

THE OXFORDSHIRE COUNTY COUNCIL (DIDCOT GARDEN TOWN HIGHWAYS INFRASTRUCTURE – A4130 IMPROVEMENT (MILTON GATE TO COLLETT ROUNDABOUT), A4197 DIDCOT TO CULHAM LINK ROAD, AND A415 CLIFTON HAMPDEN BYPASS) COMPULSORY PURCHASE ORDER 2022

THE OXFORDSHIRE COUNTY COUNCIL (DIDCOT TO CULHAM THAMES BRIDGE) SCHEME 2022

THE OXFORDSHIRE COUNTY COUNCIL (DIDCOT GARDEN TOWN HIGHWAYS INFRASTRUCTURE – A4130 IMPROVEMENT (MILTON GATE TO COLLETT ROUNDABOUT), A4197 DIDCOT TO CULHAM LINK ROAD, AND A415 CLIFTON HAMPDEN BYPASS) (SIDE ROADS) ORDER 2022

AND

THE CALLED-IN PLANNING APPLICATION BY OXFORDSHIRE COUNTY COUNCIL FOR THE DUALLING OF THE A4130 CARRIAGEWAY, CONSTRUCTION OF THE DIDCOT SCIENCE BRIDGE, ROAD BRIDGE OVER THE APPLEFORD RAILWAY SIDINGS AND ROAD BRIDGE OVER THE RIVER THAMES, AND ASSOCIATED WORKS BETWEEN THE A34 MILTON INTERCHANGE AND THE B4015 NORTH OF CLIFTON HAMPDEN, OXFORDSHIRE (APPLICATION NO: R3.0138/21)

**PLANNING INSPECTORATE REFERENCE:
APP/U3100/V/23/3326625 and NATTRAN/SE/HAO/286 (DPI/U3100/23/12)**

**Proof of evidence of
ANDREW JOHN PAGETT
(Noise and Vibration)**

Note: This proof of evidence is of primary relevance to the Inquiry into the called-in Planning Application, but also of relevance to the Inquiries in the Orders in relation to the Objections that make reference to noise impacts (Section 3 and, particularly, paragraphs 3.8-3.15 and 3.64-3.68)

1 INTRODUCTION AND QUALIFICATIONS

- 1.1 I am Andrew John Pagett and I am an Associate Director in Acoustics at AECOM, where I have worked for seven years. I have a Bachelor of Science with Honours degree in Music, Acoustics and Recording and am a Member of the Institute of Acoustics.
- 1.2 I have seventeen years' experience in acoustic consultancy. Currently I work predominantly in highways acoustics, leading work in support of the development of various road schemes, including Nationally Significant Infrastructure Projects.

Scope of Evidence

- 1.3 This proof of evidence has been prepared regarding acoustic impacts relating to:
 - 1.3.1 The called-in planning application by Oxfordshire County Council for the dualling of the A4130 carriageway, construction of the Didcot Science Bridge, road bridge over the Appleford Railway Sidings and road bridge over the River Thames, and associated works between the A34 Milton Interchange and the B4015 north of Clifton Hampden, Oxfordshire (Application No: R3.0138/21) (the **Planning Application**)
 - 1.3.2 The Oxfordshire County Council (Didcot Garden Town Highways Infrastructure – A4130 Improvement (Milton to Collett Roundabout), A4197 Didcot to Culham Link Road, and A415 Clifton Hampden Bypass) Compulsory Purchase Order 2022 (the **CPO**);
 - 1.3.3 The Oxfordshire County Council (Didcot to Culham Thames Bridge) Scheme 2022 (the **Bridge Scheme**); and
 - 1.3.4 The Oxfordshire County Council (Didcot Garden Town Highways Infrastructure– A4130 Improvement (Milton to Collett Roundabout), A4197 Didcot to Culham Link Road, and A415 Clifton Hampden Bypass) (Side Roads) Order 2022 (the **SRO**) (the CPO, Bridge Scheme and SRO taken together as referred to throughout as the **Orders**).
- 1.4 The Planning Application was submitted, and the Orders were made, to facilitate the delivery of the Access to Didcot Garden Town Highway Improvements (the **Scheme**) which consists of a highway scheme approximately 11 km in length, including converting 1.8 km of single carriageway to dual carriageway, 6.8 km of new single carriageway and approximately 20 km of new and/or improved off-carriageway cycling and pedestrian infrastructure. Connections into the existing public rights of way network will also be provided. The Scheme also includes three over bridges.
- 1.5 The Orders were made by Oxfordshire County Council in its capacity as acquiring authority (the **Acquiring Authority**) on 21 December 2022 and submitted to the Secretary of State for Transport on 26 January 2023.
- 1.6 The Planning Application was submitted by Oxfordshire County Council in its capacity as applicant (the **Applicant**) to Oxfordshire County Council in its capacity as Local Planning Authority (**LPA**) on 4 October 2021 and called-in by the Secretary of State for Levelling Up, Housing and Communities for his determination on 25 July 2023. Further detail on the planning history is given in Section 2 of this proof of evidence.
- 1.7 The Planning Application and the Orders are now due to be considered by an Inspector at conjoined Public Inquiries scheduled to open on 20 February 2024. This proof of evidence has been prepared in connection with those Inquiries.
- 1.8 The purpose of my evidence is to explain the noise and vibration assessments of the Scheme that have been undertaken, and to respond to concerns raised about the noise impacts of the Scheme.

- 1.9 My proof of evidence should be read in conjunction with other separate but interrelated proofs of evidence submitted on behalf of the Council, including:
- 1.9.1 Strategic Need and Benefits, Highway Issues, Scheme Selection and Alternatives, prepared by Aron Wisdom of Oxfordshire County Council;
 - 1.9.2 Local Transport and Connectivity Plan, prepared by John Disley of Oxfordshire County Council;
 - 1.9.3 Technical Traffic and Highways Engineering – A4130 Widening and Didcot Science Bridge, prepared by Andrew Blanchard of AECOM;
 - 1.9.4 Technical Traffic and Highways Engineering - Culham River Crossing and Clifton Hampden Bypass, prepared by Karl Chan of AECOM;
 - 1.9.5 Traffic Modelling, prepared by Claudia Currie of AtkinsRéalis;
 - 1.9.6 Environmental Impact Assessment, prepared by Alex Maddox of AECOM;
 - 1.9.7 Air Quality, prepared by Anna Savage of AECOM;
 - 1.9.8 Climate Change, prepared by Chris Landsburgh of AECOM;
 - 1.9.9 Landscape and Visual Impact, prepared by Jane Ash of AECOM;
 - 1.9.10 Planning, prepared by Bernard Greep of Stantec;
 - 1.9.11 Negotiations and Acquisition prepared by Steven Moon of Gateley Hamer; and
 - 1.9.12 Compulsory Purchase Justification prepared by Timothy Mann of Oxfordshire County Council.
- 1.10 I confirm that the evidence that I have prepared in respect of the Inquiries is given in accordance with the guidance of my professional institution and I can confirm that the opinions expressed are my true and professional opinions.

2 NOISE AND VIBRATION ASSESSMENT OVERVIEW

Background

- 2.1 A noise and vibration impact assessment was carried out as part of the Environmental Impact Assessment (**EIA**), which was reported in Chapter 10 of the Environmental Statement (**ES**) (CD A.15).
- 2.2 A revision to this chapter was submitted in April 2023 (CD C.1 Annex 4) to address the request from the Local Planning Authority (**LPA**) for further environmental noise information. The changes related to:
- the removal of the significant operational traffic noise adverse effect at the Premier Inn near Milton Interchange. In September 2021 a worst-case approach was adopted and a significant adverse effect identified at the hotel based on a moderate increase in traffic noise on the southern façade of the hotel. The Scheme is located to the north of the hotel. To the south is an access road associated with a proposed commercial development. The access road has full planning permission and the associated building has outline permission. Refinement of the traffic modelling of the access road within the proposed adjacent development resulted in a reduction in the magnitude of the traffic noise change at the Premier Inn to minor; and
 - provision of further information on the potential for additional noise mitigation in the vicinity of the receptors identified as experiencing a potentially significant adverse effect due to the operation of the Scheme.
- 2.3 The assessment was carried out in accordance with the current UK guidance for the assessment of the noise and vibration impacts from the construction and operation of road schemes, *The Design Manual for Roads and Bridges (DMRB) LA 111 (Revision 2) (DMRB LA 111)* (AP2.1) (CD C.1 Annex 4 paragraph 10.4.1).
- 2.4 Construction noise and operational traffic noise predictions were carried out using a 3D computer model of the Scheme and surrounding area (ES Appendix 10.4).

Construction Noise and Vibration

- 2.5 For the assessment of construction noise impacts, 21 noise sensitive receptors close to the Scheme were selected. These selected receptors are representative of neighbouring properties in their vicinity. By focusing on a selection of the closest identified potentially sensitive receptors, the reported impacts at these receptors are, therefore, typical of the worst affected receptors and all potentially significant effects are identified. The construction assessment was based on reasonable assumptions on the likely constructions works provided by a buildability advisor (CD C.1 Annex 4 paragraph 10.4.2).
- 2.6 Construction noise assessment criteria were defined using the ABC method described in *BS 5228:2009+A1:2014 (BS 5228)* (AP2.2), as required by DMRB LA 111 (CD C.1 Annex 4 paragraphs 10.4.3 and 10.4.4).
- 2.7 At this stage, a conservative approach has been taken to identifying significant adverse effects i.e., any exceedances of the noise/vibration criteria are assumed to potentially exceed the duration criteria applied to identifying significant effects, and the potential benefit of additional essential mitigation, such as site hoarding/enclosures for specific locations/activities/plant has not been included.
- 2.8 Significant adverse daytime construction noise effects are identified at the closest receptors to the construction works on the existing A4130, the existing minor access road between the A4130 on the northern edge of Didcot and the southern edge of Appleford, close to the Culham Science Centre and the north-east edge of Clifton Hampden. Significant evening and night-time construction noise effects are more widespread along the Scheme and relate to tie-in works and bridge works at the new Didcot Science Bridge and Appleford rail sidings bridge. However, the duration of the evening and night-time tie-in works and works at the two new bridges over existing railways is limited, at some locations the duration is anticipated to be below the DMRB LA 111 criterion of 10 or more working days (or evenings/weekends or nights) in any 15 consecutive days. In addition, a conservative approach to tie-in works has been taken, and at some locations there is

- potential for the works to be carried out during the daytime (CD C.1 Annex 4 paragraphs 10.10.1 to 10.10.8).
- 2.9 Construction vibration assessment criteria were defined based on the guidance contained in BS 5228 and *BS 7385-2:1993 (AP2.3)* (CD C.1 Annex 4 paragraphs 10.4.12 to 10.4.18). Potentially significant construction vibration annoyance effects have been identified at approximately 15 residential buildings and two non-residential, potentially sensitive, buildings located close to works involving vibratory rollers (CD C.1 Annex 4 paragraphs 10.10.9 to 10.10.16).
- 2.10 Construction of the Scheme will be subject to measures and procedures as defined within the *Outline Environmental Management Plan (OEMP)* (CD A.17 Appendix 4.2) for the Scheme. As part of the OEMP, (secured by way of planning conditions to be discharged), a specific *Noise and Vibration Management Plan (NVMP)* will be developed. The NVMP will include relevant noise criteria, proposed surveys, a range of Best Practicable Means (**BPM**) to be adopted, and specific localised mitigation such as temporary site hoardings or noise barriers, with the aim of avoiding significant adverse effects. Additionally, as discussed in paragraph 2.8 above, some evening and nighttime works may not exceed the duration criteria, thereby removing the significant adverse effect. However, there is the potential for some significant temporary adverse noise and/or vibration effects to remain though the magnitude and duration is likely to be reduced.
- 2.11 The traffic noise impact of the addition of construction traffic onto the local road network has been assessed based on the change in the *Calculation of Road Traffic Noise (CRTN)* (AP2.4) 18-hour 'Basic Noise Level' (**BNL**). No significant adverse traffic noise effects are anticipated due to the addition of construction traffic to the existing local road network (CD C.1 Annex 4 paragraphs 10.4.6, 10.4.7, and 10.10.17 to 10.20).

Operational Noise and Vibration

- 2.12 Operational vibration was scoped out of the assessment methodology as a maintained road surface will be free of irregularities as part of project design and under general maintenance, so operational vibration will not have the potential to lead to significant adverse effects (CD C.1 Annex 4 paragraph 10.10.8).
- 2.13 As required by DMRB LA 111, the operational traffic noise modelling was completed using the Calculation of Road Traffic Noise (**CRTN**) prediction method (CD C.1 Annex 4 paragraphs 10.4.23 to 10.4.30).
- 2.14 Significant effects were identified following the guidance in DMRB LA 111. The guidance requires that, first, the magnitude of the traffic noise impact in the short term (i.e., comparing traffic noise levels in the opening year with and without the Scheme) and long-term (i.e., comparing traffic noise levels in the opening year without the Scheme with levels 15 years after opening with the Scheme in operation), is classified according to Table 1 below, based on the façade which experiences the greatest magnitude of noise change (beneficial or adverse).

Table 1 Magnitude of traffic noise impacts

Short-term change		Long-term change	
Noise level change (rounded to 0.1 dB) L _{A10,18h} dB	Magnitude of impact	Noise level change (rounded to 0.1 dB) L _{A10,18h} dB	Magnitude of impact
0	No change	0	No change
0.1 – 0.9	Negligible	0.1 – 2.9	Negligible
1.0 – 2.9	Minor	3.0 – 4.9	Minor
3.0 – 4.9	Moderate	5.0 – 9.9	Moderate
5.0+	Major	10.0+	Major

- 2.15 An initial assessment of significance is made based on the magnitude of impact in the short term. Negligible changes will not give rise to significant effects. Moderate and major changes are initially considered to be significant. However, for minor, moderate or major changes, a range of additional factors are considered in identifying significant effects, including whether the magnitude of change is close to the minor/moderate boundary, the magnitude of change in the long term, the absolute noise level relative to the Significant Observed Adverse Effect Level (**SOAEL** – see paragraphs 2.28 to 2.30), the location of noise sensitive parts of a receptor, the acoustic context and the likely perception of change by residents (CD C.1 Annex 4 paragraph 10.4.42).
- 2.16 The initial study area for the detailed operational noise assessment comprised the area within 600 m of the Scheme and routes bypassed by the Scheme. However, all links in the Paramics traffic model are considered as part of the assessment, initially using a spreadsheet calculation looking at the BNL to identify 'affected routes' (with at least a minor change in BNL). As two 'affected routes' were identified, which extend outside of the initial 600 metre area (the A415 and B4015 to Golden Balls (A4074) east of the Scheme), the detailed assessment study area was extended to include these (CD C.1 Annex 4 paragraphs 10.6.4 to 10.6.10).
- 2.17 The Scheme operation is anticipated to result in reductions in traffic noise levels along existing roads that are bypassed by the Scheme, including at individual properties along the existing minor roads to the east and west of the Scheme through the villages of Sutton Courtenay, Culham and Long Wittenham, and the A415 east of Culham Station and the A415 and B4015 in Clifton Hampden. In addition, the Scheme results in a reduction in traffic noise along the A415 to the east of Clifton Hampden through the village of Burcot, and in the centre of Appleford at facades of properties facing onto the B4016, both of which experience a reduction in traffic with the Scheme in operation (CD C.1 Annex 4 paragraphs 10.10.29 and 10.10.39).
- 2.18 Overall, more properties experience a reduction in noise levels than an increase, with 1862 residential properties predicted to experience a minor, moderate or major decrease in the short term (341 in the long term) compared with 187 an increase (181 in the long term), based on the façade with the greatest magnitude of change (CD C.1 Annex 4 paragraphs 10.10.29 and 10.10.35).
- 2.19 At 746 residential properties which are close to the roads in these areas, a significant beneficial effect has been identified. Significant beneficial effects are also identified at 10 non-residential sensitive receptors (CD C.1 Annex 4 table 10.4).
- 2.20 At 38 residential properties and one non-residential sensitive receptor, a significant adverse effect has been identified (CD C.1 Annex 4 table 10.4).
- 2.21 Embedded mitigation has been incorporated into the alignment of the Scheme and additional mitigation included in the form of low noise surfacing and noise barriers at key locations, to avoid or reduce the magnitude of significant adverse effects (CD C.1 Annex 4 section 10.9).
- 2.22 A preliminary consideration of properties that may qualify for noise insulation works under the Noise Insulation Regulations 1975 has identified two residential buildings as potentially qualifying: Hill Farm and Hartwright House. Both of these are located on the Didcot to Culham River Crossing section of the Scheme, between Didcot and Appleford. The Scheme follows the alignment of the existing access route to the properties. Mitigation in the form of low noise surfacing is included in the Scheme. In this area, the speeds are below the 75 km/hr cut off adopted in the DMRB LA 111 methodology for assuming a benefit from low noise surfacing. The sensitivity test to estimate the likely benefit of low noise surfacing indicates some reduction in traffic noise levels is likely, however, this will not be sufficient to remove qualification for noise insulation (CD C.1 Annex 4 paragraph 10.10.77).
- 2.23 When the Scheme is not included, the Applicant's traffic consultants advised that the traffic model reaches gridlock before the future assessment year in 2039, due to the large number of developments in the area. Therefore, it is not possible to provide meaningful traffic data for the "without Scheme" 2039 future assessment year scenario. Accordingly, when considering the long-term change from the opening year (2024) without the

Scheme to the future year (2039) with the Scheme, it must be borne in mind that some change in traffic noise levels will occur regardless of the Scheme. For example, on existing roads where an increase in traffic noise is predicted some of the increase may occur even without the Scheme (CD C.1 Annex 4 section 10.5).

National Planning Policy

- 2.24 The Scheme's compliance with national planning policy complements, but is separate to, the environmental impact assessment discussed above. Environmental Impact Assessment focuses primarily on the likely significant adverse effects of a proposed development; in other words, an assessment that considers change (see above). In addition, however, national planning policy has introduced concepts of significance in terms of absolute noise levels relating to health and quality of life. The ES considered both concepts of significance. The discussion below relates to significance in terms of absolute levels, in line with national planning policy.

The National Planning Policy Framework

- 2.25 Paragraph 191 of the NPPF (December 2023) sets out the Government's planning policies for England and how these are expected to be applied. The NPPF states that:
- "Planning policies and decisions should ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*
- a) *mitigate and reduce to a minimum, potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;*
- b) *identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; ..."*
- 2.26 With regard to 'adverse impacts' and 'significant adverse impacts', the NPPF refers in footnote 69 to the Noise Policy Statement for England (**NPSE**).

The Noise Policy Statement for England

- 2.27 The NPSE (AP2.5) sets out the government's Noise Policy Vision to: "*Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development*". The long-term vision is supported by the Noise Policy Aims (the Aims): "*Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:*
- *avoid significant adverse impacts on health and quality of life;*
 - *mitigate and minimise adverse impacts on health and quality of life; and*
 - *where possible, contribute to the improvement of health and quality of life."*
- 2.28 The NPSE identifies the concepts of both a Significant Observed Adverse Effect Level (**SOAEL**), the level above which significant adverse effects on health and quality of life occur, and also a Lowest Observed Adverse Effect Level (**LOAEL**), the level above which adverse effects on health and quality of life can be detected.
- 2.29 The NPSE recognises that "*it is not possible to have a single objective noise-based measure that is mandatory and applicable to all sources of noise in all situations*" (para. 2.15). The levels are likely to be different for different noise sources, for different receptors and at different times of the day.

Planning Practice Guidance on Noise

- 2.30 The web-based resource *Planning Practice Guidance on Noise (PPG-N)* supports the NPPF. The PPG-N provides additional details on the concepts of LOAEL and SOAEL in

terms of the perception of noise at each level, example outcomes due to noise at each level, and the action which should be considered at each level. Table 2 below represents the perceptions of noise at each level, as identified in the PPG-N:

Table 2 Planning Practice Guidance on Noise – Noise Exposure Hierarchy

Response	Examples of outcomes	Increasing effect level	Action
No Observed Effect Level			
Not present	No Effect	No Observed Effect	No specific measures required
No Observed Adverse Effect Level			
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g., turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Present and disruptive	The noise causes a material change in behaviour, attitude or other physiological response, e.g., avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g., regular sleep deprivation/awakening, loss of appetite, significant, medically definable harm, e.g., auditory and non-auditory.	Unacceptable Adverse Effect	Prevent

- 2.31 In relation to the Scheme, the LOAEL and SOAEL for construction and operational noise, and construction vibration, have been set using the guidance in DMRB LA 111 (CD C.1 Annex 4 paragraphs 10.10.4, 10.4.13 10.4.34 to 10.4.39).
- 2.32 With regard to identifying sustainable noise mitigation measures, various factors have been considered – these include the nature/source of the adverse effect to be mitigated, the circumstances of the receptor, the cost versus the benefit, engineering practicality, safety considerations, generation of knock-on impacts (such as access issues, vegetation clearance, ecological impacts, landscape and visual impacts), and consultation and stakeholder engagement responses regarding the Scheme (CD C.1 Annex 4 paragraph 10.4.47).

During construction and operation, the Scheme complies with the three aims as set out in the NPSE, within the context of government policy on sustainable development. To maintain consistency with DMRB LA 111, the terminology used in the discussion of policy compliance refers to adverse effects rather than impacts (CD C.1 Annex 4 paragraph 10.4.44).

Construction Noise and Vibration

- 2.33 Predicted construction noise levels at each receptor are shown in CD A.17 (Appendix 10.3).
- 2.34 With regard to the first Aim - *avoid significant adverse impacts on health and quality of life* - a significant adverse effect is predicted at a small number of individual receptors or small groups of receptors, which are those closest to the Scheme construction works. At this stage, a conservative approach has been taken i.e., any exceedances of the noise/vibration criteria are assumed to potentially exceed the duration criteria applied to identifying significant effects, and the potential benefit of additional essential mitigation, such as site hoarding/enclosures for specific locations/activities/plant, has not been included.
- 2.35 The assessment identifies a range of mitigation measures which constitute 'Best Practicable Means' of construction. In addition, the construction contractor will review the proposed working methods to consider all sustainable mitigation measures, including identifying locations / activities / plant where site hoarding / enclosures will be installed, with the aim of avoiding significant noise and vibration effects. These measures are set out within the *Outline Environmental Management Plan (OEMP)* (CD A.17 Appendix 4.2), which will be developed into a *Construction Environmental Management Plan (CEMP)* (secured by way of planning conditions to be discharged), to include a specific *Noise and Vibration Management Plan (NVMP)*. The number of receptors close to the construction works identified as potentially experiencing a significant adverse construction noise effect is, therefore, likely to reduce. However, there is the potential for some significant temporary adverse noise and/or vibration effects to remain, though the magnitude and duration is likely to be reduced. This is acceptable in the context of sustainable development as factors including engineering practicality, cost versus benefit etc., must also be considered. On this basis, in the context of sustainable development, the first aim of the NPSE will be met during Scheme construction (CD C.1 Annex 4 paragraphs 10.10.49 to 10.10.51).
- 2.36 With regard to the second Aim - *mitigate and minimise adverse impacts on health and quality of life* - following a conservative approach, adverse effects are predicted at a range of receptors (CD C.1 Annex 4 paragraph 10.10.52). The construction contractor will review the proposed working methods to consider all sustainable mitigation measures with the aim of mitigating and reducing to a minimum construction noise and vibration effects. The mitigation measures will be applied throughout the Scheme construction works, not just in the vicinity of significant adverse effects and, therefore, will benefit all receptors. The magnitude and duration of the adverse construction effects is therefore likely to be reduced, however some adverse effects will remain. Adverse construction effects are acceptable in the context of sustainable development as factors including engineering practicality, cost versus benefit etc. must also be considered. With the effective implementation of the identified mitigation and minimisation measures, the second NPSE aim will be met during Scheme construction.

2.37 With regard to the third Aim - *where possible, contribute to the improvement of health and quality of life* - construction, by its nature, introduces a new noise or vibration source into the existing environment and is temporary in duration. Therefore, the opportunities to improve existing noise levels during the Scheme construction phase are very limited (CD C.1 Annex 4 paragraph 10.10.53).

Operational noise

- 2.38 When considering whether noise levels at a receptor are at or above the LOAEL and/or SOAEL, all facades are considered, and the highest noise level on any façade used in the assessment. This is different to the consideration of magnitude of impact for the EIA, which uses the value on the façade that experiences the greatest magnitude of change, as described in paragraph 2.14. The façade with the greatest magnitude of change reported for the EIA may, therefore, not be the façade with the highest noise level. The change on the façade causing the LOAEL/SOAEL exceedance can often be smaller, or even in the opposite direction (e.g., a decrease instead of an increase) to the change on the façade with the greatest magnitude of change.
- 2.39 With regard to the first Aim of the NPSE (i.e., avoiding significant adverse effects on health and quality of life, which occur at noise levels above the SOAEL), in the opening year of 2024:
- 153 properties would experience road traffic noise levels above the SOAEL both with and without the Scheme. These are at residential buildings in close proximity to existing roads.
 - 160 properties that would experience levels above the SOAEL in the opening year without the Scheme would no longer do so with the Scheme in place, i.e., the Scheme would avoid these effects. These are located in close proximity to existing roads, which are bypassed by the Scheme.
 - 11 properties are predicted to experience road traffic noise levels above the SOAEL with the Scheme in place, where they would not do so without the Scheme.
- 2.40 These 11 properties are located on existing roads, not close to the Scheme, where noise levels are already close to or above the SOAEL. Detailed interrogation of the noise modelling results reveals that:
- Seven are located on the existing A4130 away from the Scheme in Didcot, where the noise levels at the majority of properties would be over the SOAEL with or without the Scheme. Small (negligible) changes take these properties from just below to just above the SOAEL.
 - Three are located within Foxhall Manor Park off Basil Hill Road, Didcot:
 - At one property, the EIA magnitude of change is “minor decrease”, but a small (negligible) increase on another façade takes the property from just below to just above the SOAEL.
 - At one property, the EIA magnitude of change is “minor decrease”, but a small (minor) increase on another façade takes the property from just below to just above the SOAEL. This minor increase could be considered a significant adverse effect, however, when considering the context (remote from the Scheme, residents unlikely to perceive the change), the effect was considered “not significant”.
 - at one property the EIA magnitude of change is “minor increase”, which takes the property from just below to just above the SOAEL. This minor increase could be considered a significant adverse effect, however, when considering the context (remote from the Scheme, residents unlikely to perceive the change), the effect was considered “not significant”.
 - One is located on the existing A415 towards Abingdon, away from the Scheme, and a small (negligible – not significant) change takes this property from just below to just above the SOAEL.

- 2.41 Overall, of these 11 properties, none are considered to experience significant adverse (EIA) effects due to the Scheme, and all have small increases in the maximum noise level experienced (1.2 dB worst case). The introduction of noise mitigation measures such as noise barriers along existing roads away from the Scheme to mitigate small (non-significant) increases in traffic noise at a very small number of properties is not considered to be in line with the principle of sustainable development (CD C.1 Annex 4 paragraph 10.10.61).
- 2.42 Likewise, the 153 residential properties that are above the SOAEL both with and without the Scheme in operation (i.e., where the exceedance of the SOAEL is not due to the Scheme), are located in close proximity to existing roads. Detailed interrogation of the noise modelling results reveals that based on the façade with the greatest magnitude of change in the opening year:
- 31 properties are predicted to experience a moderate decrease (3.0 to 4.9 dB), all of which are considered to experience a significant benefit due to the Scheme.
 - 15 properties are predicted to experience a minor decrease (1.0 to 2.9 dB).
 - 104 properties are predicted to experience negligible change or no change (-0.9 to +0.9 dB).
 - 3 properties are predicted to experience a minor increase (1.0 to 2.9 dB), two of which are considered to experience a significant adverse effect due to the Scheme, when considering the long-term change in traffic noise levels.
- 2.43 Overall, whilst the Scheme does not result in noise levels at these properties being brought below the SOAEL, considerably more properties are predicted to experience a decrease in traffic noise levels than an increase (46 compared with 3), on the façade with the greatest magnitude of change in the opening year. Noise barriers along existing roads away from the Scheme to further reduce noise levels or mitigate small increases in noise levels are not considered to be a practicable option due to the need to maintain access into the properties (CD C.1 Annex 4 paragraph 10.10.60).
- 2.44 In the “with Scheme” scenario, the increase in traffic flows from 2024 to 2039 results in an overall increase in the number of residential buildings that are above the SOAEL, with 225 in 2039 compared to 164 in 2024. In the absence of the “without Scheme” future year traffic model (as explained in Paragraph 2.23) we cannot say how many of the 61 properties predicted to exceed the SOAEL in the “with Scheme” scenario in the future year are due to the Scheme, and how many would have done so anyway in the “without Scheme” scenario in the future year. In this regard, having the future year “without Scheme” model could only result in reporting fewer exceedances of the SOAEL in the future year “with Scheme” scenario. However:
- The majority are located away from the Scheme mainly in Didcot and Sutton Courtenay and are, therefore, not directly related to the Scheme. Noise barriers along existing roads away from the Scheme are not considered to be a practicable option due to the need to maintain access into the properties (CD C.1 Annex 4 paragraph 10.10.62).
 - A small number are also located on the B4015 between the Scheme and the A4074 (Rough Lodge and Golden Balls), which is anticipated to undergo a significant increase in traffic due to housing growth in the future year only, increasing traffic noise levels to slightly over the SOAEL. Noise barriers are not considered to be a sustainable option at these properties as the effect is limited to a small number of individual properties remote from the Scheme and the increase in traffic noise is due to anticipated traffic growth on the B4015 from other developments in the area, not the Scheme directly, therefore mitigation within the Scheme design would not change the impact at these properties (CD C.1 Annex 4 paragraph 10.10.64).
 - Two are located on the Scheme between Didcot and Appleford (Hill Farm and Hartwright House). In this area the speed limit is 30 mph, and a lower speed limit is not considered practicable. Low noise surfacing has been included on this section of the Scheme. Barriers are not considered to be a practicable option due to the need to maintain access into the properties (CD C.1 Annex 4 paragraph 10.10.63).

- 2.45 Based on the above discussion the first NPSE Aim to avoid exceedances of the SOAEL as a result of the Scheme, within the context of sustainable development, has been met (CD C.1 Annex 4 paragraphs 10.10.59 to 10.10.65).
- 2.46 With regard to the second Aim of mitigating and reducing adverse effects, additional mitigation (in the form of noise barriers and low noise surfacing) is included in the Scheme (ES Figure 10.1).
- 2.47 Mitigation has been considered within the context of sustainable development. This includes consideration of the nature/source of the adverse effect to be mitigated, the circumstances of the receptor, the cost versus the benefit, engineering practicality, safety considerations, generation of knock-on impacts (such as access issues, vegetation clearance, ecological impacts, landscape and visual impacts), and consultation and stakeholder engagement responses regarding the Scheme.
- 2.48 Additional mitigation has been explored. For example, where noise barriers are included, increasing the height was considered, but the heights included in the Scheme design were concluded to be an appropriate balance between noise and landscape/visual impacts, noting the small additional benefit of increased barrier heights. Likewise, increasing barrier extents would not give appreciable noise benefits. Additional barriers were considered, however no locations where they would be feasible and provide appreciable benefit were identified. False cuttings were explored and concluded to not be practicable, predominantly due to historic land use as landfill (Appleford), and inadequate space. Lower speed limits were considered but concluded to not support the achievement of the Scheme objectives and would be difficult to police without active enforcement (CD C.1 Annex 4 paragraphs 10.10.66 to 10.10.74).
- 2.49 As no areas where additional mitigation would be appropriate, within the context of sustainable development, have been identified, it is therefore considered that the second Aim of the NPSE has been met (CD C.1 Annex 4 paragraph 10.10.75).
- 2.50 With regard to the third NPSE Aim to '*contribute to the improvement of health and quality of life*', the Scheme results in reductions in traffic noise levels along existing roads that are bypassed by the Scheme, with considerably more properties predicted to experience a minor, moderate or major decrease in traffic noise levels than an increase, in both the short and long term (1862 vs 187 residential buildings in the short term and 341 vs 181 in the long term) (CD C.1 Annex 4 paragraphs 10.10.26 and 10.10.33). On this basis, the third NPSE Aim has been met (CD C.1 Annex 4 paragraph 10.10.76).
- 2.51 Overall, given the above discussion, it is my professional view that within the context of sustainable development, adequate mitigation has been provided to avoid significant adverse effects, mitigate and minimise adverse effects, and contribute to the improvement of health and quality of life. Considerably more properties are expected to avoid existing exceedances of the SOAEL, than are expected to experience new exceedances of the SOAEL due to the Scheme. Considerably more properties are expected to experience a decrease in road traffic noise levels than an increase, with the Scheme in place. Therefore, it is my professional view that the requirements of the NPSE and NPPF have been met.

Local Planning Policy

Vale of White Horse District Council (VoWHDC)

- 2.52 Development Policy 23: Impact of Development on Amenity of the Local Plan 2031 Part 2 Detailed Policies and Additional Sites (CD G.2.7) states:

"Development proposals should demonstrate that they will not result in significant adverse impacts on the amenity of neighbouring uses when considering both individual and cumulative impacts, in relation to the following factors: ...

iii) noise or vibration; ..."

2.53 This policy aligns with the first aim of the NPSE, to avoid significant adverse effects on health and quality of life. A discussion of how the Scheme meets this aim, within the context of the Government policy on sustainable development is set out in paragraphs 2.38 to 2.45 above. Given this alignment, it is my professional view that the requirements of Development Policy 23 has been met.

2.54 Development Policy 25: Noise Pollution states:

"Noise-generating development that would have an impact on environmental amenity or biodiversity will be expected to provide an appropriate scheme of mitigation that should take account of:

- *the location, design and layout of the proposed development*
- *existing levels of background noise*
- *measures to reduce or contain generated noise, and*
- *hours of operation and servicing.*

Development will not be permitted if mitigation cannot be provided within an appropriate design or standard."

2.55 As set out in the discussion of compliance with national planning policy in paragraphs 2.33 to 2.50 above, it is my professional view that an appropriate scheme of mitigation measures, within the context of sustainable development, has been provided, and no areas where additional mitigation would be appropriate have been identified. The Scheme location (alignment) and design is considered (CD C.1 Annex 4 paragraphs 10.9.6 to 10.9.8), and measures to reduce noise are included, such as the choice of speed limit (CD C.1 Annex 4 paragraph 10.9.9 and 10.10.63 to 10.10.74), acoustic barriers and low noise surfacing (CD C.1 Annex 4 paragraph 10.9.12, 10.9.13 and 10.10.63 to 10.10.74). The requirements of VoWHDC Development Policy 25 have been met.

South Oxfordshire District Council (SODC)

2.56 Policy ENV12: Pollution – Impact of Development on Human Health, the Natural Environment and/or Local Amenity (Potential Sources of Pollution) of the South Oxfordshire Local Plan 2035 adopted in December 2020 (CD G.1) states:

"1. Development proposals should be located in sustainable locations and should be designed to ensure that they will not result in significant adverse impacts on human health, the natural environment and/or the amenity of neighbouring uses.

2. The individual and cumulative impacts of development on human health, the natural environment and/or local amenity will be considered when assessing development proposals.

3. The consideration of the merits of development proposals will be balanced against the adverse impact on human health, the natural environment and/or local amenity, including the following factors:

noise or vibration; ..."

2.57 Policy DES6: Residential Amenity states:

"1. Development proposals should demonstrate that they will not result in significant adverse impacts on the amenity of neighbouring uses, when considering both individual and cumulative impacts, in relation to the following factors: ...

iii) noise or vibration; ..."

2.58 These policies align with the first aim of the NPSE, to avoid significant adverse effects on health and quality of life. A discussion of how the Scheme meets this aim, within the

context of the government policy on sustainable development is set out in paragraphs 2.38 to 2.45 above. Given this alignment, it is my professional view that the requirements of ENV12 and DE6 have also been met.

Summary

- 2.59 In the preceding paragraphs I have set out how the ES has shown that the Scheme is expected to result in considerably more beneficial and significant beneficial effects, than adverse and significant adverse effects. Considering both national and local planning policy, I have also demonstrated within this section how, within the context of sustainable development, adequate mitigation has been provided, and that the requirements of both national and local planning policies have been met, particularly the Aims as set out in the NPSE.

3 RESPONSE TO CONCERN ABOUT NOISE

- 3.1 In this section I respond to concerns about the noise impacts of the Scheme that have been raised by those who have submitted representations to the called-in Planning Application (the **Representations**) and those who have submitted objections to the Orders (the **Objections**).

Summary of Noise and Vibration Impacts in Appleford

- 3.2 A number of Representations and Objections have been raised in respect of noise and vibration concerns in the village of Appleford. I start by summarising the noise and vibration impacts in Appleford more generally, before turning to deal with specific points raised.
- 3.3 With regard to construction noise, the ES identified that there will be some adverse noise and vibration effects (including some significant) at receptors in Appleford, but they will be temporary, and Best Practicable Means of construction will be employed to reduce impacts as far as practicable (CD C.1 Annex 4 paragraph 10.10.5, receptors R8, R9 and R10).
- 3.4 With regard to operational noise, for illustration, an extract from Figure 10.5 (CD C.1 Annex 4 Figure 10.5) is shown in Figure 1 below, illustrating the short-term change in road traffic noise levels due to the Scheme (2024 without Scheme to 2024 with Scheme):

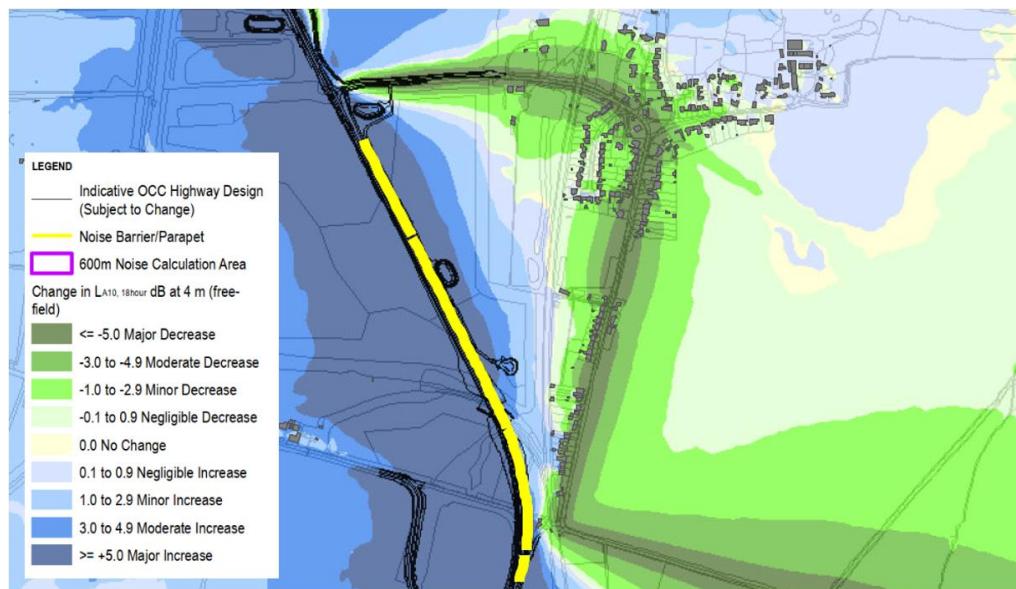


Figure 1 Short Term Change in Traffic Noise Levels (2024 without Scheme to 2024 with Scheme) – Appleford

- 3.5 The impacts and effects can be summarised as follows:

- 79 properties in Appleford are identified as experiencing a likely significant beneficial effect due to a reduction in traffic noise levels on the B4016 Main Road.
- 19 properties at the south end of Appleford are identified as experiencing a likely significant adverse effect due to increases in traffic noise levels on the west elevations (facing the Scheme). This was a conservative approach as many of these properties are predicted to experience benefits of a similar magnitude on the east elevation (facing the B4016 Main Road). A further standalone property also to the south of village was identified as experiencing a significant adverse effect due to increased traffic noise levels on the west elevation (but in contrast, no similar magnitude decrease to the east).
- At the remaining receptors (residential properties and 2 community facilities) within Appleford significant adverse effects were not identified. The reduction in traffic on

the B4016 through the centre of Appleford, combined with a contribution from the Scheme results in a negligible change or minor increases and decreases in traffic noise at these receptors in both the short term and long-term (CD C.1 Annex 4 paragraphs 10.10.29 and 10.10.35 and Table 10.14).

3.6 With regard to compliance with the Aims of the NPSE, during operation:

- First Aim – all properties within Appleford which would experience noise levels above the SOAEL without the Scheme in the opening year are predicted to no longer do so with the Scheme in place. No new exceedances of the SOAEL due to the Scheme are identified within Appleford. On this basis, the requirements of the first aim are met (CD C.1 Annex 4 paragraph 10.10.59).
- Second Aim – there are 19 properties in Appleford where traffic noise levels are between the LOAEL and SOAEL, but significant increases are predicted. Whilst the reduction in traffic through the centre of Appleford results in major decreases in traffic noise levels on the eastern facades, the introduction of the Scheme results in minor, moderate and major increases on the west facades at these properties. Mitigation in the form of low noise surfacing on the Scheme and a 3-metre barrier along the Scheme is proposed in the vicinity of this location. Additional mitigation options were explored, but in the context of sustainable development these were not considered appropriate. Increasing the barrier height to 4 metres was considered but 3 metres was concluded to be an appropriate balance between noise and landscape/visual impacts, noting that the additional benefit of a 4-metre barrier is limited at up to around 1 dB. Extending the barrier northwards or southwards would not provide appreciable noise benefits. The speed limit on this section of the Scheme is 50 mph, in general lower traffic speeds result in lower traffic noise levels, although the benefit of low noise surfacing also reduces at lower speeds. The Scheme speed limit is 50 mph in some locations to support achievement of the Scheme objectives. In this location a false cutting is not feasible due to a historic landfill site and the vertical clearance required at the rail sidings. On the basis of the above discussion, no additional mitigation, beyond that included in the Scheme, is considered appropriate in this location in the context of sustainable development, and the requirements of the second Aim are therefore met (CD C.1 Annex 4 paragraph 10.10.69).
- Third Aim – a reduction in traffic noise level is anticipated at properties in the centre of Appleford as a result of the reduction in traffic on the B4016 Main Road when the Scheme is in operation. Within the village overall, 79 properties are predicted to experience a significant beneficial effect. Therefore, the requirements of the third aim have been met (CD C.1 Annex 4 paragraph 10.10.76).

3.7 A preliminary consideration of properties which may qualify for noise insulation works under the Noise Insulation Regulation 1975 did not identify any properties within Appleford likely to qualify (CD C.1 Annex 4 paragraph 10.10.77).

Specific Representations and Objections concerning Appleford

Appleford Parish Council

3.8 Appleford Parish Council (**APC**) submitted an Objection to the Orders on 20 March 2023 (the **APC Orders Objection**) (CD J.11). Assertions are made regarding the noise impact of the Scheme. I have identified these with italics and bold text and respond to the points below.

Noise Impacts

“...noise will impact the entire village” (Page 2)

“The road will cause pollution in terms of noise and emissions damaging to local health and well-being” (Page 2)

3.9 The noise impacts on the village are discussed in the paragraphs 3.3 to 3.7 above. In summary, considerably more properties are predicted to experience beneficial effects

than adverse effects. Although 19 properties are identified as experiencing a significant adverse effect, this was a conservative approach as many of these properties are predicted to experience benefits of a similar magnitude on the east elevation (facing the B4016 Main Road).

"Appleford level crossing and sidings is a 'Noise Important Area' area (Defra RI_564) and an elevated road will exacerbate noise issues – traffic noise and bridge vibration (ref. Addendum A)" (Page 2)

- 3.10 This Noise Important Area (NIA) only encompasses the closest property to the rail sidings, as illustrated on the extract from ES Figure 10.1 shown in Figure 2 below (which identifies the NIA by reference to the marker RI_564) and relates to rail noise only. In accordance with paragraph 3.1 of the *Defra Noise Action Plan: Railways (2019)*, it is the rail operator's duty (not the highway authority's) to address noise levels in this NIA. The Action Plan states "*The responsibility for the management of noise from railway sources lies with various authorities. The Department for Transport (DfT) has ultimate responsibility for ensuring that the measures set out in this plan to manage rail noise are implemented, but relies on experts to do the work on its behalf, including the Rail Safety and Standards Board and others in the rail industry. The implementation of this Action Plan forms part of their existing responsibilities in this area.*"
- 3.11 The Scheme is unlikely to adversely affect rail noise. Paragraph 10.7.15 states that as this NIA relates to rail noise it is not considered further in the assessment.

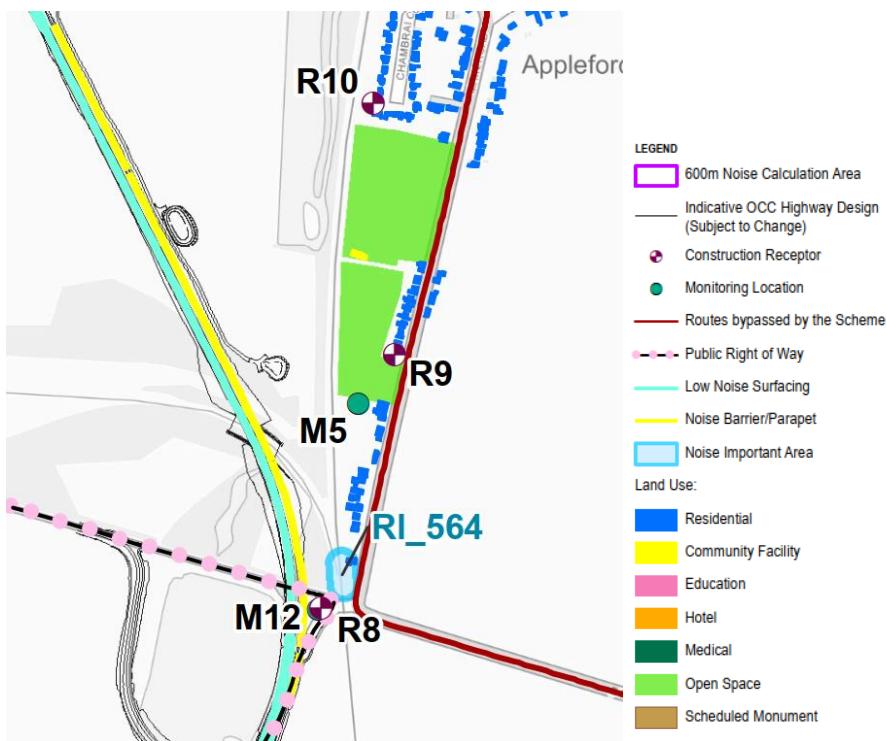


Figure 2 Location of Appleford NIA (RI_564)

Noise Measurement

"Noise measurement is inadequate (i.e., on local roads)" (Page 2)

- 3.12 Noise measurement (monitoring) is used as part of the validation of the 3D computer acoustic model (the model) used for the road traffic noise predictions. The Calculation of Road Traffic Noise (CRTN) methodology employed by the prediction software was comprehensively verified on first publication using data from other 2000 monitoring positions and has been used successfully on a large number of road schemes since its publication, many of which include a comparison of predicted road traffic noise levels against the results of a baseline noise survey to demonstrate the noise modelling process is producing reasonable results. More recent research has also demonstrated a good

correlation of CRTN predicted traffic noise levels against field measurements beyond the originally defined 300 metres. At locations where road traffic noise is the dominant noise source the comparison of measured baseline and predicted road traffic noise levels demonstrated a good match (CD C.1 Annex 4 paragraphs 10.7.16-10.7.21). Therefore, the noise monitoring carried out is considered adequate for the validation exercise.

Analysis of Vehicle Type

"there is no analysis of vehicle type or routing" (Page 2 / 3)

- 3.13 The noise impact assessment is based on the results of acoustic modelling, which is itself based on the traffic model for the Scheme. Vehicle type (percentage heavy duty vehicles) is considered, as is vehicle routing (in part covered in CD C.1 Annex 4 paragraph 10.4.28).

Compliance with NPPF

"Noise – the scheme fails to comply with NPPF (para 185) and SODC policies ENV12(3) & DE26" (Page 4)

- 3.14 Compliance with the NPSE as referred to in the NPPF is discussed in paragraph 3.6 above (specifically in relation to Appleford) and in paragraphs 2.33 to 2.50 above (in relation to the Scheme as a whole). Compliance with SODC policies ENV12 and DE26 is discussed in paragraph 2.58 above.

Neighbouring Parish Council Joint Committee

- 3.15 The Neighbouring Parish Council Joint Committee (**NPCJC**) submitted an Objection to the Orders on 21 March 2023 (the **NPCJC Orders Objection**) (CD J.25). The APC Orders Objection makes reference to documents previously submitted by NPCJC, which are relevant to the Planning Application and form part of the Representations, namely the:
- NPCJC *Interim Objection 130622 (with Appendices)* (the **Interim Objection**) (CD E.41). The Interim Objection and appendices do not themselves mention noise in any detail but are complemented by the NPCJC *Statement of Objection on the Basis of Noise (05-05-2022)* (the **Noise Objection**) (CD E.40), which is responded to in full below.
 - NPCJC *Further Objection 20.01.23* (plus Addendum and Appendices) (the **Further Objection**) (CD E.69). Appendix 6 to the Further Objection relates to noise, and reiterates points raised in the Noise Objection. The response to the Noise Objection therefore deals with these comments also.
- 3.16 Additionally, the NPCJC has produced a Statement of Case in relation to the called-in Planning Application (CD L.6), which again raises noise concerns. In light of the fact that the Statement of Case from the NPCJC does not raise new grounds over and above the points raised in the Noise Objection, these concerns are addressed equally in the responses to the Noise Objection below.

NPCJC – Noise Objection (May 2022) (CD E.40)

- 3.17 Within the main body of the Noise Objection, assertions are made regarding the noise impact of the Scheme. I have identified these with italics and bold text and respond to the points below. As some of the assertions made share common themes, they have been grouped accordingly.

SODC Policies

"The proposal fails to comply with the following policies within national, Local and County Plans" (Paragraph 1.0)

[SODC] Local Plan 2035 Policy ENV12 (3)" (paragraph 1.1.1)

[SODC] Local Plan 2026 Policy DES6" (paragraph 1.1.2)

"The noise assessment chapter 10 references this policy (in sect 10.2.19, & 10.2.20) No noise assessment has been undertaken to convincingly demonstrate that there are no significant adverse cumulative noise impacts to adjacent communities along the length of the proposed HIF1 road, such as Clifton Hampden and Nuneham Courtenay. In this absence the planning proposal fails to comply with SoDC policies ENV12 & DE26. The proposals will result in significant adverse impacts in terms of operational noise in neighbouring communities." (paragraph 1.1.2)

- 3.18 Compliance with SODC policies ENV12 and DE26 is discussed in paragraph 2.48 above.
- 3.19 Noise Impacts in Clifton Hampden are summarised in Table 10.4 of the ES, which notes that 7 properties in Clifton Hampden are likely to experience a significant adverse traffic noise effect due to the Scheme compared with 96 receptors predicted to experience a significant benefit. The remainder of the properties in Clifton Hampden are not predicted to experience significant effects, either beneficial or adverse.
- 3.20 Noise impacts in Nuneham Courtenay are not specifically referred to in the ES. The village sits outside of the initially defined study area for the operational noise assessment. However, all links in the traffic model are considered as part of the assessment, initially using a spreadsheet calculation looking at the 'Basic Noise Level' (BNL), to identify 'affected routes' (with at least a minor change in BNL due to the Scheme). The BNL change on the A4074 south of Nuneham Courtenay was negligible, and therefore these links were not identified as 'affected routes'. Nuneham Courtenay was, therefore, not considered further in the assessment as no potential for significant adverse traffic noise effects was identified in this location.

VoWHDC Policies

"[VoWHDC] Local Plan 2031 part2 Development Policy 23 Impact of Development on Amenity - Policy 23 is not satisfied. The proposals will generate significant adverse noise effect to adjacent neighbouring uses, notably at Appleford, Clifton Hampden and Nuneham Courtenay.

[VoWHDC] Development Policy 25: Noise Pollution of the Local Plan 2031 Part 2 Detailed Policies and Additional Sites - VoWHDC Policy 25 is not satisfied.

The noise assessment Chapter 10 references this policy (in sect 10.2.18) but fails to demonstrate that all existing and proposed background noise sources have been included in the assessment. In the instance of Appleford Sidings, the combination of mainline rail, industrial rail sidings, bridge and road traffic has not been included in the assessment. In regard to Appleford, Clifton Hampden and Nuneham Courtenay, no provision of mitigation, acceptable in noise, landscape and visual terms has been proposed to meet identified adverse noise effects" (Paragraph 1.2)

- 3.21 Existing sources of noise (for example existing rail and industrial noise) is one of the factors considered in determining significant effects. Table 10.4 of the ES includes a discussion of existing noise sources at relevant receptors.
- 3.22 The noise impacts on Appleford are discussed in paragraphs 3.3 to 3.7 above. In summary, considerably more properties are predicted to experience beneficial effects than adverse effects. Although 19 properties are identified as experiencing a significant adverse effect, this was a conservative approach as many of these properties are predicted to experience benefits of a similar magnitude on the east elevation (facing the B4016 Main Road).
- 3.23 Noise Impacts in Clifton Hampden are discussed in paragraph 3.19 above.
- 3.24 Noise impacts in Nuneham Courtenay are not specifically referred to in the ES as no potential for significant adverse traffic noise effects was identified in this location, as described in paragraph 3.20 above.

- 3.25 Mitigation, including the consideration of additional mitigation and the balance between noise and landscape/visual effects is discussed in paragraphs 2.47 to 2.49 above.
- 3.26 Compliance with VoWHDC Development Policies 23 and 25 is discussed in paragraph 2.55 above.

Compliance with NPSE Aims

"Section 10.10.54 -10.10.65 seeks to explain that the operation of the road Scheme will meet the aim of the Noise Policy Statement for England 2010 (NPSE) assessed against the guidance of DMRB LA 111. The first aim of the NPSE is to avoid significant adverse noise impacts on health and quality of life. However, as this noise report makes clear, seeking transport management solutions to growth around Didcot, on the basis of avoiding adverse noise was not it's [sic] brief. Only 3 alternative scenarios were examined, initially with and without the HIF1 road and again with the road after 15 years. This lack of examination of other solutions to the management of growth appears to be a fundamental failure of the initial briefing by OCC. This is compounded by the limitations of the Paramics traffic model which appears unable to model other influences on car use (e.g., from demography to fuel costs, availability of public transport and traffic management schemes).

The implicit assumption in the noise and traffic modelling is that with or without the HIF1 road, no surrounding roads will have any traffic management schemes put in place in the future to protect adjacent communities. Thus, the solecistic conclusion is reached that the HIF1 road will lead to reductions in traffic and noise on village roads.

In view of the limited scope of the noise assessment in exploring and identifying the preferred development option for traffic management around Didcot to achieve lowest noise levels below the SOAEL, it cannot be said that the scheme meets the requirement to "avoid significant adverse impacts on health and wellbeing". The scheme does not comply with aim 1 of the NPSE." (Paragraph 3.9.6)

- 3.27 Compliance with the first Aim of the NPSE during Scheme operation is discussed in paragraphs 2.38 to 2.45.

"Section 10.10.66 seeks to explain that the scheme meets the second aim of the NPSE to mitigate and minimise adverse impacts on health and quality of life. It is apparent that, due to the excessive traffic noise that the HIF1 Road will create at neighbouring communities, noise mitigation measures are needed. The principal mitigation measure of distance, aligning the road away from communities, is not considered. Given the open terrain of much of the route between North Didcot and Clifton Hampden this is unconscionable. The mitigation is limited to low noise surfaces and 3.0m high fence noise barriers. These mitigations do not meet the second aim of the NPSE because:

- The effect of low noise surface is not recognised, in LA 111 2020 as effective for vehicle speeds below 75K/hr. Moreover, this only deals with tyre noise and ignores engine & exhaust noise, aerodynamic noise, air brakes, acceleration / deceleration.***
- The height and type of noise barrier is a compromise. Whilst the noise assessment examined the preference for 4.0m high barriers (Section 10.10.68) the reduction to 3.0m was to ameliorate the visual and landscape damage. However, the impact at the locations of Appleford and Clifton Hampden remains intrusive and severe. The noise barriers will dominate the skyline.***
- LA111 provides advice on other measures, such as vertical and horizontal alignment of a road, earth bunds, speed limits, restrictions on noisy vehicle types. None of these alternatives has been investigated.***

Viewing the total, cumulative impacts of the Scheme in terms of noise, landscape and visual intrusion, the proposed measures do not mitigate the adverse impacts

of the HIF1 road and cannot be said to meet the second aim of the NPSE.” (Paragraph 3.9.7)

- 3.28 Compliance with the second Aim of the NPSE during Scheme operation is discussed in paragraphs 2.46 to 2.49.

“The third aim of the NPSE is to contribute to the improvement of health and quality of life. Meeting this aim would require the scheme to have an objective to reduce the level of noise experienced in the area of the scheme. The proposal to build an arterial road increases noise in existing and proposed communities along its length. It has not been demonstrated that the proposed HIF1 road provides an enhancement to the health of those communities. As it has not been demonstrated that the HIF1 proposal meets the first or second aim of the NPSE, it follows that the HIF1 road is not shown to meet the third aim of the NPSE.” (Paragraph 3.9.8)

Compliance with the third Aim of the NPSE during Scheme operation is discussed in paragraph 2.50.

Alleged Under-Estimation of Impacts

“The HIF1 Planning Statement admits that there will be significant noise impacts due to the road. As itemised in this report these impacts on Appleford, Clifton Hampden and Nuneham Courtenay have been under-estimated within the design. Specific tranquil areas impacted by the scheme have not been identified and protected.” (Paragraph 1.3)

- 3.29 The assessment was carried out in accordance with the current UK guidance for the assessment of the noise and vibration impacts from the construction and operation of road schemes, DMRB LA 111, and therefore the estimation of impacts on Appleford, Clifton Hampden is considered robust.
- 3.30 Tranquil Areas were discussed with the EHO representing SODC and VoWHDC in September 2020 – no areas were identified beyond the public open space type receptors identified in the Scoping Report (which states that publicly accessible open spaces, which may be prized for their recreational and amenity value, have been identified based on the national OS green space and Parks and gardens data sets and Local Authority ‘accessible countryside’ areas) (CD C.1 Annex 4 paragraph 10.3.2).

Noise Important Areas

“DEFRA, under the obligations of the Environmental Noise Regulations 2006, have mapped road and rail noise corridors throughout the UK. The Noise Action Plan for the Didcot area identified four “Noise Important Areas” where noise has already reached a critical level. One of the these is Appleford, adjacent to main line rail and at the closest point to the proposed road. OCC has a duty to recognise noise critical areas and seek to control future noise...”

“DEFRA recognizes that at Noise Important Areas, such as Appleford “the population is likely to be at greatest risk of experiencing a significant adverse impact to health and quality of life” OCC will fail to meet its obligation to seek reduction in future noise in Appleford by deliberately increasing noise to unprecedented levels due to the routing of the HIF1 road. (Paragraph 2.1

(Paragraph 2.1)

- 3.31 This NIA is discussed in paragraph 3.10 above.

“Section 10.7.15 acknowledges that Noise Important Areas (NIA) will be affected by the HIF1 road proposal:

- In Clifton Hampden, road noise on the A415 near Watery Lane (ID 13243)***
- In Appleford, rail noise at Appleford Sidings (ID 564)***

- A34 road noise at Milton Height (ID4187)

For all locations the noise assessment dismisses the need to particularise the noise impact of the HIF1 road on these vulnerable locations. The noise assessment is deficient in assessing the impact of the HIF1 road.” (Paragraph 3.6.1)

- 3.32 The road NIA on the A415 in Clifton Hampden to the west of the junction with Watery Lane (ID 13243) is anticipated to experience a major reduction in traffic noise in both the short and long term as this section of the A415 is bypassed by the Scheme. The road NIA on the A34 to the south of the junction with the A4130 at Milton Interchange (ID 4187) is anticipated to experience a negligible change in the short and long term, as traffic on the A34 is not significantly affected by the Scheme (CD C.1 Annex 4 paragraph 10.10.45). The Appleford rail NIA (ID 564) is discussed in paragraphs 3.10 and 3.11. above.

Noise from Sources other than Road Traffic

“There is no analysis of the cumulative noise environment that will result from the combination of noise from multiple sources, viz: main line rail, freight shunting and unloading at Appleford Sidings, reverberant effect of proposed road bridge over Appleford Sidings and the imposition of road noise with HGV traffic. The document acknowledges that it makes “no attempt to combine noise levels from different sources.” And that “ambient noise levels may be higher than indicated”. The conclusions of the Environmental Statement on noise are therefore seriously in error.” (Paragraph 2.1 cont.)

- 3.33 The presence of the Scheme on embankment will offer some screening of existing noise sources beyond it to the west, to receptors in Appleford.
- 3.34 At the short road bridge, the effect of reverberant build up, if any, will be small.
- 3.35 Existing noise sources are described in ES 10.7.19 and 10.7.20. The operational noise assessment described in the ES is primarily based on predicted traffic noise levels, however existing ambient noise levels are referred to in the consideration of likely significant adverse effects. In some locations, for example in close proximity to the access route for HGVs into the FCC landfill and Hanson quarry site west of Appleford, existing ambient levels are higher than indicated by traffic noise levels alone, therefore the change in overall noise levels due to the Scheme will be smaller than indicated by the increase in traffic noise levels alone (CD C.1 Annex 4 table 10.14). In this regard, the assessment approach is conservative. Reference to ES Appendix 10.2 shows that typical measured daytime $L_{Aeq,T}$ (free-field) levels are in the low-to-mid 50 dB range, which would not normally be considered high.

“Section 10.3.2 of Chapter 10, 3rd bullet identifies that “It was acknowledged that in some areas along the Scheme which are remote from existing main roads, but close to other existing noise sources such as the railway between Didcot and Oxford and industrial operations, ambient noise levels may be higher than indicated by a prediction of existing traffic noise levels. However, whilst the presence of other noise sources will be acknowledged in the assessment, given the different characteristics of railway and industrial noise to road traffic noise, in order to ensure a worst-case approach, no attempt to combine noise levels from different sources will be made.”

This is a fundamental deficiency in the noise assessment for the sector of the scheme between Didcot and Thames River crossing. The study ignores the cumulative noise impact of the road, rail, industrial sidings and road bridge created in the area around Appleford Sidings and alongside Appleford village.” (Paragraph 3.1.1)

- 3.36 The consideration of existing noise sources other than traffic is discussed in paragraph 3.35 above.

"Section 10.9.6 makes the statement "Closely aligning (the Scheme) to existing noise sources (the Great Western Railway) reduces the potential increase in noise levels". This statement fails to distinguish the different characteristics and quality of road and rail noise. It is quite likely that road noise added to rail noise would result in potentially severe noise effects, and negative impact on the health and wellbeing of residents." (Paragraph 3.8.2)

- 3.37 CD C.1 Annex 4 paragraph 10.9.6 of the ES reads "*The alignment of the A4130 section of the Scheme closely follows the existing road for the majority of its length and is also adjacent to another significant noise source, namely the Great Western railway. Closely aligning with existing noise sources reduces the potential increase in noise levels due to the Scheme*". Following the existing road for the majority of its length would have the effect of reducing the potential increase in noise levels due to the Scheme. The alignment of the A4130 section of the Scheme is noted to also be adjacent to the Great Western Railway, although this is not the primary point of the paragraph.

Route Appraisal

"Route option appraisals, including noise assessment for each option, are required. For a Sidings bridge option this must include the specific noise contribution of vehicles accelerating and decelerating on the gradients leading to the bridge for both HGV and cars. This assessment must demonstrate that the preferred route has been selected on the basis of minimizing or avoiding noise impact on dwellings in Appleford and at the other communities with Noise Important Areas. This assessment must be undertaken in the context of a Noise Action Plan as required for DEFRA for this location in Appleford.

Therefore, the current planning application for the HIF1 road must be rejected in order to permit an alignment to be investigated that minimises the noise impacts and comply with adopted planning policies." (Paragraph 2.1 cont.)

- 3.38 Vehicle speed and road gradient are included in the CRTN prediction methodology. The bridge at Appleford is part of a longer embankment rather than a sudden increase and decrease in height, therefore the specific noise contribution of vehicles accelerating and decelerating in this area is unlikely to be a notable contribution to the noise impact of the Scheme.

Tranquil Areas and Open Spaces

"Section 10.3.2 of Chapter 10, 5th Bullet indicates a failure to identify tranquil areas, as referred to in the NPPF, alongside the proposed route of the road. There are a number of such areas along the route, for example the Millennium Common between Sutton Courtenay and Appleford, Appleford recreation ground, the wetlands area on the south bank and the Thames Path on the north bank of the River Thames, the countryside east of the Culham Science Centre and north of Clifton Hampden and the woodland of the adjacent Nuneham Courtenay Estate. These amenity areas crossed by public paths provide recreational value at present undisturbed by noise." (Paragraph 3.1.2)

- 3.39 The identification of tranquil areas is discussed in paragraph 3.30 above.
- 3.40 With regard to the specific areas mentioned above:
- Millennium Common between Sutton Courtenay and Appleford – This was not specifically identified as a public open in space in the OS / Local Authority data sets. However, it does sit within the noise modelling study area, and is therefore shown on the noise change contour plots (Figures 10.5 and 10.6). This area is predicted to experience a negligible to minor increase (not significant) in road traffic noise levels in both the short and long term plots.
 - Appleford Recreation Ground – This was identified as a receptor in the ES, but the impact on this area was grouped with other similar receptors, in Paragraph 10.10.41. However, reference to the noise change contour plots (Figures 10.5 and 10.6) shows

that this area is predicted to experience a negligible to major decrease in road traffic noise levels in the short term and long term, and negligible change to minor decrease in the long term. A significant effect was not identified at this receptor.

- Wetlands area on the south bank – I understand this area is also known as the Bridge Farm Quarry Restoration Plan, and is the area north west of Appleford, where the Scheme crosses the Thames. The noise impact in this area ranges from a minor to major increase in road traffic noise levels. However, whilst it is understood that access paths may be created in future, following completion of the Scheme, there is currently no public access to this area, therefore no users sensitive to the change in traffic noise levels.
- Thames Path – In some places the Scheme crosses existing ProW, including the Thames Path which passes underneath the Didcot to Culham River Crossing section of the Scheme. Moderate and major increases in traffic noise levels are anticipated in the short and long term on some sections of ProW which cross the offline sections of the Scheme at Clifton Hampden, Didcot to Culham River Crossing, including the Thames Path, and around Appleford. The solid parapet on the eastern side of the River Crossing provides some reduction in the impact at the Thames Path east of the crossing. Conversely some sections of PRoW pass through areas anticipated to experience moderate or major reductions in traffic noise. However, given the linear nature of ProW, the range of noise impacts along them, the absolute traffic noise levels, and the transient usage of a ProW, a material change in the experience of using the ProW as a whole, which could affect people's health or quality of life, is not anticipated and no significant adverse or beneficial effects on ProW have been identified (CD C.1 Annex 4 paragraph 10.10.43).
- The countryside east of the Culham Science Centre and north of Clifton Hampden and the woodland of the adjacent Nuneham Courtenay Estate – Two small portions of this receptor fall within the noise modelling study area and are therefore covered by the noise change contour plots (ES figures 10.5 and 10.6). In the short term, the majority of the parts of the receptor which fall within the study area are predicted to experience negligible change in traffic noise levels, with a small area of minor increase at the closest point to the Science Centre. In the long term, a very small area of moderate increase is predicted closest point to Science Centre, reducing to negligible change as distance from the Scheme increases. Overall, a significant adverse effect is not anticipated at this receptor.

"Section 10.10.41 asserts that "no significant effects have been identified at public open green spaces." The this ignores the noise impact of the HIF1 road proposal on Appleford Allotments, Appleford Playing field, the Millennium Common, and the wetlands south of the Thames, all located in close proximity to the proposed road. Likewise, the noise assessment fails to judge the scale of the noise from the HIF1 road on the Thames Path on the north bank; the network of Public Rights of Way (PROWs) between Sutton Courtenay and Appleford; the network of Green Belt footpaths around Clifton Hampden and the Nuneham Courtenay Estate. The assessment significantly underestimates the serious intrusion of the HIF1 Road on these tranquil areas." (Paragraph 3.9.5)

- 3.41 The noise impact on Appleford Playing field (Recreation Ground), Millennium Common, the wetlands south of the Thames and the Thames Path is covered in Paragraph 3.40 above. The network of Green Belt footpaths around Clifton Hampden and the Nuneham Courtenay Estate is not specifically referred to in that paragraph but would fall within "The countryside east of the Culham Science Centre and north of Clifton Hampden and the woodland of the adjacent Nuneham Courtenay Estate", which is referred to within that paragraph. Appleford Allotments are not previously referred to, but reference to the noise change contour plots (Figures 10.5 and 10.6) shows that this area is predicted to experience a negligible to major decrease in road traffic noise levels in the short term and long term, and negligible change to minor decrease in the long term. A significant effect was not identified at this receptor.

Construction Noise LOAEL and SOAEL

“Section 10.4.3 of Chapter 10 describes assessment for construction noise. This demonstrates a significant flaw in the assessment methodology. The threshold for significant observed adverse effect level (SOAEL) is dependent on the ambient noise level. This assessment allows areas with high existing ambient noise level to be subject to high additional noise level on top of the ambient noise level. Moreover the selection of Laeq T equivalent continuous A weighed sound pressure level would tend to ignore impulsive and low frequency noise both in the background and in the assessment for the impact of the road. Setting the Lowest Observable Adverse Effect Level (LOAEL) at the existing ambient level fails to recognise that the ambient level may already be above the tolerable level, particularly for a mixed sound environment. Categories A, B, C, of table 10.3 may therefore be inappropriate to define the values of Significant Observed Adverse Effect (SOAEL).” (Paragraph 3.2.1)

- 3.42 The LOAEL and SOAEL were set using the BS 5228 “ABC method” as set out in DMRB LA 111, the current UK guidance for the assessment of the noise and vibration impacts from the construction and operation of road schemes, and are therefore considered appropriate for this assessment.

Operational Noise SOAEL

“With reference to the technical information whereas it is stated that daytime SOAEL is not exceeded in the short term for Appleford receptors, no information on the night-time noise levels in relation to SOAEL is provided.” (Paragraph 3.3.4)

- 3.43 CD C.1 Annex 4 table 10.5 shows the number of properties above the SOAEL for both the day and night. Within Appleford there are no properties that would be above the SOAEL with the Scheme (in either the day, the night, or both) that would not also be above the SOAEL without the Scheme (i.e., the Scheme does not result in any new exceedances of the SOAEL in Appleford). There are, however, properties that would be above the SOAEL without the Scheme, that will no longer be above the SOAEL with the Scheme (i.e., the Scheme resolves some existing exceedances of the SOAEL in Appleford) (CD C.1 Annex 4 paragraphs 10.10.59 and 10.10.61).

Elevations/Facades for Assessment

“Section 10.4.40 describes the magnitude of traffic noise in terms of short and long-term changes in noise level. The report considers short term changes to be the comparison of traffic noise in the opening year with or without the HIF1 road. The assessment, and baseline measurements should relate only to the elevations facing towards the proposed route of the HIF1 road. These elevations do not presently face a road and are not presently subject to road noise. This noise level change should be compared to the magnitude figures, ranging to +5 dB La10,18h quoted in table 3.54a, of LA111.” (Paragraph 3.3.1)

- 3.44 The model and assessment considers all facades of each receptor, and the magnitude of impact determined for each receptor according to Table 3.54a (and 3.54b) of DMRB LA 111. Different façades of the same property can experience different changes in traffic noise level depending on their orientation to the noise source. DMRB LA 111 requires that the initial assessment is based on the façade which experiences the greatest magnitude of noise change (beneficial or adverse). Where this is equal on more than one façade, the façade experiencing the highest do-something traffic noise level is chosen. Therefore, facades facing the Scheme have been considered (CD C.1 Annex 4 paragraph 10.4.29).

Alleged Deficiency of the Traffic Model

“For Appleford Sidings, it must be emphasised that any offsetting of noise predicted from the HIF1 road due to the modelled traffic density, without the HIF1,

on the B4016 (Main Road) through Appleford road cannot be used from the present traffic model. This is because;

- The present traffic model is deficient, as it fails to include induced traffic on the HIF1 road and fails to allow for traffic restrictions on Main Road.*
- The relevant façade for dwellings and gardens faces towards the HIF1 Road but away from Main Road. The loss of amenity for, gardens facing the HIF1 route needs to be identified.” (Paragraph 3.3.2)*

- 3.45 The consideration of all facades in the noise model is discussed in paragraph 3.44 above.
- 3.46 Induced demand is covered in Claudia Currie's Traffic Modelling Proof of Evidence.
- 3.47 Figure 10.5 shows that at the southern end of Appleford, gardens facing the Scheme are largely predicted to experience negligible change, a minor increase or minor decrease in road traffic noise levels.

Acoustic Context

“In should also be emphasised that the “Acoustic Context” is relevant to dwellings close to Appleford Sidings. LA111 states “If a proposed scheme changes the acoustic character of an area. If a scheme introduces road noise into an area where road noise is not currently a major source, it may be appropriate to conclude a minor short-term change is a likely significant effect.” In this context the short-term change is likely to be a Significant Adverse effect on all west facing dwelling and gardens in Appleford.

Similarly LA111 states that for “changes to the landscape or setting of a receptor,... minor change in the short term and/or long term is a likely significant effect”, Further in-depth noise assessment is required in Appleford.” (Paragraph 3.3.3)

- 3.48 Table 10.4 of the ES sets out the justification for the decision regarding the significance of effect at each group of receptors. At the south end of Appleford, 19 properties were considered to have a significant adverse effect as a result of the Scheme due to the minor, moderate or major increases on the west façades (facing the Scheme), despite the major decreases on the east facades (facing Main Road). Elsewhere in Appleford a significant beneficial effect is identified at 79 properties due to the decrease in noise levels on the facades facing Main Road being considerably greater than the negligible/minor increases facing the Scheme. At the remainder of receptors in Appleford a significant effect is not identified. Whilst some receptors are predicted to experience minor increases and decreases in traffic noise levels due to the Scheme, when considering the acoustic character of the area, it was considered that the introduction of a new road beyond the railway was unlikely to change residents' response to traffic noise at these receptors.

Baseline Surveys and Acoustic Model Validation

“As both the 2024 do-minimum and the 2024 do-something scenarios have not been adequately considered, additional baseline surveys in Appleford are required.” (Paragraph 3.3.4)

“Section 10.7.17 indicates a noise baseline survey at a limited number (only 12), monitoring locations. At the one location near Appleford Sidings (M12) it was noted that the noise level was elevated by 6dB above the prediction for road traffic. Whilst it was recognised that train and industrial noise and HGV access to the landfill site was present no attempt was made to distinguish the characteristics of the noise, its impulse and tone or to attribute the various sources of the noise. As this is one of the affected NIAs this is a serious omission and undermines the assessment of the effect of the HIF1 road at this location. The conclusion that “the noise model developed to estimate traffic noiseis robust” cannot be sustained.

An extended baseline noise survey should have been provided across all vulnerable locations facing the HIF1 Route, to quantify the current levels. The primary data should have been made available for scrutiny with mapped locations, photographic records, and microphone heights.” (Paragraph 3.6.2)

- 3.49 The assessment was carried out in accordance with the current UK guidance for the assessment of the noise and vibration impacts from the construction and operation of road schemes, DMRB LA 111, and therefore it is considered that these scenarios have been adequately considered. The scope of the baseline survey was agreed with VoWHDC and SODC and considered to be suitable and sufficient.

“Section 10.10.24ff summarises the short-term change in predicted traffic noise. It must be emphasised that all statements are predicated on:

- A traffic modelling exercise that is shown to be deficient in representing options and in representing the resulting traffic on village roads around the HIF1 road..***
- A noise prediction program that is calibrated on a very localised and limited actual measurements.***

The predicted noise levels cannot therefore be considered as representing the range of noise disturbance or benefit that will actually occur if the HIF1 road is built.

The statement that “traffic noise reduction...in the scheme opening year... is due to the diversion of traffic off existing routes through villages ...” is a speculative assertion and cannot be held to be accurate.” (Paragraph 3.9.2)

- 3.50 The robustness of the traffic modelling is covered in Claudia Currie’s Traffic Modelling Proof of Evidence. Validation of noise model discussed and the adequacy of the noise monitoring used in the validation exercise are discussed in Paragraph 3.12 above.

“However, it is clear that locations currently not facing an arterial road but which will do so under the HIF road proposal will suffer “significant adverse” noise effects as recognised in table 10.14. Listed Appleford properties on southern Main Road, Fullamore Cottages, properties in north and north east Clifton Hampden, properties up to the Golden Balls roundabout, will all suffer more noise due to the proximity of the HIF1 road. The degree of increase is uncertain, since it can only be estimated by monitoring, at all these locations, the current noise characteristics at the elevations facing the HIF1 proposed road alignment and then adding the predicted noise due to the new HIF1 road. This has not been done.” (Paragraph 3.9.4)

- 3.51 The assessment has been carried out following the methodology set out in DMRB LA 111, the current UK methodology for the assessment of the noise impact of road schemes. This requires noise level changes to be determined through calculation based on the methodology set out in CRTN. Noise monitoring is carried out as part of the assessment process and is used as part of a validation exercise for the noise model, which is discussed in Paragraph 3.12 above, and the adequacy of the noise monitoring used in the validation exercise is discussed in Paragraph 3.44 above.

Noise Barriers

“The HIF1 Chapter 10 noise assessment only includes a sensitivity test used in relation to the benefits (or lack of, at low speed) of low noise road surfaces. Additional surveys and assessments are required to examine the sensitivity to numerous influences e.g;

- The proposed noise barrier along embankments and bridge at Appleford Sidings will have the unintended adverse consequence of reflecting railway noise and noise from aggregates freight wagons back across to the dwellings to the east of the railway line. This adverse consequence will be significant.***

- **The noise and vibration noise chapter provides LA111 thresholds for significant adverse effects at night (>55 dB Lnight). No baseline night time information has been provided. It is likely that the acoustically reflective noise barrier could result in rail noise levels which exceed this value.”** (Paragraph 3.3.6)

3.52 The noise barrier will sit atop an embankment at this point, at a higher elevation than both the railway and the houses. Therefore, noise from rail traffic will be reflected upwards, rather than towards the properties. Should any future design changes allow reflections towards the houses to be possible, this could be mitigated with the use of an acoustically absorptive barrier.

“Section 10.9.12 itemises extensive noise barriers proposed alongside the HIF1 road where it passes close to existing communities. This is a clear admission that the proximity of the road to these communities will generate unacceptable noise levels. The detrimental visual intrusion of the road edge noise barriers indicates an unsatisfactory attempt at a correction to an erroneous alignment of the HIF1 road.

There has been no demonstration that the road with noise barriers provides an acceptable noise, visual and landscape solution in any of these locations.” (Paragraph 3.8.5)

3.53 The noise impact assessment described in the ES includes the effect of the proposed noise barriers and demonstrates that the Scheme is expected to result in considerably more beneficial and significant beneficial effects, than adverse and significant adverse effects. The landscape and visual impact of the noise barriers is covered in Jane Ash's Landscape and Visual Impact Proof of Evidence.

“LA 111 requires “The suitability of each potential mitigation measure for use within the project area shall be determined based on the following criteria:

3) the benefit of a measure in terms of elimination of likely significant effects;”:

The HIF1 road does not meet this objective. Likely significant effects of mitigation measures have not been eliminated, e.g. reflectance of train noise at Appleford Sidings.

5) the impact of the measure across other environmental factors, for example the visual impact of a noise barrier.”

The HIF1 road proposal has not addressed this objective. There are significant landscape and visual adverse effects.” (Paragraph 3.8.6)

3.54 The impact of the noise barrier on train noise is discussed in Paragraph 3.52 above. The landscape and visual impact of the noise barriers is covered in the Jane Ash's Landscape and Visual Impact Proof of Evidence

Impacts on Nuneham Courtenay

“Section 10.6 describes the study area. Although the area has been extended to encompass the northern extent up to the junction of the B4015 and the A4074 (Golden Balls Roundabout) the study fails significantly to include affected communities.

- **The village of Nuneham Courtenay straddles the A4074, 1.5km north of the Golden balls Roundabout on the main road to Oxford. LA 111 requires that “Where any do-something absolute noise levels are above the SOAEL, a noise change in the short term of 1.0dB or over results in a likely significant effect.” The very significant effect on this village from increased traffic, noise and air quality due to the HIF1 road proposal is ignored in the environmental statement. Noise measures are required along the length of the village, and noise predictions produced to show the impact of funnelling HIF1 traffic from its north east end further north through Nuneham Courtenay.**

- Noise monitoring has not been undertaken at significant locations affected by the HIF1 road proposal including the full extent of Main Road & Chambrai Road, Appleford, properties in Sutton Courtenay along the B4016 (Church Street), properties along the Tollgate road at Culham , properties along High Street in Long Wittenham , Home Farm& the Coppice Clifton Hampden , Burcot and surrounding properties on the A415.**

In the absence of these important data the noise assessment is incomplete and cannot be used to support the proposed HIF1 road.” (Paragraph 3.5.1)

“The adverse effects of increased traffic and noise of the proposed HIF1 road on the community of Nuneham Courtenay is not included at all in the noise assessment. “(Paragraph 3.9.4 cont.)

- 3.55 Consideration of the noise impacts in Nuneham Courtenay is discussed in paragraph 3.20. The adequacy of the noise monitoring is covered in paragraph 3.12 above.

Impacts on Clifton Hampden

“Baseline noise measurements within Clifton Hampden suggest very low sound levels (M10 Woodfield House, Clifton Hampden) 48 dB LA10,18h. with probable low levels at other dwellings. The proposed scheme could result in a change in the amenity levels within gardens. BS8233:2014 recommends that “For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB Laeq,T (for non-noisier environments). Further baseline measurements and further noise predictions are required throughout Clifton Hampden. It is likely that the HIF1 road will have adverse effects both in terms of changing the character of the area as well as exceeding recommended desirable garden noise standards.” (Paragraph 3.7.2)

- 3.56 Figure 10.2 (CD C.1 Annex 4 Figure 10.2) (see extract in Figure 3 below) shows that the gardens in Clifton Hampden are exposed to a wide range of existing traffic noise levels, both above and below the BS 8233 (AP 02.6) guideline values of 50 and 55 dB L_{Aeq,T}, depending on distance from the A415 and Oxford Road. Figure 10.5 (CD C.1 Annex 4 Figure 10.5) shows that throughout Clifton Hampden gardens are largely predicted to experience a reduction in noise levels, apart from a very small number predicted to experience negligible change or a minor increase.

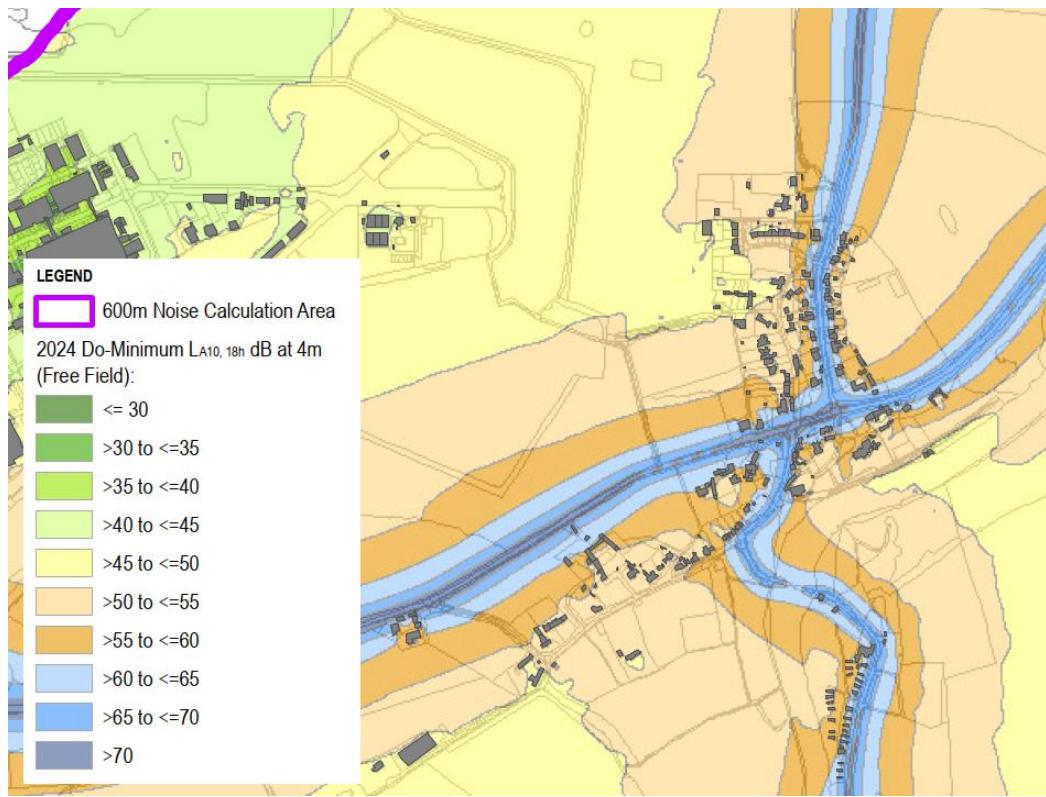


Figure 3 Extract from Figure 10.2

“Section 10.9.9 refers to moving the “Clifton Hampden bypass” ...slightly further north away from the Village.” And a speed limit reduction. The following section acknowledges that this is insufficient to reduce noise emissions to acceptable levels.” (Paragraph 3.8.4)

- 3.57 The ES does not state that the alignment of the “Clifton Hampden Bypass” section of the Scheme further away from the village is insufficient to reduce noise emissions to acceptable levels. Table 10.4 notes that, with the proposed mitigation, 7 properties in Clifton Hampden are likely to experience a significant adverse traffic noise effect due to the Scheme compared with 96 receptors predicted to experience a significant benefit. The remainder of the properties in Clifton Hampden are not predicted to experience significant effects, either beneficial or adverse.

Construction Noise Impacts

“Section 10.9.3 states that construction working hours for the Scheme will be 7:30-18:00 hr weekdays 08:00-13:00 hrs Saturday, with limited out of hours working. However elsewhere it is asserted that the bridge at Appleford Sidings will be constructed out of hours to accommodate the industrial operator. This operator has applied for working hours between 6:00hrs -22:30hr weekdays (16.5 hrs) and a Saturday extension (11hrs). The bridge construction will impose industrial noise for 24 hours a day on the affected residents of Appleford.” (Paragraph 3.8.1)

- 3.58 The construction noise impact assessment is based on reasonable assumptions on the construction works provided by the appointed buildability adviser. Whilst it is acknowledged that the construction of the bridge structure is complex, as much work as possible will be carried out during daytime working hours, with evening and nighttime work limited to work which cannot reasonably be carried out during the day, and therefore the duration of the bridge works at night is anticipated to be very low (CD C.1 Annex 4 paragraph 10.4.2).

“In section 10.10.5, 7th, 8th 9th bullet points describe the construction noise effect resulting from the construction of embankments, bridge and road over Appleford

Sidings. This asserts that “the anticipated duration of the evening and night time Appleford rail sidings bridge work are very low, well below the DMRB criterion of 10 or more working days or evening/weekend or nights in any 15 consecutive days.” This is not substantiated by the complexity of the proposed construction , involving embankments, retaining structures, piles and bridge works and the challenge of construction over an operating industrial site with freight train movements . The construction noise effect is likely to be significant adverse and prolonged with much extended overnight and weekend working.

It is likely that there will be a major impact above the SOAEL, continuously for many months, well above the DMRB criteria. No realist assessment of the noise consequences has been undertaken.” (Paragraph 3.9.1)

- 3.59 Whilst the bridge construction has the potential to result in noise levels above the SOAEL at receptors in Appleford, the duration of the evening/weekend and night works at the bridge is limited, below the DMRB LA 111 criterion of 10 or more working days (or evenings/weekends or nights) in any 15 consecutive days. Additionally (CD C.1 Annex 4 paragraph 10.10.98), at the detailed design stage, once a contractor has been appointed and specific details of the construction works are available, the construction noise assessment will be revisited. The Noise and Vibration Management Plan required by the CEMP will set out how the requirement to adopt best practicable means has been met through the choice of working methods and plant, and, where appropriate, site hoarding. This process has the potential to reduce the magnitude of the construction noise impacts. In some locations where the exceedances of the SOAEL are small, this may result in the removal of significant effects. Where exceedances of the SOAEL are larger, the provisions of the noise insulation and temporary re-housing policy may apply (CD C.1 Annex 4 paragraph 10.10.7).

Proximity to Appleford

“In section 10.9.8, the statement that “The scheme has been relocated further west away from Appleford and Zouch Farm compared with.... The proposed alignment in 2018” ignores the proximity of the Scheme at to the southern portion of Appleford which remains within 60m of the Scheme. The noise impact of this proximity has not been examined.” (Paragraph 3.8.3)

- 3.60 The noise impact assessment presented in the ES is based on the proposed alignment, which is approximately 75 metres from the houses on Main Road at the south of Appleford (measured from the carriageway edge)

Surfacing

“Section 10.9.13 indicates that low noise road surfacing is proposed for the locations listed above. However elsewhere it is admitted that this not effective for traffic speeds below 75 K/hr. The modelling assumption (Appendix 10.4) for <75 k/hr allows no sound reduction due to low noise surfacing. This measure will be marginal or ineffective. The environmental implications, e.g. particulate emissions from tyres and road surface for this grade of surface has not been explored.” (Paragraph 3.8.7)

- 3.61 The standard UK methodology for modelling road traffic noise applies a simple cut-off, with the benefit of low noise surfacing applied at speeds of 75 km/h or greater. In reality, the onset of the benefit follows a gradual increase with increasing speed. The assessment in the ES is conservative therefore in that it does not account for any benefit of low noise surfacing for speeds below 75 km/h – in other words, the predicted “with Scheme” noise levels are likely to be slightly lower in reality than those used in the assessment. A summary of the likely benefit of the proposed adoption of low noise surfacing is presented in the sensitivity test in ES Appendix (CD C.1 Annex 4, Appendix 10.5).

Predicted Traffic Change

"Section 10.10.31ff summarises the long term predicted change in traffic noise. The comments on short term predictions apply. No comparison with traffic in 2039 without the HIF1 road was possible, due to strategic and modelling deficiencies." (Paragraph 3.9.3)

- 3.62 Section 10.10.31 relates to the long term predicted change in traffic noise comparing the "with Scheme" scenario in 2039 with the "without Scheme" scenario in 2024, to show the impact of the Scheme in the long term. In the identification of significant adverse effects, the "without Scheme" 2039 scenario can normally be referred to in order to identify "non project change" (change that would have occurred without the Scheme e.g., increases due to other developments in the area). The ES acknowledges that this has not been possible, however, in this regard, the noise assessment is robust in that this would result in the identification of fewer significant adverse effects in the long term due to "non project change" rather than change due to the Scheme.

Other Representations

- 3.63 Other Representations to the called-in Planning Application have been received raising concerns of the noise impact on Appleford, from Vicky Johnson (CD N.5 and N.8), Ian Cook (CD N.10), Ian Palmer (CD N.14), Frances Reid (CD N.20), Adrian Wear (CD N.22) and Victoria Shepherd (CD N.23). These Representations all raise similar concerns to those raised by NPCJC, which I address above, and I therefore list the concerns below and provide references to the relevant parts of my response to NPCJC:

- Noise impact on the village during construction, which I cover in Paragraph 3.3
- Noise impact on the village during operation, which I cover in Paragraph 3.5
- Existing noise levels, which I cover in Paragraphs 3.21 and 3.35
- The Noise Important Area in Appleford, which I cover in Paragraphs 3.10 and 3.11
- Reflection of noise back from the bridge abutments towards residents, which I cover in Paragraph 3.34
- Noise barriers reflecting noise back towards residents, which I cover in Paragraph 3.52
- Consideration of alternative routes, which is covered in Mr Wisdom's Proof of Evidence
- Compliance with local and national planning policy, which I cover for the Scheme as a whole in Paragraphs 2.33 to 2.58, and in summary in respect of Appleford specifically in Paragraph 3.6

Specific Objections Concerning Other Areas of the Scheme

Aries (CD J.2)

- 3.64 Mr and Mrs Aries raise concerns about the noise impact on their property, which is close to the existing A415:

"Our property faces the existing A415 to the south and we have a shared farm road on one side, this being our access to North Cottage. There is a busy farmyard to the rear of the property, with access to it from the A415. There is another access to the farmyard, but the one in use is past our house.

If this planning application is approved, we will be one of three properties surrounded by traffic on all four sides. North Cottage would be put in the unenviable position of having the A415 to our front, the proposed bypass to our rear, the farm access on one side and another new road on the fourth side – the proposed A415 connection. This will deny us any privacy, putting us on full display for passing traffic. We would also be subjected to more traffic noise and pollution."

- 3.65 The location of this property means that it will experience a significant reduction in traffic noise levels when the Scheme is in operation. The property is well shielded from noise

from the Scheme itself by surrounding buildings, and noise levels from the existing A415 will reduce considerably, resulting in a significant beneficial noise effect at the property. Additionally, detailed interrogation of the noise modelling results reveals that this property would be exposed to noise levels above the SOAEL in the opening year without the Scheme but would no longer experience above SOAEL noise levels with the Scheme. An extract from ES Figure 10.5 (Short term change in traffic noise levels) showing the property is shown in Figure 4 below.



Figure 4 Extract from ES Figure 10.5 (property circled in red)

Occupiers of New Farm (CD J.16)

- 3.66 The occupiers of New Farm raise concerns about the “the noise and the machinery”.
- 3.67 With regard to construction noise, New Farm was representative receptor R03 used in the construction noise and vibration assessment. Significant adverse construction noise effects are predicted in four months during the daytime, and two months during evening and nighttime works. The anticipated duration of evening and night-time tie-in works in this area is very low, well below the DMRB LA 111 criterion of 10 or more working days (or evenings/weekends or nights) in any 15 consecutive days, which would remove the evening and nighttime significant adverse effects. Additionally, the construction contractor will review the proposed working methods to consider all sustainable mitigation measures, with the aim of avoiding significant noise and vibration effects. Whilst there is the potential for some significant temporary adverse noise and/or vibration effects to remain, the magnitude and duration is likely to be reduced. (CD C.1 Annex 4 paragraph 10.10.5).
- 3.68 With regard to operational noise, as stated in CD C.1 Annex 4 Table 10.14, a significant adverse noise effect is not predicated on this property. A minor increase in traffic noise levels is predicted in the opening year (negligible in the long term). The Scheme in this location comprises the widening of an existing road, and unlikely to change residents’ response to traffic noise.

Representations and Objections – Summary

On the basis of the foregoing discussion in this section, I consider that the Representations and Objections made about noise and vibration have been appropriately addressed and that the Scheme and its supporting noise documentation demonstrates compliance with national and local planning policy and assessment requirements.

4 CONCLUSIONS AND SUMMARY OF EVIDENCE

- 4.1 In my Proof of Evidence I have explained how the noise and vibration impact assessment completed as part of the Environmental Impact Assessment (EIA) was carried out in accordance with the current UK guidance for the assessment of the noise and vibration impacts from the construction and operation of road schemes, *The Design Manual for Roads and Bridges (DMRB) LA 111 (Revision 2)*, and have provided a summary of the construction and operational effects.
- 4.2 With regard to Scheme construction, some potentially significant day-time, evening and nighttime construction noise effects are identified at receptors closest to the construction works. Potentially significant construction vibration annoyance effects have been identified at approximately 15 residential buildings and two non-residential potentially sensitive buildings located close to works involving vibratory rollers.
- 4.3 Construction of the Scheme will be subject to measures and procedures as defined within the *Outline Environmental Management Plan* (OEMP) for the Scheme. As part of the OEMP a specific *Noise and Vibration Management Plan* (NVMP) will be developed. The NVMP will include relevant noise criteria, proposed surveys, a range of Best Practicable Means (BPM) to be adopted, and specific localised mitigation such as temporary site hoardings or noise barriers, with the aim of avoiding significant adverse effects. Additionally, some evening and nighttime works may not exceed the duration criteria, thereby removing the significant adverse effect. However, there is the potential for some significant temporary adverse noise and/or vibration effects to remain though the magnitude and duration is likely to be reduced from that reported in the assessment.
- 4.4 No significant adverse traffic noise effects are anticipated due to the addition of construction traffic to the existing local road network.
- 4.5 With regard to Scheme operation, overall more properties will experience a reduction in noise levels than an increase, with 1862 residential properties predicted to experience a minor, moderate or major decrease in the short term compared with 187 an increase (341 compared with 181 in the long term), based on the façade with the greatest magnitude of change.
- 4.6 At 746 residential properties, a significant beneficial effect has been identified. Significant beneficial effects are also identified at 10 non-residential sensitive receptors. At 38 residential properties and one non-residential sensitive receptor a significant adverse effect has been identified.
- 4.7 Embedded mitigation has been incorporated into the alignment of the Scheme and additional mitigation has been included in the form of low noise surfacing and noise barriers at key locations, to avoid or reduce the magnitude of significant adverse effects.
- 4.8 A preliminary consideration of properties which may qualify for noise insulation works under the Noise Insulation Regulations 1975 has identified two residential buildings as potentially qualifying.
- 4.9 Through my evidence, I have demonstrated how the Scheme complies with the noise requirements of the National Planning Policy Framework (NPPF), by explaining how the Scheme meets the three Aims of the Noise Policy Statement for England (NPSE), which supports the NPPF.

Scheme Construction

- 4.10 With regard to the first Aim of the NPSE, I have demonstrated that during Scheme construction, a significant adverse effect is predicted at a small number of individual receptors or small groups of receptors, which are those closest to the Scheme construction works. The construction contractor will review the proposed working methods to consider all sustainable mitigation measures, with the aim of avoiding significant noise and vibration effects. The number of receptors close to the construction works identified as potentially experiencing a significant adverse construction noise effect is therefore likely to reduce. However, there is the potential for some significant

temporary adverse noise and/or vibration effects to remain, though the magnitude and duration is likely to be reduced. On this basis, in the context of sustainable development, the first aim of the NPSE will be met during Scheme construction.

- 4.11 With regard to the second Aim, the mitigation measures I have described will be applied throughout the Scheme construction works, not just in the vicinity of significant adverse effects and, therefore, will benefit all receptors. The magnitude and duration of the adverse construction effects is therefore likely to be reduced, however some adverse effects will remain. Adverse construction effects are acceptable in the context of sustainable development as factors including engineering practicality, cost versus benefit etc. must also be considered. With the effective implementation of the identified mitigation and minimisation measures, the second NPSE Aim will be met during Scheme construction.
- 4.12 With regard to the third Aim, construction by its nature introduces a new noise or vibration source into the existing environment and is temporary in duration. Therefore, the opportunities to improve existing noise levels during the Scheme construction phase are very limited.

Scheme Operation

- 4.13 The first Aim of the NPSE is to avoid significant adverse effects on health and quality of life. During Scheme operation, these occur at noise levels above the Significant Observed Adverse Effect Level (SOAEL). In the opening year of 2024, the noise impact assessment identifies:
 - 153 properties would experience road traffic noise levels above the SOAEL both with and without the Scheme. These are at residential buildings in close proximity to existing roads. Whilst the Scheme does not result in noise levels at these properties being brought below the SOAEL, considerably more properties are predicted to experience a decrease in traffic noise levels than an increase (46 decrease compared with 3 increase (104 negligible or no change)), on the façade with the greatest magnitude of change in the opening year.
 - 160 properties that would experience levels above the SOAEL in the opening year without the Scheme would no longer do so with the Scheme in place, i.e., the Scheme would avoid these effects. These are located in close proximity to existing roads which are bypassed by the Scheme.
 - 11 properties are predicted to experience road traffic noise levels above the SOAEL with the Scheme in place that would not do so without the Scheme. These are all located on existing roads, not close to the Scheme. None are considered to experience significant adverse (EIA) effects due to the Scheme, and all have small increases in the maximum noise level experienced (1.2 dB worst case increase).
- 4.14 It is not considered to be a practicable option to install noise barriers along existing roads away from the Scheme to further reduce noise levels or mitigate small increases in noise levels, due to the need to maintain access into the properties. Based on the evidence presented within this proof and within the context of sustainable development, the first NPSE Aim (to avoid exceedances of the SOAEL as a result of the Scheme) has been met.
- 4.15 With regard to the second Aim of mitigating and reducing adverse effects, additional mitigation (in the form of noise barriers and low noise surfacing) is included in the Scheme. Further mitigation has been explored (for example, increasing the heights of noise barriers, additional barriers, false cuttings, lower speed limits), however no areas where additional mitigation would be appropriate, within the context of sustainable development, have been identified. On this basis, the second aim of the NPSE has been met.

- 4.16 With regard to the third NPSE Aim to 'contribute to the improvement of health and quality of life' the Scheme results in reductions in traffic noise levels along existing roads that are bypassed by the Scheme, with considerably more properties predicted to experience a minor, moderate or major decrease in traffic noise levels than an increase, in both the short and long term. On this basis, the third NPSE Aim has been met.
- 4.17 Overall, it is my professional opinion that within the context of sustainable development, adequate mitigation has been provided to avoid significant adverse effects, mitigate and minimise adverse effects, and contribute to the improvement of health and quality of life. Considerably more properties are expected to avoid existing exceedances of the SOAEL, than are expected to experience new exceedances of the SOAEL due to the Scheme. Considerably more properties are expected to experience a decrease in road traffic noise levels than an increase, with the Scheme in place. Therefore, it is my professional opinion that the requirements of the NPSE and NPPF have been met.
- 4.18 I have explained how Vale of White Horse District Council's Development Policy 23, and South Oxfordshire District Council's Policies ENV12 and DE6 align with the first aim of the NPSE, to avoid significant adverse effects on health and quality of life. I have demonstrated how the Scheme meets this Aim and, therefore, the requirements of these policies have also been met. I have explained how an appropriate scheme of mitigation measures, within the context of sustainable development, has been provided and that no areas where additional mitigation would be appropriate have been identified. On this basis, the Scheme meets the requirements of Vale of White Horse District Council's Development Policy 25.
- 4.19 In summary, I have explained how the EIA has shown that the Scheme is expected to result in considerably more beneficial and significant beneficial effects, than adverse and significant adverse effects. Considering both national and local planning policy, I have also demonstrated, within the context of sustainable development, adequate mitigation has been provided, and that the requirements of both national and local planning policies have been met.
- 4.20 A number of Representations and Objections have been raised in respect of noise and vibration concerns in the village of Appleford, therefore, I have summarised the noise and vibration impacts in Appleford specifically. With regard to construction noise, the ES identified that there will be some adverse noise and vibration effects (including some significant) at receptors in Appleford, but they will be temporary, and Best Practicable Means of construction will be employed to reduce impacts as far as practicable.
- 4.21 With regard to operational noise:
- 79 properties in Appleford are identified as experiencing a likely significant beneficial effect due to a reduction in traffic noise levels on the B4016 Main Road.
 - 19 properties at the south end of Appleford are identified as experiencing a likely significant adverse effect due to increases in traffic noise levels on the west elevations (facing the Scheme). This was a conservative approach as many of these properties are predicted to experience benefits of a similar magnitude on the east elevation (facing the B4016 Main Road). A further standalone property also to the south of village was identified as experiencing a significant adverse effect due to increased traffic noise levels on the west elevation (but in contrast, no similar magnitude decrease to the east).
 - At the remaining receptors (residential properties and 2 community facilities) within Appleford significant adverse effects were not identified. The reduction in traffic on the B4016 through the centre of Appleford, combined with a contribution from the Scheme results in a negligible change or minor increases and decreases in traffic noise at these receptors in both the short term and long-term.

- A preliminary consideration of properties which may qualify for noise insulation works under the Noise Insulation Regulation 1975 did not identify any properties within Appleford likely to qualify.
- 4.22 I consider that the Representations and Objections addressing noise and vibration concerns have been appropriately addressed. Overall, the Scheme and its supporting noise documentation demonstrates compliance with national and local planning policy and noise assessment requirements and, on that basis, it is my professional opinion that there is no reason pertaining to noise and vibration matters which should prevent the Planning Application from being granted and the Orders from being confirmed.

5 STATEMENT OF TRUTH AND DECLARATION

- 5.1 I confirm that, insofar, as the facts stated in my proof evidence are within my own knowledge, I have made clear what they are and I believe them to be true and that the opinion I have expressed represent my true and complete professional opinion.
- 5.2 I confirm that my proof of evidence includes all facts that I regard as being relevant to the opinions that I have expressed and that attention to drawn to any matter which would affect the validity of those opinions
- 5.3 I confirm that my duty to the Inquiry as an expert witness overrides any duty to those instructing or paying me, and I have understood this duty and complied with it in giving my evidence impartially and objectively, and I will continue to comply with that duty as required.
- 5.4 I confirm that, in preparing this proof of evidence, I have assumed that same duty that would apply to me when giving my expert opinion in a court of law under oath or affirmation. I confirm that this duty overrides any duty to those instructing or pay me, and I have understood this duty and complied with it in giving my evidence impartially and objectively, and I will continue to comply with that duty as required.
- 5.5 I confirm that I have no conflicts of interest of any kind other than those already disclosed in this proof of evidence.

ANDREW JOHN PAGETT

30 January 2024