TRANSPORT AND WORKS ACT 1992

TRANSPORT AND WORKS (INQUIRIES PROCEDURES) RULES 2004

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

NOISE AND VIBRATION

SUMMARY PROOF OF EVIDENCE

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Document Reference	NR/PoE/AL/10.1
Author	Network Rail
Date	5 October 2021

The Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order – NR/PoE/AL/10.1

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1. INTRODUCTION

1.1.1 My name is Adam Lawrence. I am an Associate with Atkins Acoustics, Noise and Vibration. 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 been involved with the noise and vibration assessment of this Scheme since November 2020 when I was part of the team which prepared the Noise and Vibration Chapter(s) of the Environmental Statement (ES), where my role comprised reviewing the completed chapter(s).

2. SCOPE OF EVIDENCE

2.1 Approach to Assessment

2.1.1 My evidence shows that the noise and vibration chapters of the Environmental Statement (NR16A, NR16B, NR16C) follow best practice. Section 8.2 of Volume 2i describes how noise and vibration impacts are assessed in an appropriate way considering EIA Regulations and Planning Policy.

2.1.2 Separate assessments have been undertaken for construction noise, construction vibration, operational noise and operational vibration. The approach to setting study areas, significance criteria and mitigation thresholds are consistent with other similar infrastructure schemes. The overall approach has been subject to consultation with the Local Planning Authorities.

2.1.3 The assessments calculate expected noise and vibration levels, identify receptors with potentially significant effects, and set out mitigation options for those locations.

2.2 Construction Noise Impacts and Mitigation

2.2.1 The key control for construction noise and vibration is the Code of Construction Practice (CoCP). It is intended that consent will be applied for under Section 61 of the Control of Pollution Act (NR52), and the application will set out the agreed expected noise and vibration levels and set upper limits for these.

2.2.2 Potentially significant noise effects were identified at receptors near Hillhouse Compound. To avoid these effects a 2m high 165m long noise barrier will be erected and 30 nearby receptors assessed for non-statutory noise insulation.

2.2.3 Existing noise insulation will be assessed at these 30 receptors, and non-statutory insulation will be offered where it is reasonably practicable to mitigate any residual significant effect.

2.2.4 With deployment of the CoCP, the noise barrier and acceptance of offers of non-statutory noise insulation there would be no significant adverse noise effects from construction activities associated with the Scheme. Adverse noise impacts would be expected at around 2000 receptors.

2.3 Construction Vibration Impacts and Mitigation

2.3.1 For people within buildings, significant adverse impacts are not expected, principally as vibration effects are expected to be short-term. Adverse vibration impacts potentially affect around 1000 receptors.

2.3.2 For structures, the ES identifies receptors with potential for vibration to exceed 12.5mm/s, the magnitude where the probability of cosmetic damage to buildings tends towards zero. An example of cosmetic damage is noted in BS5228-2 (NR72) as the initiation or extension of cracks in plasterwork.

2.3.3 Of receptors with vibration levels predicted to exceed 12.5mm/s, 9 would be affected by piling activities and 20 by compaction activities.

2.3.4 A programme of monitoring will be agreed to avoid damage to buildings. At certain locations an alternative piling method will be used to minimise the vibration impacts from piling.

2.4 Construction Traffic Impacts and Mitigation

2.4.1 Temporary potentially significant effects from road traffic noise occur, due to temporary diversions or construction traffic at some 1000 receptors, with effects from diversions (~600 receptors) lasting up to six months and effects from construction traffic (~400 receptors) lasting up to 2 years.

2.5 Temporary Operational Effects During Construction, Impacts and Mitigation

2.5.1 Taking into account the noise barrier and non-statutory noise insulation for Hillhouse Compound, significant adverse effects would not be expected from the use of the temporary Hillhouse Compound station or from bus replacement services operating in the evening and early morning.

2.6 Operational Railway Noise Impacts and Mitigation

2.6.1 Where significant adverse noise effects are predicted at groups of properties, noise attenuation will be provided in the form of eight trackside acoustic barriers, with an approximate combined total length 1.2 km. These will have a noise-absorptive finish on the track-facing side and typically be 2m high. In locations away from these barriers there are 22 receptors with significant adverse effects from the operation of the railway.

2.6.2 30 receptors also have potentially significant adverse effects from the operation of Hillhouse stabling sidings. These are the same receptors identified in the construction noise assessment and would have been

offered non-statutory noise insulation which would mitigate noise from the stabling sidings. The noise barrier here also mitigates this impact.

2.6.3 The noise barriers result in 47 fewer receptors with significant adverse daytime effects and 26 fewer with significant night-time effects. They also benefit other nearby receptors exposed to adverse effects, mitigating adverse effects at some 150 receptors.

2.6.4 Noise insulation will be offered at the 22 receptors with significant adverse effects but where noise barriers are not considered appropriate. Statutory noise insulation criteria are currently considered to be met at 10 receptors with two further receptors under the contiguous façade power in the Noise Insulation (Railways and Other Guided Transport Systems) Regulations 1996 (NR66).

2.6.5 There are 12 receptors with predicted significant adverse effects below the threshold for statutory noise insulation. Here, existing noise insulation will be assessed, and non-statutory insulation offered where it is reasonably practicable to mitigate any residual significant impacts.

2.6.6 With the noise barriers and acceptance of offers of noise insulation there would be no significant adverse noise effects from the operation of the Scheme.

2.7 Operational Railway Vibration Impacts and Mitigation

2.7.1 There would be no significant adverse vibration or groundborne noise impacts from the Scheme.

2.8 Operational Road Traffic Noise Impacts and Mitigation

2.8.1 Four locations are identified where road realignments are required as part of the Scheme. Adverse and significant adverse effects are not expected at three of these realignments.

2.8.2 The realignment of Thornhill Road at Brooks Yard currently shows two receptors potentially meeting the criteria for statutory noise insulation with two further receptors under the contiguous façade power in the The Noise Insulation Regulations 1975 (NR53).

2.8.3 These four receptors and properties also meet the criteria for statutory railway noise insulation, and noise insulation at these properties would consider both sets of Regulations in determining the qualifying rooms and the offer of insulation.

2.8.4 Significant adverse effects would be avoided where offers of noise insulation are accepted.

2.9 Public Address System Noise Impacts and Mitigation

2.9.1 Significant adverse effects are not expected from the operation of public address systems, but there is potential for adverse effects at receptors near Deighton and Mirfield stations during the night.

3. RESPONSES TO SPECIFIC OBJECTORS

3.1 OBJ 24 – Rosemary Carr

3.1.1 Rosemary Carr has concerns about the potential impact on their properties.

3.1.2 During construction deployment of the CoCP would reduce construction noise impacts from works on Mirfield Viaduct below the threshold of significance and avoid potentially significant impacts.

3.1.3 When operational there would be negligible noise impacts, which are not considered significant.

3.2 OBJ 26 – Dr Reddy's

3.2.1 Dr Reddy's are concerned about vibration from the operation and construction of the Scheme affecting equipment in their laboratories.

3.2.2 No specific vibration sensitivity information is available from the manufacturers of the sensitive equipment. Dr Reddy's have indicated that they are able to operate their equipment successfully with the existing railway operations, and the existing vibration levels sets an acceptable vibration level.

3.2.3 During construction the highest vibration levels would occur during piling for the overhead gantries and ballast tamping. An alternative foundation strategy (pad foundations) would be employed for the overhead line gantries nearest to Dr Reddy's to ensure that vibration from piling is no higher than that from the existing trains or maintenance activities.

3.2.4 Dr Reddy's will be consulted about vibration producing activities during the construction of the Scheme to ensure that all parties are aware of risks and concerns.

3.2.5 The ES indicates that vibration levels due to the operation of the Scheme are expected to reduce slightly.

3.3 OBJ 33 – Kirklees Council

3.3.1 Kirklees Council raised several points about noise and vibration in their objection to the Scheme which are being resolved through collaborative effort in workshops between Network Rail and Kirklees Council and are dealt with in the Statement of Common Ground between the two parties.

3.4 OBJ 38 – Huddersfield Town AFC

3.4.1 Huddersfield Town AFC are concerned about potential noise impacts affecting the use of their playing fields.

3.4.2 There are potentially significant noise impacts during construction, but the duration is sufficiently short that the impact is not considered significant. Furthermore these works would mostly be undertaken at night when the playing fields are not expected to be in use.

3.4.3 Once operational the Scheme would result in minor increases in noise at the playing fields. These impacts are considered to be adverse but not significant.

3.5 OBJ 40 – West Yorkshire Combined Authority

3.5.1 West Yorkshire Combined Authority are concerned about the operation of Huddersfield Bus Station alongside vibration and structural damage during construction.

3.5.2 During construction of the Scheme neither adverse or significant adverse noise and vibration effects are expected at Huddersfield Bus Station.

4. WITNESS DECLARATION

4.1 Statement of declaration

4.1.1 My proof of evidence includes my declaration as an expert witness which also applies to my summary of my evidence.