider noise mitigation at the facility.

Greenfield station

2.6.16 The works at Greenfield Station are generally being carried out under Permitted Development and are not part of the Order application. There are no changes to the positioning of the platforms, the alignment of the track, or plant and equipment at the station. Therefore, changes in operational noise are not expected, and it is not necessary to consider noise mitigation at Greenfield station.

2.7 Operational Railway Vibration Impacts and Mitigation

2.7.1 As noted in section 2.2, changes to services along the line from intensification, and consequential changes in vibration, have been excluded from the assessment.

2.7.2 The Permitted Development works in Stalybridge tunnel include replacing the current trackform with a resilient trackform. This trackform will reduce the transmission of vibration from the trains into the ground. Consequently, both vibration and groundborne noise will be reduced in properties above the tunnel. As this change is within Permitted Development, these positive impacts are outside the scope of assessment.

2.7.3 As noted in section 2.6 for operational noise, for areas away from the track realignment at Mossley Cottages/Old Brow Court, changes to the vertical and horizontal alignments of the track would not give rise to changes in vibration at receptors.

2.7.4 At Mossley Cottages/Old Brow Court, changes in vibration are expected to be smaller than the perception threshold of around 2dB. Therefore, changes in vibration from track realignment are unlikely to be perceptible. Given the expected level of

impact, it is not necessary to consider vibration mitigation for changes to the track alignment.

2.8 Operational Road Traffic Noise Impacts and Mitigation

2.8.1 Elements of the Scheme give rise to potential changes in road traffic noise. The principal area is at Mossley Station where the access arrangements to the station and car park are changing. Changes could also occur from alterations to bridges carrying traffic over or under the railway, from Oaklands Road permanent maintenance facility, or from changes at Greenfield station.

2.8.2 Impacts from road traffic noise on existing routes would be considered significant at receptors with a moderate or major change in noise, identified through changes in traffic or road alignment. Receptors would be identified on such routes that are within approximately 50m of the route and have a reasonably direct view of that route.

2.8.3 In terms of traffic flows, the ER identifies in Section 10.1 that potential changes in traffic from the operation of the scheme are unlikely to be significant, and the operation of the highway network was not part of the transport assessment. Therefore, potential changes in road traffic noise are limited to areas with physical changes to the road network.

Mossley station

2.8.4 At Mossley station, there are potential road traffic noise impacts from changes to the car park and to station access, and from changes to traffic using them. Potential impacts noise from the operation of the station are discussed in section 2.6.

2.8.5 As the proposed station and car park are in approximately the same location and a similar size to the existing station, changes in road traffic noise are expected to be small.

2.8.6 Car park and station access road traffic noise impacts could potentially affect noise at receptors within a few hundred meters of the station. These receptors are likely to be the same as those considered for operational noise from the changes at Mossley station, and potential changes and mitigation would be assessed during detailed design. Given the scale of changes to car parks, highways and traffic flows, potentially significant effects from road traffic noise are considered unlikely.

Changes to bridges

2.8.7 Five of the bridges carrying traffic across the railway are proposed for alterations; Roughtown Road, Royal George, Oldham Road, Ward Lane and Station Road. In each case the alignment of the road does not change, i.e. the proposed highway alignment is approximately the same location as the existing highway

alignment, with the principal changes being in the vertical alignment. Additionally, the roads approaching these bridges are not altered.

2.8.8 Road traffic noise at receptors is a combination of contributions from all sections of road with traffic, both those that are changed and those which are unaltered. Perceptible changes in noise are not expected at receptors from the small changes to highway alignment at these bridges and further assessment is not required. Therefore, there is no need to consider mitigation for road traffic noise.

Oaklands Road permanent maintenance facility

2.8.9 As noted in Section 2.6, the maintenance facility would not be used during the normal operation of the railway, and would only be used to provide access to the railway during maintenance activities. There are no changes to the alignment of Oaklands Road. Therefore, changes in traffic noise on the highway network from traffic using the maintenance facility are expected to be negligible, and further assessment is not required. Therefore, there is no need to consider mitigation for road traffic noise.

Greenfield station

2.8.10 The works at Greenfield Station are generally being carried out under Permitted Development and are not part of the Order application. The works do not alter the car park, access or highways at Greenfield Station. It is unlikely there would be perceptible changes in noise from traffic using the station and further assessment is not required. Therefore, there is no need to consider mitigation for road traffic noise.

3. RESPONSES TO OBJECTORS

3.1.1 Several objectors to the scheme include noise and vibration issues in their submissions. There are several common themes, as summarised in the table below. Matters relating to general disturbance from and management of the construction of the scheme are covered in the proof of evidence of Mr Jim Pearson [NR/PoE/JP/4.2]. Matters relating to compensation are covered in the proof of evidence of Mr Nigel Billingsley [NR/PoE/NB/8.2]. Other themes are addressed within this proof of evidence.

Theme	Objection	Response
Construction noise at schools	Concerns about construction noise affecting kids whilst at school (36 objectors)	Jim Pearson
Disruption from noise during construction	Other concerns around noise during works being a disruption (15 objectors)	Jim Pearson
Noise from relocated Mossley station	Concerns around noise from the proposed relocation of Mossley station (8 objectors)	Adam Lawrence
Building damage	Concerns about potential damage to buildings from construction activities (7 objectors)	Adam Lawrence
Railway noise and vibration	Concerns that scheme changes will change railway noise and vibration levels (5 objectors)	Adam Lawrence
Noise mitigation	Changes off/to or request for noise mitigation (2 objectors)	Adam Lawrence
Compensation	Concerns about potential decreases in property value from changes in noise (2 objectors)	Nigel Billingsley

Table 1: Summary of Objections including noise and vibration

3.2 Impact of construction noise on children at school

3.2.1 These matters are dealt with in the evidence of Mr Jim Pearson. Thirty-four objectors are concerned with noise from construction traffic affecting children at Milton St Johns C of E Primary & Nursery school on Mill Lane.

3.2.2 One objector puts forward a similar concern from construction traffic on Carrhill Road affecting children at Tiptoes, and another for construction traffic affecting children at Friezland preschool.

3.3 Disruption from noise during construction

3.3.1 These matters are dealt with in the evidence of Mr Jim Pearson. Fifteen objectors are concerned about disruption from noise from construction activities. Three objectors refer to disruption from construction activities in a general sense. Twelve objectors include additional details highlighting specific areas within their objections.

3.3.2 In terms of timing, four objectors refer to works at night-time or at the weekend. In terms of locations, three refer to Mossley station and three refer to

compounds/works areas. Two objectors refer to noise from construction traffic and vehicles.

3.4 Noise from relocated Mossley station

3.4.1 Eight objectors include a concern about noise from the relocated Mossley station (objectors 39, 57, 66, 75, 111, 145, 166 and 180). All eight objectors refer in general terms to being affected by noise disturbance from the changes at the station. In some cases, concerns are presented without acknowledgement of the current Mossley station, and its public address system. Within the objections, three refer to noise from the public address system, and three refer to changes in noise from the removal of a historic wall along Manchester Road.

3.4.2 Objectors 57, 145 and 166 refer to noise from the station's public address system. As noted in section 2.6, during detailed design, the system will be designed in line with relevant standards to avoid significant impacts. The design of the system will balance potential impacts from its use on nearby receptors against the need to operate the station safely. Mitigation for the public address system can include operational restrictions and other design measures to minimise impacts at receptors.

3.4.3 Objectors 66, 145 and 180 are concerned that the removal of a wall along Manchester Road would lead to increased noise. As noted in section 2.6, changes to this wall will be assessed during the detailed design of the station, and the design of the station will include mitigation to minimise impacts, if needed.

3.4.4 Objectors 57 and 166 express concerns about noise from trains at the station. The alignment of the track through the station is broadly unchanged. As noted in section 2.2, Network Rail are permitted to alter services along the line. Changes in railway noise have been excluded from the assessment, and no mitigation is expected for railway noise.

3.4.5 The other noise concerns noted in the context of Mossley station are not impacts which the project can directly control. Many of these issues are likely to exist at the current station location. These include; people using the station or near to the station, including pedestrian road crossings (objectors 39, 57 and 145), noise from road traffic noise, including buses (objectors 57, 111 and 145). Several objectors are concerned about general increases in noise from the station (objector 145), leading to; loss of privacy, audible intrusion, nuisance, increased stress, exacerbation of health conditions, effects on wildlife and community disruption (objectors 66, 75 and 111).

3.5 Building damage

3.5.1 Seven objectors (39, 49, 50, 57, 145, 172 and 175) have expressed a concern about potential damage to their buildings during the construction of the Scheme. The project is committed to assessing noise and vibration as set out in the NVMP and

providing appropriate mitigation to minimise impacts. It is important to note that humans can perceive vibrations at levels significantly lower than those with the potential to cause building damage.

3.5.2 Should the assessment identify concerns about vibration, appropriate controls and monitoring will be put in place. As noted in section 2.4, controls would include choosing the method of working and equipment to minimise vibration levels and avoid significant impacts.

3.5.3 Three objectors (49, 50 and 175) express a concern about vibration from construction traffic. Construction traffic is also managed through the CTMP.

3.5.4 Further details on the management of construction works are given in the evidence of Mr Jim Pearson.

3.5.5 Three objectors (57, 145 and 172) express concerns about vibration, noting that their properties are old, with foundations different from newer properties. The assessment threshold for potential vibration damage is set at a level which includes all foundation types. A lower threshold would only need to be considered if buildings were structurally unsound.

3.5.6 One objector (39) mentions compensation for damage caused by works, including a reference to vibration. As noted in section 2.3, the NVMP includes appropriate controls to limit vibration and monitor as appropriate, avoiding damage.

3.5.7 Further details on compensation are given in the evidence of Mr Nigel Billingsley.

3.6 Railway noise and vibration

3.6.1 As noted in section 2.2, Network Rail is able to change services along the line, including operating patterns and speed. Operational noise and vibration from trains was consequently excluded from the assessment. Five objectors have concerns about changes to noise and vibration from the Scheme, with four concerned about changes to the level of service and one concerned about changes to track alignment.

3.6.2 Objector 97 notes that realignment of the track would move the alignment closer to Old Brow Court. As noted in sections 2.6 and 2.7, the track would move no more than 1m away from Mossley Cottages and closer to Old Brow Court, which is unlikely to result in a perceptible change in noise or vibration.

3.6.3 Objector 66 can perceive vibration from the railway within their property, particularly in their basement, with concerns around structural damage from increased service level and train speed. It is important to note that humans can perceive vibrations at levels significantly lower than those with the potential to cause building

damage. The Scheme works are not expected to result in changes to vibration levels in properties, except for a reduction in vibration at properties above Stalybridge tunnel.

3.6.4 Objectors 76, 226 and 239 express more general concerns about changes in noise and/or vibration from increased service level and train speed. Objector 76 implies a concern about noise at night, and objector 226 mentions noise from overhead line equipment.

3.7 Noise mitigation

3.7.1 Two objectors express concerns around noise from the scheme, seeking noise mitigation.

3.7.2 Objector 145 expresses general concerns about noise near Mossley station, mentioning trains, road traffic, announcements at the station and people using the station, seeking noise mitigation at their home.

3.7.3 Objector 166 identifies that removal of trees changes their perception of noise from the railway, including noise from trains and announcements at the station. They seek an acoustic barrier to reduce noise from these sources. Whilst vegetation can change perceptions of noise by reducing the visibility of noise sources, vegetation can only reduce noise levels when it is densely planted, tall and several meters deep.

3.7.4 During detailed design the changes at the station including plant, equipment and the public address system, will be designed to avoid significant impacts. Changes to the track are not expected to result in changes to noise. Mitigation at receptors is not expected.

3.8 Compensation

3.8.1 Matters relating to compensation are dealt with in the evidence of Mr Nigel Billingsley. Two objectors (39 and 66) are interested in understanding the potential impact of the Scheme on the value of their properties, with concerns expressed through noise issues.

4. CONCLUSION

4.1 Conclusion

4.1.1 The scheme is unlikely to result in significant noise or vibration effects.

4.1.2 I have set out how noise and vibration impacts from the construction and operation of the scheme will be assessed and mitigated as the design progresses and the scheme develops.

4.1.3 I have addressed the objections which refer to noise and vibration matters.

5. WITNESS DECLARATION

5.1 Statement of declaration

5.1.1 This Proof of Evidence includes all facts which I regard as being relevant to the opinions which I have expressed, and the Inquiry's attention has been drawn to any matter which would affect the validity of that opinion.

5.1.2 I believe the facts which I have stated in this Proof of Evidence are true and that the opinions expressed are correct. I understand my duty to the Inquiry to help it with matters within my expertise, and I believe I have complied with that duty.

APPENDICES

APPENDIX A

Glossary

GLOSSARY

Abbreviation	Definition
CoCP	Code of Construction Practice
Code of Construction Practice	The document that outlines how the Scheme will reduce or mitigate construction effects on the environment
dB	Decibel
Defra	Department for the Environment and Rural Affairs
DPP	Deemed Planning Permission
Deemed planning permission	On making an order under the Transport and Works Act 1992, the Secretary of State may direct that planning permission shall be deemed to be granted, subject to such conditions (if any) as may be specified in the direction.
EIA	Environmental Impact Assessment
Environmental Impact Assessment	The process by which the anticipated effects on the environment of a proposed development or Scheme are measured
ER	Environmental Reporting
ER	The report setting out the process and findings of an assessment of environmental impacts.
NIA	Noise Important Area
Noise Important Area	Areas of the worst affected population (1% with highest levels) by road traffic or railway noise in England, according to Defra strategic noise mapping.
NIR	Noise Insulation Regulations
NOEL	No Observed Effect Level
NPPF	National Planning Policy Framework
NPSE	Noise Policy Statement for England
NPS NN	National Planning Statement for National Networks
NSR	Noise Sensitive Receptor (these receptors are also sensitive to vibration)
NVMP	Noise and Vibration Management Plan
OLE	Overhead Line Equipment
Overhead Line Equipment	Overhead line electrification equipment, which supplies electric power to the trains.
SOAEL	Significant Observed Adverse Effect Level
SOAEL	In policy terms impacts are significant when noise levels are above the threshold for significant adverse effects
SOCG	Statement of Common Ground
Statement of Common Ground	The Statement of Common Ground is a document that provides a succinct summary of the matters that have been resolved Network Rail and individual objectors/representations to the Order Scheme. It is also intended to provide a succinct summary of the matters that remain unresolved between the same parties.
TWA	Transport and Works Act