

Report

Land off Cunnery Close, Barlestone

Noise Assessment

For Gladman Developments Ltd

11 March 2026

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Executive Summary

This report assesses the potential noise impact associated with a proposed residential development at land off Cunners Close, Barlestone, within the administrative boundary of Hinckley and Bosworth Borough Council (HBBC). The assessment also considers the impact of development-generated road traffic on the closest and most exposed existing dwelling at 2 Cunners Close, in accordance with HBBC's request.

The proposed development comprises up to 158 dwellings on a site area of 6.53 hectares, with associated infrastructure, with all matters reserved except for access. All proposed residential developable areas are located well away from existing public roads. Vehicular access would be provided via a new access road located adjacent to 2 Cunners Close. A 1.8 m high acoustic screen is proposed close to the rear garden boundary of 2 Cunners Close to control development-generated road traffic noise at this property.

The assessment of noise affecting the proposed development has been undertaken with reference to ProPG: Planning & Noise – New Residential Development (Stage 1 Initial Site Noise Risk Assessment) and is informed by baseline noise survey measurements undertaken at representative positions across the site. The results demonstrate that daytime and night-time road traffic noise levels across all proposed residential developable areas fall within the “negligible risk” category in ProPG terms. Target internal noise levels are expected to be achievable with windows open, and external noise levels within private amenity spaces are predicted to be well below the ProPG/BS 8233 design range. Consequently, no specific building-fabric or layout-based noise mitigation is required to secure acceptable internal or external noise levels for future residents, or achieve the noise criteria referenced in draft condition 11 of the case officer's report for the previous outline application (ref. 20/00102/OUT), which sought compliance with the internal ambient noise level guideline values of BS 8233:2014.

Development-generated road traffic noise has been assessed at 2 Cunners Close, being the existing dwelling most exposed to development-generated road traffic on the proposed site access road and on Cunners Close. Future road traffic noise levels have been predicted using a three-dimensional noise model informed by traffic data provided by the project transport consultant. The predicted daytime and night-time noise levels have been assessed against the “onset of adverse impact” thresholds derived from National Highways' Design Manual for Roads and Bridges (DMRB) LA 111 “Noise and vibration”, and are below the level at which adverse noise effects would be expected to occur.

On this basis, the development is not considered likely to give rise to significant adverse effects on health or quality of life on future residents, or to cause unacceptable harm to residential amenity at either proposed or existing noise-sensitive receptors, having regard to paragraphs 135(f), 187 and 198 of the National Planning Policy Framework, policies DM7 and DM10 of the Hinckley and Bosworth Site Allocations and Development Management Policies DPD and Policy H6 of the Barlestone Parish Neighbourhood Development Plan.

Therefore, the site is considered suitable for the proposed residential development, and any detailed acoustic design measures, including the final specification of the acoustic fence adjacent to 2 Cunners Close, can be secured at the reserved matters stage or by appropriately worded planning conditions consistent with those applied to the previous outline consent.

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1 Introduction

1.1 Scope and Background

- 1.1.1 This report describes the potential impact of noise on an outline proposed residential development (the "Development") at land off Cunners Close, Barlestone (the "Site").
- 1.1.2 The assessment has been carried out by Noise Consultants (NCL), part of Logika Group, and has been prepared in accordance with National and local policy and guidance and by reference to relevant acoustics standards and guidance. A glossary of acoustic terminology is provided in **Appendix A1**.

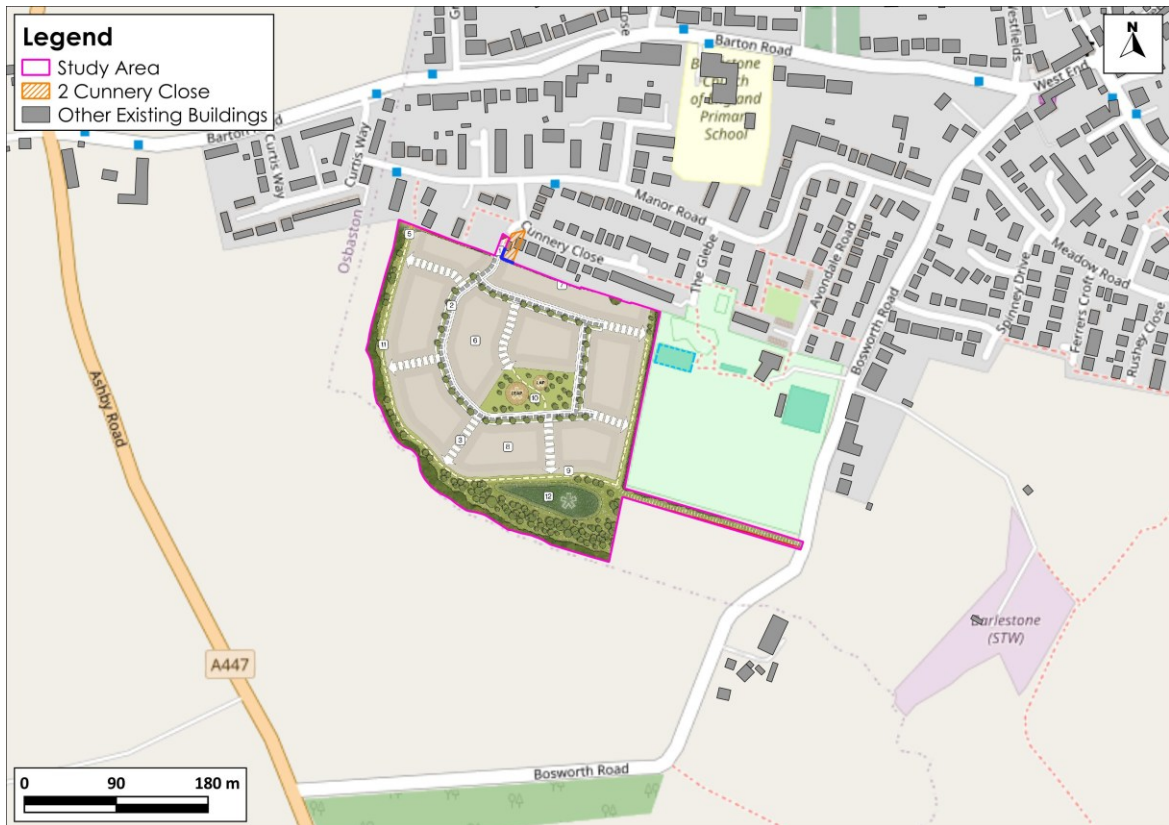
1.2 Existing Site

- 1.2.1 The Site comprises an open field, bounded to the north by the village of Barlestone, with rear gardens of dwellings off Cunners Close backing onto the Site.
- 1.2.2 No. 2 Cunners Close is located adjacent to the Site. Windows of habitable rooms (bedrooms and living rooms) are located on the dwellings' northern or southern elevation. Windows for non-habitable rooms (kitchen on the ground floor and hallway/landing at first floor) are located on the west-facing gable end of the dwelling that overlook the Site.
- 1.2.3 The Site is bounded to the east by Barlestone Community Centre, Barlestone Bowls Club, a play area and 5-a-side pitch/tennis court (enclosed with a blockwork wall and wire mesh fencing) and Bosworth Road. To the south of the Site are open fields, with Bosworth Road (located around 220 m from the Site boundary). The Site is bounded to the west by open fields, with the A447 located approximately 250 m from the Site boundary.
- 1.2.4 **Figure 1-1** presents the Site location, study area, and wider Site context. The study area aligns with the application boundary as defined at the time of preparing this report. Minor adjustments may occur during the design development and planning application process; however, these are not expected to materially affect the findings of this assessment.

1.3 Proposed Development

- 1.3.1 The Development comprises a residential development area of 6.53 hectares (ha) to accommodate up to 158 dwellings, and associated infrastructure, with all matters reserved except for access. Vehicular access to the Development will be provided via a new access road located adjacent to 2 Cunners Close. All proposed residential developable areas are proposed to be located well away from existing roads.
- 1.3.2 **Figure 1-2** presents the proposed Development Framework Plan¹ (DFP) and indicative location of a 1.8m high acoustic screen (typically an acoustic timber fence) proposed close to the rear garden boundary of 2 Cunners Close (**Inset 1**) to reduce development-generated road traffic noise at this dwelling.

¹ Gladman Developments Drawing Number: 2020-007-102



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Figure 1-1: Site Location, Study Area and Wider Context



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Figure 1-2: Proposed Development Framework Plan

1.4 Noise Sources

1.4.1 Existing baseline

- 1.4.2 Road traffic on the A447 and Bosworth Road is the dominant source of noise across the Site. Noise from use of the 5-a-side pitch/tennis courts is infrequently audible, and limited to the daytime period as the pitch/court is not floodlit.

1.4.3 Future baseline

- 1.4.4 Future road traffic volumes on existing roads are not expected to increase significantly. Similarly, no intensification of use of the Community Centre is expected. Therefore, future baseline noise levels on the Site are not expected to be materially different from existing.

1.5 Local Authority

1.5.1 Local Policy and Guidance

- 1.5.2 The Site is located within the administrative boundary of Hinckley and Bosworth Borough Council (HBBC).

Hinckley and Bosworth Borough Council Local Plan 2024 to 2045 (Pre-Submission Draft)

- 1.5.3 HBBC is currently developing a new Local Plan that will guide development from 2024 to 2045, with ongoing consultations for community input.

Hinckley and Bosworth Borough Council Local Plan (2006 to 2026)

- 1.5.4 HBBC's current Local Plan is split into four Development Plan Documents (DPDs), which include the following policies in respect of noise, which are relevant to the Proposed Development:

- Site Allocations & Development Management Policies DPD:
 - Policy DM7 Preventing Pollution and Flooding – “Adverse impacts from pollution and flooding will be prevented by ensuring that development that... it would not cause noise or vibrations of a level which would disturb areas that are valued for their tranquillity in terms of recreation or amenity.”
 - Policy DM10 Development and Design: “Developments will be permitted providing that the following requirements are met: It would not have a significant adverse effect on the privacy and amenity of nearby residents and occupiers of adjacent buildings, including matters of lighting, air quality (including odour), noise, vibration and visual intrusion.”

Barlestone Parish Neighbourhood Development Plan (2020-2039)

- 1.5.5 The Barlestone Parish Neighbourhood Development Plan (BPNDP, 'made' 2022) covers the whole parish of Barlestone for 2020–2039 and sits alongside the Hinckley & Bosworth Local Plan and the NPPF, giving local policies full weight in decision-making once “made”. The document contains themed policies on housing and built environment, the natural and historic environment, and community sustainability. The document includes the following policy in respect of noise, which are relevant to the Proposed Development:

- 1.5.6 Policy H6: - Design Standards states that “Development proposals for one or more properties, replacement dwellings and extensions will be supported where they meet the following building design principles to a degree that is proportionate to the scale of the development:

- 1.5.7 C) *The proposal does not result in an unacceptable loss of amenity for neighbouring occupiers by reason of loss of privacy, loss of daylight, visual intrusion or noise."*

1.6 Key Planning History and Noise Aspects

- 1.6.1 An outline application (ref. 20/00102/OUT, resubmission of 19/01011/OUT) for up to 176 dwellings with access from Cunnery Close was refused in June 2020 on grounds not including noise, with the case officers' planning committee report recommending planning approval is granted and providing draft conditions, reproduced below:

"11 Prior to the commencement of the development hereby approved, a scheme to demonstrate that the internal noise levels within the residential units will conform to the guideline values for internal ambient noise levels identified by BS 8233 2014 - Guidance on Sound insulation and Noise Reduction for Buildings, shall be submitted to and approved in writing by the Local Planning Authority.

14 No development shall take place until details of an acoustic fence to the boundary of the access and No.2 Cunnery Close, on land within the application boundary, has been submitted to and approved in writing by the Local Planning Authority. The dwelling hereby approved shall [sic]² be occupied until the acoustic fence has been erected and approved shall be occupied until the acoustic fence has been erected in accordance with the approved details."

- 1.6.2 On appeal, the Inspector identified as a main issue *"the effect of the development on the living conditions of residents of dwellings on the south side of Cunnery Close, with particular regard to noise and disturbance, outlook and overlooking."* The Inspector found that this approach left the *"full extent"* of noise mitigation (height and length of acoustic fencing and its implications) unspecified and considered it unreasonable to rely on a condition where both the noise effects and the mitigation were *"so imprecise,"* given the access runs directly alongside No. 2's garden.
- 1.6.3 Overall, the Inspector found potential harm to residential amenity at No. 2 arising from noise and disturbance and held that the proposed mitigation could itself introduce other, yet unidentified, harm; this constituted conflict with Policy DM10(a) and Paragraph 127(f) of the NPPF (2019 version, now Paragraph 135(f) of latest NPPF) on protecting existing residents' amenity.
- 1.6.4 In summary, while the Council had accepted in principle that development-generated noise could be controlled by condition(s), the Inspector dismissed the appeal partly because of unresolved and potentially significant noise and disturbance impacts from the access road on 2 Cunnery Close, and because the noise mitigation strategy (notably any acoustic barrier) was insufficiently defined at the outline stage.

1.7 Consultation

- 1.7.1 NCL contacted HBBC's Environmental Health Department by email on 03 December 2025, setting out the proposed survey and assessment methodology for agreement prior to any assessment works taking place.
- 1.7.2 A response was received from an environmental health officer (EHO) on 08 December 2025, confirming that a new baseline noise survey over a period of 24 hours on a weekday should be carried out. Additionally, an assessment of the potential noise impact on No. 2 Cunnery Close attributable to development-generated road traffic was also requested.

² Note: The condition appears to contain a drafting error; it is presumed the intention was *"shall not be occupied."*

2 Assessment Approach

2.1 Future Baseline Conditions

- 2.1.1 Representative future baseline conditions have been determined by way of a baseline noise measurement survey. It is not anticipated that the future baseline conditions will be materially different from existing conditions.

2.2 Site Suitability Assessment

2.2.1 Baseline Noise Survey

- 2.2.2 To quantify the current noise climate relevant to the Site, a baseline noise survey was conducted between 11:00 on Wednesday 28 January and 12:36 on Thursday 29 January. The noise survey was designed to capture ambient and background sound levels during the daytime (07:00 – 23:00) and night-time (23:00 – 07:00) periods over a weekday at three locations. The survey was specifically designed to characterise the existing noise climate around the Site and of sources advised in **Section 1.4**.

- 2.2.3 The baseline noise conditions are described in **Section 3.1** with full details of the baseline noise measurement survey provided in **Appendix A2**.

2.2.4 Assessment Criteria – Noise

- 2.2.5 Following a good acoustic design process is an implicit part of achieving good design as required by Government planning and noise policy, set out in the Noise Policy Statement for England (NPSE, 2010) and the National Planning Policy Framework (NPPF, 2024).
- 2.2.6 A good acoustic design process should achieve optimal acoustic conditions, both internally and within external amenity spaces, but should avoid “unreasonable” acoustic conditions. Good acoustic design should prevent “unacceptable” acoustic conditions and embrace integrated solutions to deliver the optimum acoustic outcome for a particular site without design compromises that will adversely affect living conditions and the quality of life of the inhabitants or other sustainable design objectives and requirements.
- 2.2.7 The assessment criteria set out in the following sections have been selected in accordance with the relevant local and national policies and guidance (**Section 1.5** and **Appendix A3**, respectively) and by reference to the appropriate acoustics standards (see **Appendix A4**).

ProPG Stage 1: Site Suitability Assessment

- 2.2.8 The ProPG³ site noise risk classification presented in **Table A4-1** of **Appendix A4** is a sliding scale that does not define precise noise exposure limits for site risk classification. The criteria are intended to characterise risk for both external amenity spaces during the day and internal habitable rooms during the day and night. Importantly, the ProPG site risk assessment is normally carried out for an empty site before the Site massing and any mitigation measures are applied.
- 2.2.9 For the purposes of this assessment, the noise thresholds that have been adopted to classify Site risk are defined in **Table 2-1** for the daytime and night-time periods. These thresholds represent the lowest observed adverse effect level (LOAEL), significant observed adverse effect level (SOAEL) and

³ Professional Practice Guidance on Planning and Noise: New Residential Development (2017). Institute of Acoustics, Association of Noise Consultants, and Chartered Institute of Environmental Health.

unacceptable adverse effect level (UAEL) as defined in the national noise policy and guidance in **Appendix A3**.

Table 2-1: Site Risk Noise Exposure Thresholds

ProPG Site Risk Category	Noise Exposure Threshold			ProPG Based Pre-Planning Application Advice
	dB LAeq,16hr	dB LAeq,8hr	dB LAfmax	
Negligible (Below LOAEL)	<50	<40	10 th highest <55	Indicates the development site is likely to be acceptable from a noise perspective.
Low (LOAEL- SOAEL)	50 – 63	40 – 53	10 th highest 55 – 68	Indicates the development site is likely to be acceptable from a noise perspective, provided that a good acoustic design process is followed and demonstrated.
Medium (Above SOAEL)	63 – 70	53 – 66	10 th highest 68 – 81	Indicates the Site is less suitable from a noise perspective. A subsequent application may be refused unless a good acoustic design process is followed and demonstrated.
High (UAEL)	>70	>66	10 th highest >81	Indicates an increased risk that the Development would be refused on noise grounds.

ProPG Stage 2: Full Assessment

- 2.2.10 Where the ProPG Stage 1 assessment indicates that the site is at low, medium or high risk of adverse noise effects, a ProPG Stage 2 assessment should be carried out. Conversely, where the ProPG assessment indicates that the Site is at negligible risk, a ProPG Stage 2 assessment and therefore an Acoustic Design Statement (ADS) are not required, and mitigation to achieve acceptable noise levels on the Site are likely unnecessary.
- 2.2.11 The following sections outline the relevant internal and external noise guidelines considered in the assessment.

Target Noise Levels

- 2.2.12 Target internal noise levels relate to habitable rooms (bedrooms and living rooms) under whole dwelling ventilation conditions⁴ and are based on the internal noise guidelines set out in BS 8233:2014⁵.
- 2.2.13 There is no requirement, with reference to BS 8233:2014 and the Building Regulations Approved Document F – Ventilation (ADF), or any local policy or guidance, for the target internal noise levels to be achieved with open windows.
- 2.2.14 The initial assumptions on the sound insulation performance of the building envelope constructions are provided in **Appendix A5**. For generic living room and bedroom volumes and window sizes, a composite façade construction comprising a brick and block cavity wall, standard double glazing and a non-acoustic background ventilator provides a sound level difference from outside to inside of approximately 23 dB(A). Where open windows are considered in the assessment, a sound level

⁴ As required by The Building Regulations Approved Document F - Ventilation.

⁵ British Standard 8233:2014 Guidance on sound insulation and noise reduction for buildings.

difference from outside to inside of 13 dB(A) has been assumed for a partially open window⁶. This equates to an equivalent open area of approximately 2% of the floor area of the associated habitable room.

2.2.15 Target external noise levels relate to private amenity spaces (i.e. gardens, balconies and roof terraces) or communal amenity spaces for the sole use of residents of the proposed Development and are based on the guidance set out in BS 8233:2014.

2.2.16 The target noise levels are presented in **Table 2-2**.

Table 2-2: Target Noise Levels

Location	Activity	Daytime Noise Level (07:00 – 23:00)	Night-time Noise Level (23:00 – 07:00)
Living Room	Resting	≤ 35 dB LAeq,16hr	-
Dining Room	Dining	≤ 40 dB LAeq,16hr	-
Bedroom	Sleeping (daytime resting)	≤ 35 dB LAeq,16hr	≤ 30 dB LAeq,8hr ≤ 45 dB LAfmax (normally less than 10 times a night)
External Amenity Areas	Resting	≤ 50-55 dB LAeq,16hr	-

2.3 Assessment of Development-Generated Road Traffic

2.3.1 Noise Modelling

2.3.2 Road traffic noise levels within the curtilage of No.2 Cunnergy Close due to development-generated traffic have been calculated based on traffic data provided by the Project's Transport consultant. NCL understand that the proposed Development is anticipated to generate an annual average weekday traffic (AAWT) flow of 840 vehicles (0% HGV, 20mph).

2.3.3 The noise model has been prepared using the Predictor-LimA software and assumptions set out in **Appendix A6**. Road links included in the model comprise the proposed vehicular access road from the Site entrance to the first junction of internal roads, and the route from the Site entrance to the junction of Cunnergy Close and Manor Road. The noise model includes an indicative location of the proposed 1.8 m high acoustic screen, but excludes any dwellings that might provide any additional acoustic screening that might further reduce development-generated road traffic to undertake a reasonably worst-case assessment.

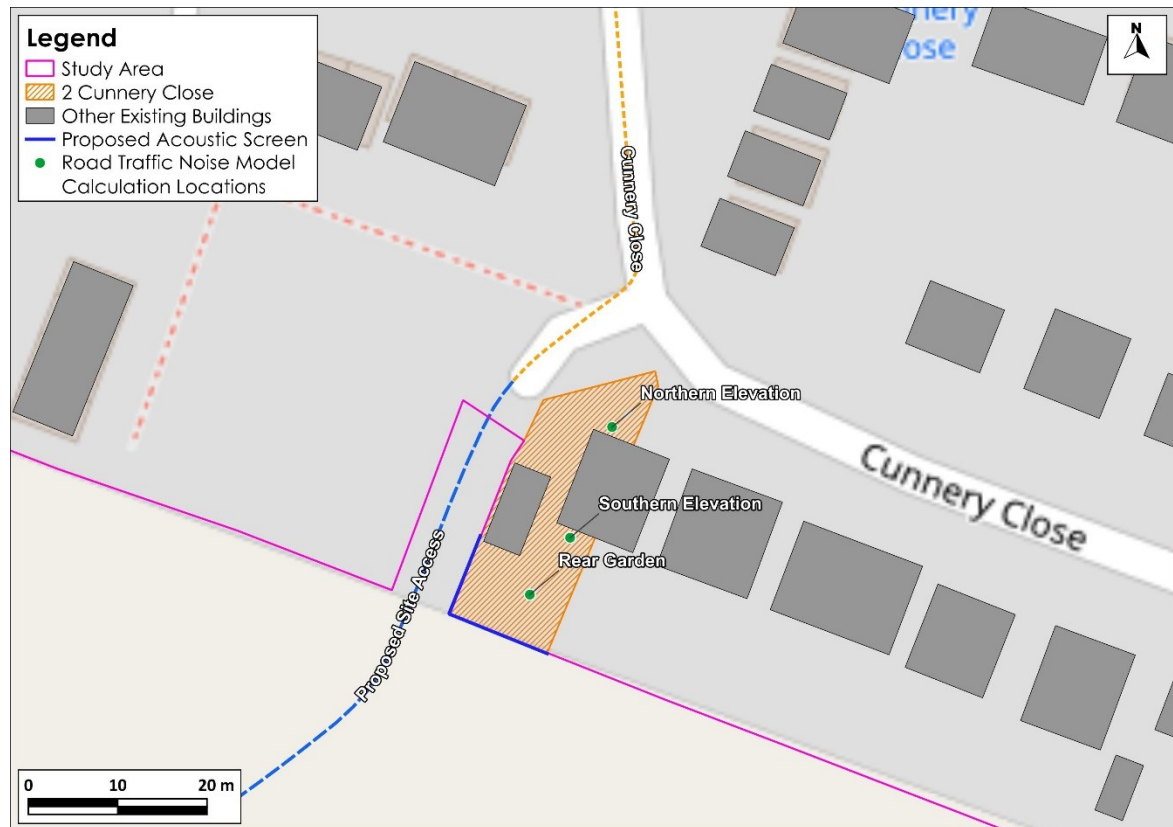
2.3.4 The Daytime road traffic noise levels (in terms of the LA10,18hr metric) have been predicted using the methodology set out in The Department of Transport (1988), Calculation of Road Traffic Noise (CRTN, **Appendix A4.4**). Equivalent daytime (07:00-23:00) noise levels have been calculated from the LA10,18hr noise levels using the procedure set out in BS 8233: 2014. Night-time traffic volume data is not available, and therefore night-time road traffic noise levels have been predicted using the methodology set out in Method 3 of Transport Research Laboratory Report PR/SE/451/02 Converting the UK Traffic Noise Index LA10,18hr to EU Noise Indices for Noise Mapping (TRL, **Appendix A4.5**).

2.3.5 Future external road traffic noise levels have been predicted in the rear garden of 2 Cunnergy Close, and at 1.0 m from the northern and southern elevations of the dwelling, at ground floor (1.5m above

⁶ Waters-Fuller, T., Lurcock, D., Mackenzie, R. & MacKenzie, R. (2007). NANR 116: 'Open/Closed Window Research' Sound Insulation Through Ventilated Domestic Windows.

ground level) and first-floor (4.0 m above ground level). Any existing fencing around the garden boundary of 2 Cunnergy Close has not been included in the noise model.

- 2.3.6 The spatial extents of the road traffic noise model, an indicative location of the proposed 1.8 m high acoustic screen, and receptor locations at which road traffic noise levels have been predicted are shown in **Figure 2-1**.



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Figure 2-1: Sample of Spatial Extents of Road Traffic Noise Model and Calculation Locations

2.3.7 Assessment Criteria

- 2.3.8 The predicted noise levels have then been assessed against potential adverse effect thresholds based on the principles advised in Design Manual for Roads and Bridges: Sustainability & Environmental Appraisal LA 111 Noise and Vibration (LA 111) (**Appendix A4.6**), reproduced in **Table 2-3**, which are considered to align with the adverse effect of the Noise Policy Statement for England (NPSE, **Appendix A3.1**).

Table 2-3: Operational Road Traffic Noise LOAEL's and SOAEL's

Time Period	LOAEL	SOAEL
Daytime (06:00 - 00:00)	55 dB LA10,18hr (façade)	68 dB LA10,18hr (façade)
Night-time (23:00 - 07:00)	40 dB L _{night} (free-field)	55 dB L _{night} (free-field)

- 2.3.9 Where long-term noise levels do not exceed the LOAEL, the effect is not considered adverse, and no additional noise mitigation is considered necessary.
- 2.3.10 Where the long-term noise level is newly between the LOAEL and SOAEL, LA 111 suggests significance criteria which are generally informed by exceedances above LOAEL and SOAEL and noise level

change, and are shown in **Table A4-5**. A 3 dB increase in the daytime ($\text{dB LA}_{10,18\text{hr}}$) or night-time (LAeq,8hr) noise level results in a moderate or major adverse magnitude of impact that is considered potentially significant.

3 Baseline Conditions

3.1 Noise Measurement Survey

3.1.1 **Figure 3-1** presents the noise monitoring locations, which are described in **Table 3-1** below⁷. The noise monitoring locations were chosen to provide an understanding of the noise conditions across the site and at existing dwellings to the north of the Site. Photographs of the noise monitoring locations are provided in **Appendix A2.2**.



Contains OpenStreetMap data © [OpenStreetMap](#) contributors.

Figure 3-1: Baseline Noise Survey Monitoring Locations

Table 3-1: Summary of Noise Survey Locations

Location	Description	Observations
LT2	Unattended free-field measurement, 1.4 m above ground, close to the southern Site boundary. Location chosen to measure road traffic noise, predominantly on the A447.	Road traffic from the A447 was the dominant contributor to the noise climate at LT2 throughout the daytime and night-time periods.
LT3	Unattended free-field measurement, 1.4 m above ground, close to the eastern Site boundary, and Barlestone Community Centre. Location chosen to measure general environmental noise	Road traffic from the A447 and Bosworth Road was the dominant contributor to the noise climate at LT3 throughout the daytime and night-time periods. A brief period (16:20-17:10 on

⁷ Note that location LT1 was well outside the Study area. It is now not relevant to the assessment and any findings at this location have not been reported. The remaining locations have not been renumbered to avoid ambiguity or confusion.

Location	Description	Observations
	levels any noise from Barlestone Community Centre.	28 January) of children playing football on the 5-a-side court, adjacent to the Site boundary.
LT4	Unattended free-field measurement, 1.4 m above ground, close to the northern Site boundary. Location chosen to measure general environmental noise levels at a location representative of 2 Cunliffe Close.	Road traffic from the A447 and Bosworth Road was the dominant contributor to the noise climate at LT4 throughout the daytime and night-time periods.

- 3.1.2 A weather station was installed at WML, which is in the centre of the Site, away from any existing buildings or wooded areas to ensure reliable windspeed and direction data was obtained (as shown in **Figure 3-1**). Full details of the weather monitoring are provided in **Appendix A2.3**. Observed weather conditions were suitable for noise measurement survey as detailed in **Appendix A2.3**.
- 3.1.3 The sound level meters were field calibrated before and after each measurement with no significant drift (i.e. >0.5 dB) in calibration recorded. Windshields were fitted to the microphones to minimise the effects of any wind-induced noise for the duration of the survey. Details of the monitoring instrumentation (model/serial numbers and calibration details) are presented in **Appendix A2.4**. All noise instrumentation was configured to report the environmental parameters L_{eq} , L_{10} , L_{90} and L_{Fmax} in whole octave-bands and A-weighted broadband levels in 2-minute integration periods, at a 100 ms sample rate.
- 3.1.4 The results of the unattended noise measurement survey are summarised in **Table 3-2**, rounded to the nearest decibel. The full noise measurement survey results are presented in **Appendix A2**. The results of the attended noise measurement survey are presented in **Table 3-2**, rounded to the nearest decibel.

Table 3-2: Summary of Unattended Measured Free-Field Noise Levels

Location	Period	$L_{Aeq,T}$ (dB)	L_{AFmax} (10 th Highest) (dB)	$L_{A90,5min}$ (mean) (dB)	$L_{A90,5min}$ (mode) (dB)
LT2	Daytime (07:00 – 23:00)	43	-	39	38
	Night-time (23:00 – 07:00)	37	54	28	24
LT3	Daytime (07:00 – 23:00)	45	-	37	37
	Night-time (23:00 – 07:00)	36	54	28	25
LT4	Daytime (07:00 – 23:00)	45	-	39	38
	Night-time (23:00 – 07:00)	37	55	28	24

4 Noise Assessment

4.1 Initial Site Noise Risk Assessment (ProPG Stage 1)

- 4.1.1 An initial site noise risk assessment has been undertaken to provide an indication of the likely risk of adverse effects and the suitability of the Site for residential development, excluding any subsequent mitigation measures which may be included as part of the development proposals.
- 4.1.2 The measured external noise levels presented in **Table 3-2** have been compared against the noise exposure thresholds set out in **Table 2-1**. **Table 4-1** presents the initial site noise risk assessment for the Site.

Table 4-1: Initial Site Noise Risk Assessment

Location	Dominant source	Daytime L _{Aeq,16hr} (dB)	Night-time L _{Aeq,8hr} (dB)	Night-time 10 th Highest L _{Afmax} (dB)	ProPG Stage 1 Outcome
LT2	Road traffic	43	37	54	Likely negligible risk
LT3	Road traffic	45	36	54	Likely negligible risk
LT4	Road Traffic	45	37	55	Likely negligible risk

- 4.1.3 **Table 4-1** indicates that the Site is at 'negligible' risk during the daytime, and negligible risk during the night-time.

4.1.4 Summary

- 4.1.5 The ProPG Stage 1 assessment demonstrate that the site is at 'negligible' risk of adverse noise effects in both the day and night, and therefore, based on the guidance set out ProPG, a Stage 2 noise risk assessment is not required to be undertaken.
- 4.1.6 Furthermore, based on the assumptions on the sound insulation performance of the building envelope constructions provided in **Appendix A5** and paragraph 2.2.11, the adopted internal target noise levels in **Table 2-2** will be met with windows open, and the external target noise levels in amenity spaces met without the need for any specific noise mitigation measures.

4.2 Assessment of Development-Generated Road Traffic.

4.2.1 Results

- 4.2.2 The results of the noise modelling are summarised in **Table 4-2**. The highest of the predicted ground- and first-floor noise levels are presented for each of the northern- and southern-facing elevations of 2 Cunnery Close, which represents a reasonably worst-case assessment outcome.

Table 4-2: Predicted Development-Generated Road Traffic Noise Levels, 2 Cunnery Close

Elevation	Daytime			Night-time	
	External		Internal	External	Internal
	L _{A10,18hr} , façade (dB)	L _{Aeq,16hr} (dB)*		L _{Aeq,8hr} / L _{Night} (dB)	
Northern Elevation	52	50	37	37	24
Southern Elevation	44	42	29	39	26
Rear Garden	-	41	-	-	-
* The L _{A10,18hr} calculated road traffic noise level has been converted to L _{Aeq,16hr} using the following relationship: L _{Aeq,16hr} = L _{A10,18hr} – 2 dB (BS 8233:2014)					

4.2.3 Assessment

External Road Traffic Noise Levels

- 4.2.4 The predicted daytime road traffic façade noise levels at the dwelling façade (up to 52 dB L_{A10,18hr}) do not exceed the adopted LOAEL of LA 111 (55 dB L_{A10,18hr}). Similarly, the predicted free-field night-time road traffic noise levels at the dwelling façade (up to 39 dB L_{Aeq,8hr}) do not exceed the adopted LOAEL of LA 111 (40 dB L_{Aeq,8hr}).
- 4.2.5 Free-field daytime noise levels in the centre of the rear garden (41 dB L_{Aeq,16hr}) are well below the most onerous target noise levels for private amenity spaces as set out in BS 8233: 2014 (50 dB L_{Aeq,16hr}).
- 4.2.6 Whilst development-generated road traffic noise levels would be audible within the curtilage of 2 Cunnery Close, the predicted levels would not exceed the LOAEL and would not result in an adverse effect. Therefore, provided acoustic screening is incorporated into the Development in a manner comparable to that considered in this assessment, development-generated road traffic would not result in unacceptable noise impact on the amenity of 2 Cunnery Close.

5 Conclusions

5.1.1 This report describes the potential impact of noise on the proposed residential development (the "Development") at land off Cunnery Close, Barlestone (the "Site"). The assessment has been carried out by Noise Consultants (NCL), part of Logika Group.

5.1.2 Existing Site

5.1.3 The Site comprises an open field, bounded to the north by the village of Barlestone, with rear gardens of dwellings of Cunnery Close backing onto the Site. The Site is bounded to the east by Barlestone Community Centre, Barlestone Bowls Club, a play area, a 5-a-side pitch/tennis court and Bosworth Road. To the south of the Site are open fields, with Bosworth Road (located around 220 m from the Site boundary). The Site is bounded to the west by open fields, with the A447 located approximately 250 m from the westernmost Site boundary.

5.1.4 Proposed Development

5.1.5 The Development comprises a residential development area of 6.53 ha to accommodate up to 158 dwellings, and associated infrastructure, with all matters reserved except for access. Vehicular access to the Development will be provided via a new access road located adjacent to 2 Cunnery Close.

5.1.6 Noise Sources

5.1.7 Road traffic from Bosworth Road to the east and the A447 to the south and west is the dominant source of noise across the Site. There is also infrequent noise from the use of the 5-a-side pitch/tennis court to the east of the Site.

5.1.8 Baseline Survey

5.1.9 To quantify current levels of ambient noise on the Site and at a location representative of existing baseline noise levels outside 2 Cunnery Close, an unattended noise survey was conducted over a period of 24 hours on a weekday.

5.1.10 Initial Site Noise Risk Assessment

5.1.11 Based on the results of the baseline noise survey, the ProPG Stage 1 Site Suitability Assessment indicates that the proposed residential developable areas of the Site are at negligible risk of adverse noise effects during the daytime and night-time.

5.1.12 Internal noise levels are likely to be achievable in habitable rooms of all dwellings with open windows, External noise levels in private amenity spaces are also likely to be below the target design range across the Site, and thereby the noise criteria referenced in draft condition 11 set out in the case officers planning committee report prepared in connection with the previous outline application (ref. 20/00102/OUT).

5.1.13 Development-Generated Road Traffic

5.1.14 Through the provision of adequate acoustic screening, the assessment of the predicted development-generated road traffic at 2 Cunnery Close indicates that daytime and night-time noise levels would be below a level associated with the onset of adverse effects (LOAEL), and would therefore, not be significant nor result in an adverse noise impact or unacceptable disturbance on the amenity of the occupiers of 2 Cunnery Close.

5.1.15 Conclusions

- 5.1.16 On the basis of this assessment, the Development is a negligible risk Site, and is not considered to give rise to a significant adverse impact on health and quality of life in relation to noise, in accordance with paragraphs 135(f), 187 and 198 of the NPPF, policies DM7 and DM10 of the Hinckley and Bosworth Borough Council Local Plan Site Allocations & Development Management Policies DPD, and Policy H6 of the Barlestone Parish Neighbourhood Development Plan.
- 5.1.17 The need to ensure that an acoustic screen of suitable form and height is incorporated into the development during the detailed design can be secured by a suitably worded planning condition, if necessary.

6 Appendices

A1 Glossary

Term	Definition
dB	Decibel. The logarithmically scaled measurement unit of sound.
AAWT	Annual Average Weekday Traffic, a key metric in transportation engineering and planning that measures the average daily vehicle volume on weekdays (Monday to Friday) over a full year.
A-weighting	Frequency weighting applied to measured sound in order to account for the relative loudness perceived by the human ear.
Ambient Sound Level, $L_{Aeq,T}$	A-weighted equivalent continuous sound level over a given time period. It is the sound level of a steady sound that has the same energy as a fluctuating sound over the same time period. Daytime is typically 07:00 – 23:00 and night-time is typically 23:00 – 07:00.
Background Sound Level $L_{A90,T}$	The A-weighted sound level exceeded for 90% of the measurement period. Often referred to as the background sound level.
$D_{n,e,w}$	Standardised (normalized to a reference reverberation time of 0.5 s), weighted (single-number quantity representing a spectra of values), sound level difference between an external location and a receiving room.
Façade Sound Level	A sound level which is measured or calculated typically 1 m in front of a window, door, wall or other structure or reflective surface other than the ground which therefore includes reflections from the façade.
Free-field Sound Level	A sound level which is measured or calculated in the open without any reflections from nearby surfaces except the ground. Measurements are typically carried out at 1.2 m to 1.5 m above ground level and at least 3.5 m from other reflective surfaces such as buildings which is in accordance with British Standard 7445-2: 1991 <i>Description and measurement of environmental noise - Part 2: Guide to the acquisition of data pertinent to land use</i> .
L_{Amax}	The A-weighted maximum recorded noise level during a measurement period. L_{AFmax} noise levels are measured using a fast (F) measurement weighting (125 ms) and L_{ASmax} noise levels are measured using a slow (S) measurement weighting (1 s).
R_w	The weighted Sound Reduction Index which characterises the airborne sound insulation of a building element over a range of frequencies with a single number quantity.
Sound Reduction Index Spectrum Adaptation Terms, C and C_{tr}	Spectrum adaption terms that use a standard reference curve to determine the weighted value of airborne sound insulation. C and C_{tr} take into account different source spectra, where C considers the A-weighted pink noise spectrum and C_{tr} considers the A-weighted urban traffic noise spectrum.

A2 Baseline Survey Details

A2.1 Overview

A2.1.1 All noise measurements were conducted, where possible, in accordance with BS 7445-1:2003 'Description and measurement of environmental noise. Guide to quantities and procedures' (BS 7445, 2003).

A2.2 Photographs of Noise Measurement Locations



Figure A2-1: Noise Monitoring Location LT2



Figure A2-2: Noise Monitoring Location LT3



Figure A2-3: Noise Monitoring Location LT4

A2.3 Survey Conditions

A2.3.1 A weather station was located at the centre of the Site. **Figure A2-4** presents the weather conditions during the noise survey period. Erroneous noise data measured during periods of rain or average wind speeds exceeding 5 ms⁻¹ have been excluded from the data analysis.

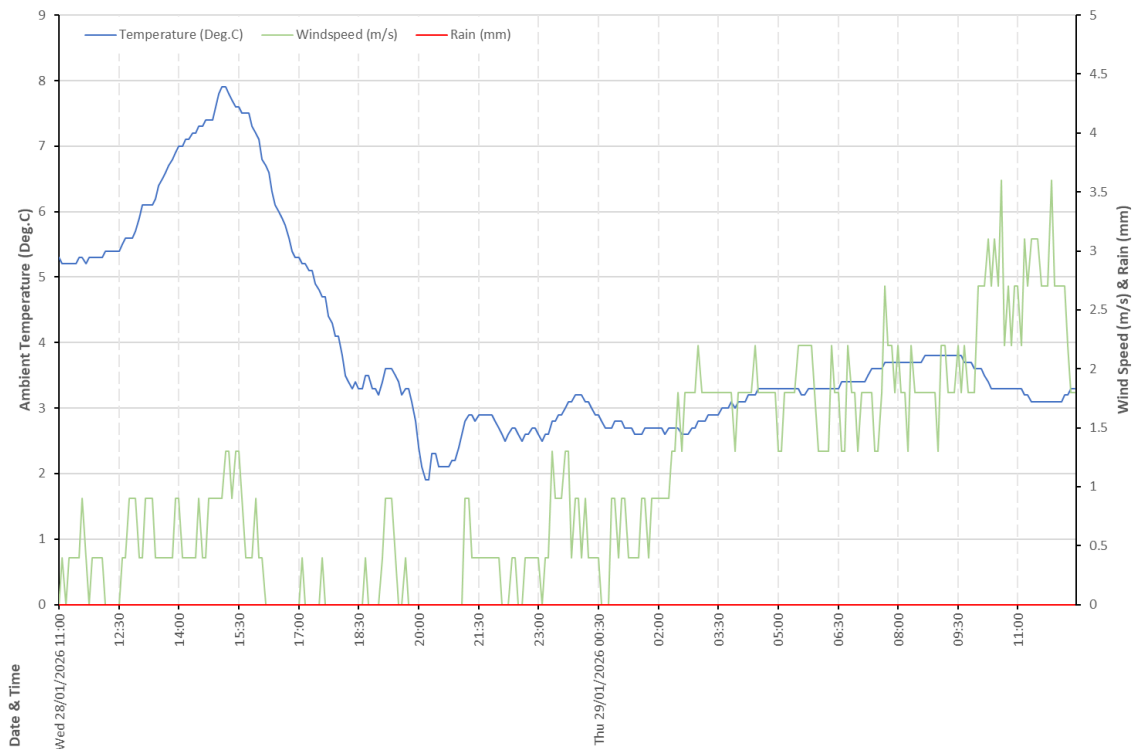


Figure A2-4: Weather Conditions During Noise Measurement Survey

A2.3.2 There were no known atypical conditions on local roads (e.g. road works, temporary traffic lighting and traffic management) during the survey.

A2.4 Noise Monitoring Equipment

A2.4.1 Details of the equipment used during the survey can be found in **Table A2-1**.

Table A2-1: Measurement Equipment

Equipment	Make and Model	Serial Number	Date of Last Laboratory Calibration
Sound Level Meter	Rion NL-52	01009670	04/02/2025
Sound Level Meter	Rion NL-52	01176453	16/07/2025
Sound Level Meter	Rion NL-52	01009667	11/03/2025
Weather Station	Davis Vantage Vue	-	n/a

A2.5 Time-Level History Charts

A2.5.1 Time-level history charts are provided in the following figures for each unattended noise measurement location.

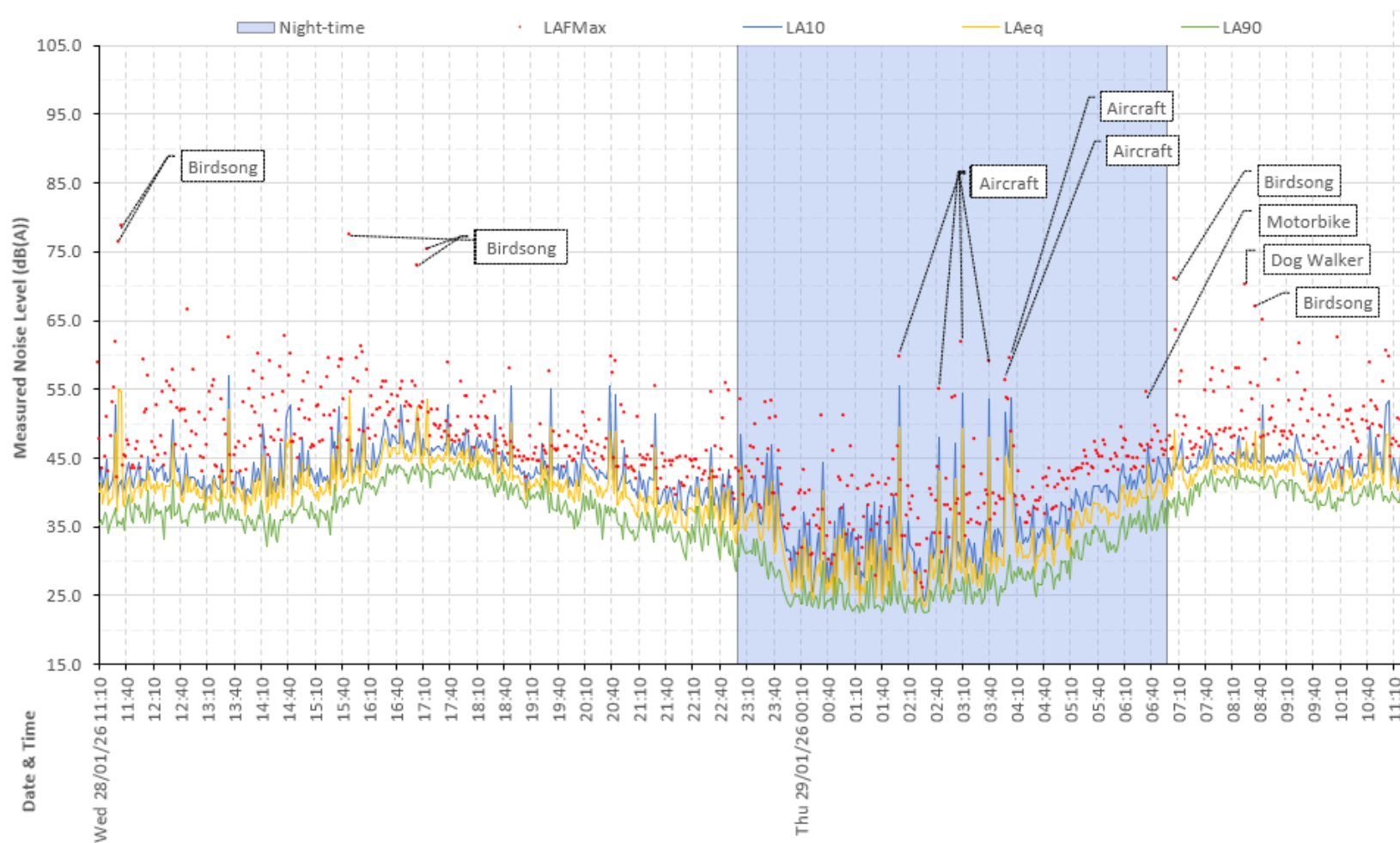


Figure A2-5: Time History Chart for Noise Monitoring Location LT2

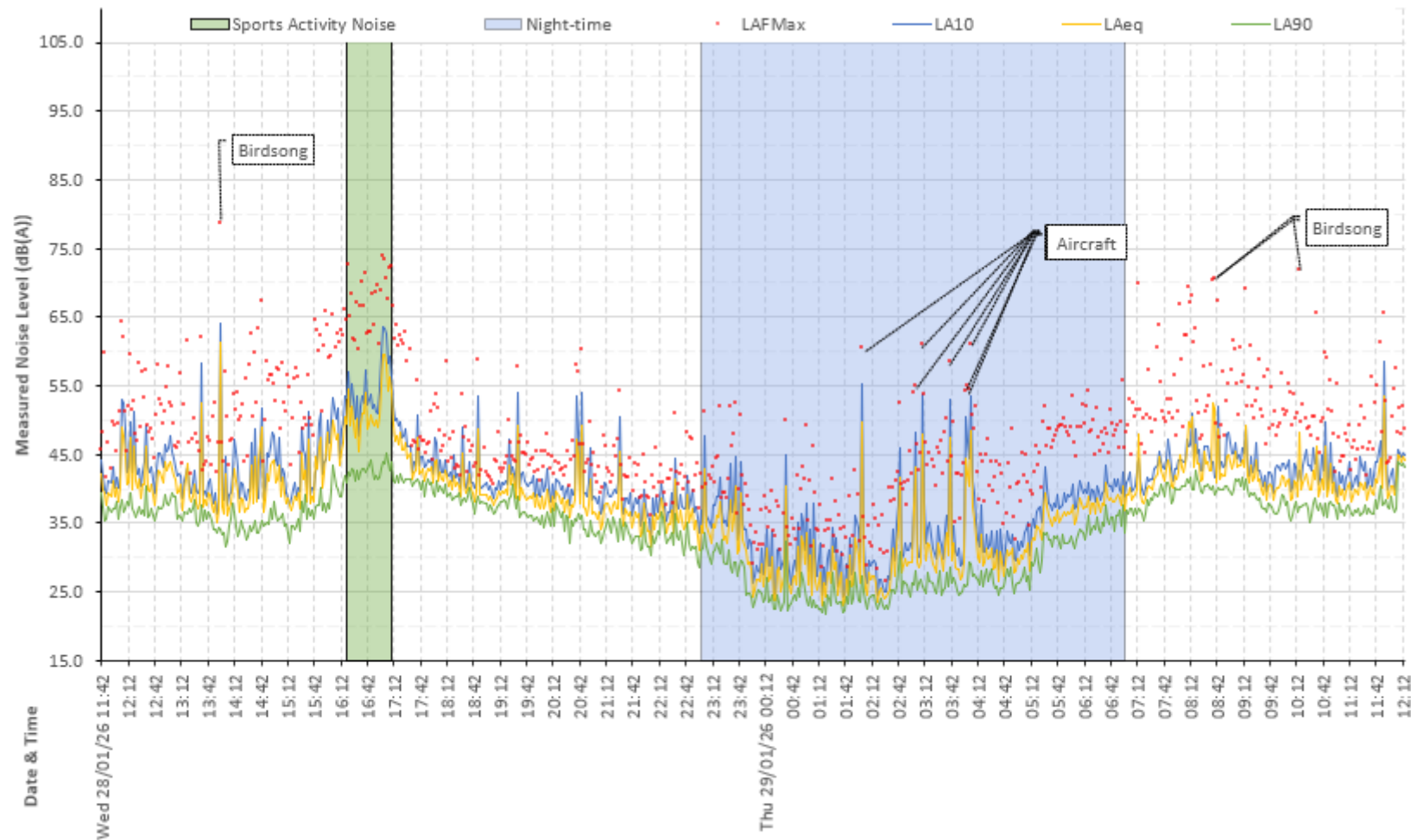


Figure A2-6: Time History Chart for Noise Monitoring Location LT3

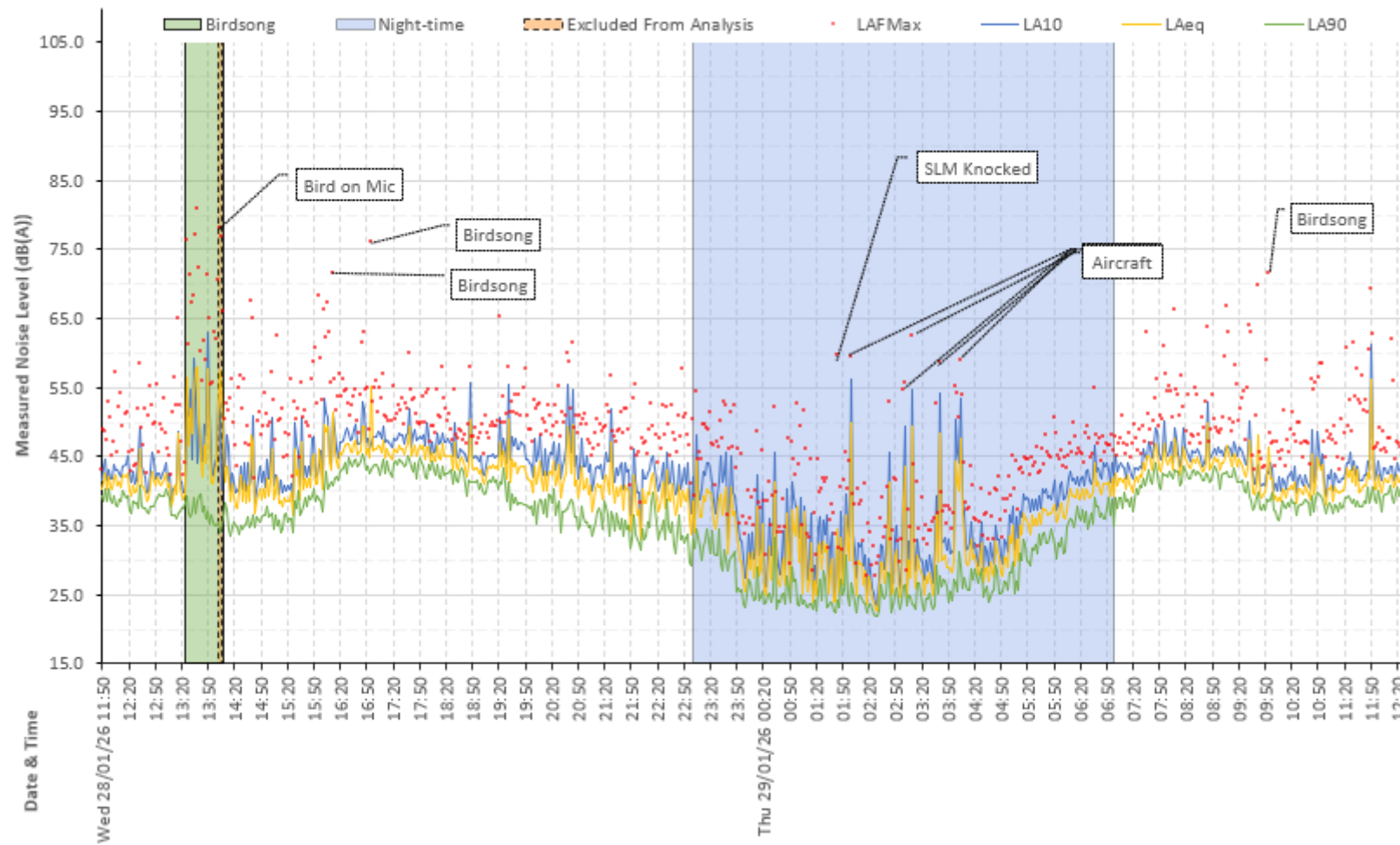


Figure A2-7: Time History Chart for Noise Monitoring Location LT4

A3 National Policy and Guidance

A3.1 Noise Policy Statement for England (NPSE, 2010)

A3.1.1 The Noise Policy Statement for England (NPSE, 2010) 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".

A3.1.2 The aims of the policy are "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
- Where possible, contribute to the improvement of health and quality of life."

A3.1.3 With respect to 'significant adverse' and 'adverse' impacts in line with the three aims of NPSE, the policy statement notes that "there are two established concepts from toxicology that are currently being applied to noise impacts, for example, by the World Health Organization. They are:

- NOEL – No Observed Effect Level: This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise
- LOAEL – Lowest Observed Adverse Effect Level: This is the level above which adverse effects on health and quality of life can be detected.
- Extending these concepts for the purpose of this NPSE leads to the concept of a significant observed negative effect level.
- SOAEL – Significant Observed Adverse Effect Level. This is the level above which significant adverse effects on health and quality of life occur."

A3.1.4 In respect of observed effect levels, the policy recognises that:

"It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available".

A3.1.5 The document advises that "the first aim of the NPSE states that significant adverse effects on health and quality of life should be avoided while also taking into account the guiding principles of sustainable development". Whilst not explicitly stated in NPSE this is taken to align with noise exposure above SOAEL.

A3.1.6 The policy also states:

"The second aim of the NPSE refers to the situation where the impact lies somewhere between LOAEL and SOAEL. It requires that all reasonable steps should be taken to mitigate and minimise negative effects on health and quality of life while also taking into account the guiding principles of sustainable development (paragraph 1.8). This does not mean that such negative effects cannot occur."

- A3.1.7 And finally, the third aim "seeks, where possible, to positively improve health and quality of life through the pro-active management of noise while also taking into account the guiding principles of sustainable development, recognising that there will be opportunities for such measures to be taken and that they will deliver potential benefits to society. The protection of quiet places and quiet times as well as the enhancement of the acoustic environment will assist with delivering this aim".

A3.2 National Planning Policy Framework (NPPF, 2024)

- A3.2.1 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these should be applied. The Planning Practice Guidance (PPG) provides further context to the NPPF, and it is intended that the two documents should be read in conjunction. Planning Practice Guidance – Noise (PPG-N, 2019) is discussed in detail in **Section A3.3**.
- A3.2.2 NPPF provides policies to promote sustainable development and sets out that the purpose of the planning system is to contribute to the achievement of sustainable development. Sustainable development includes three dimensions: economic, social, and environmental, and thus, when planning decisions are made to increase capacity, the process requires weighing the relative balance of these three factors.
- A3.2.3 The NPPF provides a framework within which locally prepared plans for housing and other development can be produced. Planning law requires that applications for planning permission must be determined in accordance with the development plan, unless material considerations indicate otherwise. Planning policies and decisions must reflect and where appropriate, promote relevant obligations and statutory requirements.
- A3.2.4 In relation to noise, paragraph 135(f) of the NPPF states that planning and policy decisions should ensure that developments "*create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.*"
- A3.2.5 The following policies also relate to noise;
- "187. Planning policies and decisions should contribute to and enhance the natural local environment by: ...*
- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and..."
- A3.2.6 The NPPF includes policy which makes reference to "*significant adverse impacts on health and quality of life*", as per the NPSE. NPPF policy states:
- "198. Planning policies and decisions should also 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:*
- 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;

- identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and..."

A3.3 Planning Practice Guidance – Noise (PPG-N, 2019)

A3.3.1 The National Planning Practice Guidance (PPG), which supplements the NPPF, incorporates Planning Practice Guidance – Noise (PPG-N). PPG-N, most recently updated in 2019, advises how the planning system can manage potential noise impacts in new development and draws upon the principles advocated in the NPSE.

A3.3.2 The document advises how the effects of noise can be described in terms of perception and outcomes aligned to increasing effect levels. In addition, the PPG-N introduces a fourth unacceptable adverse effect levels (UAEL), which is described as a level at which:

"noise exposure would cause extensive and sustained adverse changes in behaviour and / or health without an ability to mitigate the effect of the noise. The impacts on health and quality of life are such that regardless of the benefits of the activity causing the noise, this situation should be avoided."

A3.3.3 **Table A3-1** presents the noise exposure hierarchy described in PPG-N.

A3.3.4 The Guidance advises that due to the subjective nature of noise, *"that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any situation"*.

Table A3-1: Planning Practice Guidance – Noise Exposure Hierarchy

Perception	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 or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived 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 and/or attitude, 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 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 and/or attitude, 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 and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

A3.3.5 PPG-N also provides guidance in terms of what factors may influence whether noise could become a concern. To mitigate conflicts between new developments and existing businesses or facilities, the

agent of change (typically the developer) is responsible for assessing and addressing potential nuisances that could affect future residents or users. These nuisances may include noise, dust, odours, vibration, and other environmental pollutants generated by existing businesses, community facilities, or industrial operations. The assessment should consider not only current activities but also those permitted under existing planning consents, even if they are not actively taking place at the time of the application.

- A3.3.6 The agent of change must propose and implement appropriate mitigation measures, which could include enhanced acoustic insulation, mechanical ventilation systems to allow windows to remain closed, reconfiguration of site layouts to create buffer zones, or other design interventions aimed at minimizing exposure to potential nuisances.
- A3.3.7 While such measures cannot entirely prevent complaints from new occupants, they can help ensure that the development achieves an acceptable standard of amenity in line with planning policy and reduces the risk of statutory nuisance claims.
- A3.3.8 Taking a proactive approach in identifying, mitigating, and communicating these risks will not only help secure planning approval but also foster long-term compatibility between new developments and established businesses or facilities.
- A3.3.9 PPG-N also provides guidance on how adverse effects of noise can be mitigated. Examples of mitigation provided include:
- *“engineering: reducing the noise generated at source and/or containing the noise generated;*
 - *layout: where possible, optimising the distance between the source and noise-sensitive receptors and/or incorporating good design to minimise noise transmission through the use of screening by natural or purpose built barriers, or other buildings;*
 - *using planning conditions/obligations to restrict activities allowed on the site at certain times and/or specifying permissible noise levels differentiating as appropriate between different times of day, such as evenings and late at night, and;*
 - *mitigating the impact on areas likely to be affected by noise including through noise insulation when the impact is on a building”.*
- A3.3.10 In the case of new residential development, PPG-N also states that the impact of noise can be “partially off-set” if occupants have access to:
- *“a relatively quiet façade (containing windows to habitable rooms) as part of their dwelling, and/or;*
 - *a relatively quiet external amenity space for their sole use, (e.g. a garden or balcony). Although the existence of a garden or balcony is generally desirable, the intended benefits will be reduced with increasing noise exposure and could be such that significant adverse effects occur, and/or;*
 - *a relatively quiet, protected, nearby external amenity space for sole use by a limited group of residents as part of the amenity of their dwellings, and/or;*
 - *a relatively quiet, protected, external publicly accessible amenity space (e.g. a public park or a local green space designated because of its tranquillity) that is nearby (e.g. within 5 minutes walking distance)”.*

A4 Assessment Guidance

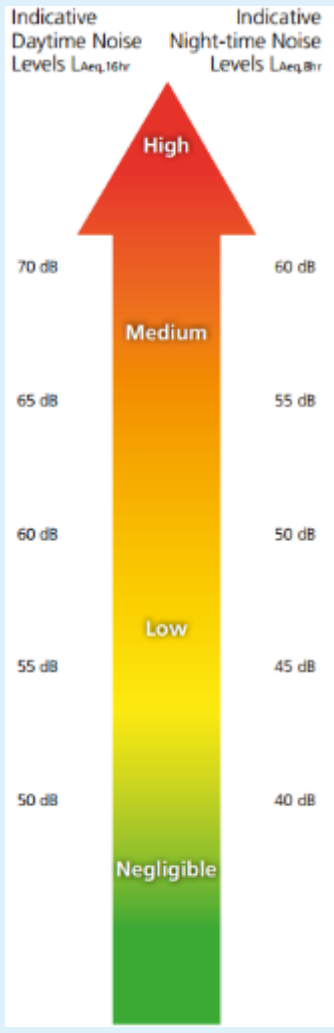
A4.1 Professional Practice Guidance (ProPG, 2017) on Planning & Noise – ‘New Residential Development’

- A4.1.1 ProPG is a joint publication by the Chartered Institute of Environmental Health (CIEH), the Association of Noise Consultants (ANC) and the Institute of Acoustics (IoA).
- A4.1.2 The primary goal of ProPG is “to assist the delivery of sustainable development by promoting good health and wellbeing through the effective management of noise”.
- A4.1.3 The guidance has been produced to assist practitioners in matters relating to noise and new residential development. It focuses on existing transportation noise sources and has been developed to consider the Government's overarching noise policy, planning policy and policy guidance. It has also been developed to take into account other authoritative sources of guidance such as British Standard 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings (BS 8233:2014).
- A4.1.4 The guidance provides advice for Local Planning Authorities (LPAs) and developers, and practitioners. ProPG aims to:
- Advocate the full consideration of the acoustic environment from the earliest possible stage of the development control process;
 - Promote and encourage the process of good acoustic design in and around new residential developments;
 - Set out the considerations which should be taken into account in deciding planning applications for new noise-sensitive developments;
 - Promoting the use of appropriate noise exposure standards and policies in assessment; and
 - Provide assistance in the delivery of sustainable development.
- A4.1.5 ProPG advocates a two-stage assessment approach:
- **Stage 1** – an initial noise risk assessment of the proposed development site; and
 - **Stage 2** – a systematic assessment considering four key elements.
- A4.1.6 ProPG is underpinned by the preparation and delivery of an Acoustic Design Statement (ADS).

A4.1.7 Stage 1 – Initial Risk Assessment

- A4.1.8 Stage 1 of ProPG provides guidance to practitioners as to whether the site poses a risk in terms of noise for any future site occupants. To identify this, ProPG sets out a number of considerations for inclusion within an ‘initial risk assessment’. **Table A4-1** reproduces Figure 1 from ProPG, which describes the initial site risk assessment.

Table A4-1: ProPG Stage 1 Initial Site Risk Assessment

Noise Risk Assessment	Potential Effect Without Noise Mitigation	Pre-Planning Application Advice
	Increasing risk of adverse effect	High noise levels indicate that there is an increased risk that development may be refused on noise grounds. This risk may be reduced by following a good acoustic design process that is demonstrated in a detailed ADS. Applicants are strongly advised to seek expert advice. As noise levels increase, the site is likely to be less suitable from a noise perspective and any subsequent application may be refused unless a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised, and which clearly demonstrate that a significant adverse noise impact will be avoided in the finished development. At low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development.
	No adverse effect	These noise levels indicate that the development site is likely to be acceptable from a noise perspective, and the application need not normally be delayed on noise grounds.
Notes: a. Indicative noise levels should be assessed without inclusion of the acoustic effect of any scheme specific noise mitigation measures. b. Indicative noise levels are the combined free-field noise level from all sources of transport noise and may also include industrial/commercial noise where this is present but is “not dominant”. c. $L_{Aeq,16hr}$ is for daytime 07:00 – 23:00, $L_{Aeq,8hr}$ is for night-time 23:00 – 07:00. d. An indication that there may be more than 10 noise events at night (23:00 – 07:00) with $L_{Amax,F} > 60$ dB means the site should not be regarded as negligible risk.		

A4.1.9 ProPG is clear that an Acoustic Design Statement should be included as part of a planning application where the risk is anything above ‘negligible’.

A4.1.10 Stage 2 – Full Assessment

A4.1.11 Stage 2 of ProPG describes four elements required for a full assessment. These are:

- **Element 1** – demonstrating a “Good Acoustic Design Process”

- **Element 2** – observing internal “Noise Level Guidelines”
- **Element 3** – undertaking an “External Amenity Area Noise Assessment”; and
- **Element 4** – the consideration of “Other Relevant Issues”.

A4.1.12 A summary of the considerations required in each of the four elements is provided in **Table A4-2**.

Table A4-2: ProPG Stage 2 – Summary of Four Key Elements

Element	Potential Effect Without Noise Mitigation
Element 1 Good Acoustic Design Process	Considerations include: • Good acoustic design is not just compliance with recommended internal and external noise exposure standards. Good acoustic design should provide an integrated solution whereby the optimum acoustic outcome is achieved, without design compromises that will adversely affect living conditions and the quality of life of the inhabitants or other sustainable design objectives and requirements. • Using fixed unopenable glazing for sound insulation purposes is generally unsatisfactory and should be avoided. Any reliance upon building envelope insulation with closed windows should be justified in supporting documents. The Planning Application MUST: • Check the feasibility of relocating or reducing noise levels from relevant sources. • Consider options for planning the site or building layout. • Consider the orientation of proposed building(s). • Select construction types and methods for meeting building performance requirements. • Examine the effects of noise control measures on ventilation, fire regulation, health and safety, cost, CDM (construction, design and management) etc. • Assess the viability of alternative solutions. • Assess external amenity area noise.
Element 2 Internal Noise Level Guidelines	Considerations include: • Reference to BS 8233:2014 ‘Guidance on Sound Insulation and Noise Reduction for Buildings’ for internal noise level guidelines. • Most residents value the ability to open windows at will, for a variety of reasons, and LPAs should therefore normally request that designers principally aim, through the use of good acoustic design, to achieve the internal noise level guidelines in noise-sensitive rooms with windows open. Where internal noise levels are assessed with windows closed the justification for this should be included in the ADS. In the case of sites exposed to industrial and/or commercial noise: • Where industrial and/or commercial noise is present on the site and is considered to be ‘dominant’ (i.e. where the impact would be rated as adverse or greater (subject to context)) then this is outside the scope of this ProPG, and regard should be had to the guidance in BS 4142:2014. • In the special case where industrial and/or commercial noise is present on the site but is ‘not dominant’ (i.e. where the impact would be rated as lower than adverse (subject to context) if a BS 4142:2014 assessment was to be carried out), its contribution may be included in the noise level used to establish the degree of risk in

Element	Potential Effect Without Noise Mitigation
	Stage 1 and may also be included in the consideration of Stage 2 Element 2 Internal Noise Level Guidelines (and if included, this should be clearly stated).
Element 3 External Amenity Area Noise Assessment	The assessment must provide and demonstrate: • Full details of the external amenity area noise assessment should be included in an Acoustic Design Statement. • The term 'assessment' is deliberately used because this element concerns more than just the level of noise outside. • ProPG external amenity area noise assessment reflects and extends the advice contained in BS 8233:2014 and the current Government guidance in PPG-N. In the case of sites exposed to industrial and/or commercial noise: • Where external amenity areas are exposed to 'dominant' industrial and/or commercial noise, the impact of the noise should be assessed in accordance with BS 4142:2014 over the time period that the amenity area is likely to be used. In the special case where industrial and/or commercial noise is present on the site but is "not dominant", its contribution may be included in the noise level used to establish the degree of risk in Stage 1 and may also be included in the consideration of Stage 2 Element 3 External Amenity Area Noise Assessment (and if included, this should be clearly stated).
Element 4 Assessment of Other Relevant Issues	Consideration should be given to: • Compliance with relevant national and local policy: i.e., NPSE, PPG-N and The Environmental Noise Regulations. • Magnitude and extent of compliance with ProPG. • Likely occupants of the development. • Acoustic design vs unintended adverse consequences: Examples include sealed up balconies that result in a lack of connection with the external environment, roadside barriers that remove views or prevent crossing roads, sealed facades that affect personal control over the internal environment etc. Wherever possible, such unintended adverse consequences should be obviated by good acoustic design. • Acoustic design vs wider planning objectives.

A4.1.13 Additionally, ProPG states that "once internal L_{Aeq} noise levels exceed the target levels by more than 10 dB, they are highly likely to be regarded as 'unacceptable' by most people, particularly if such levels occur more than occasionally". This principle has helped inform the derivation of UAEL values.

A4.1.14 Acoustic Design Statement (ADS)

A4.1.15 ProPG requires that the Acoustic Design Statement (ADS) provides sufficient evidence that the ProPG Stage 1 and Stage 2 Elements 1 – 4 have been followed. It also advises that the ADS should be proportionate to the scale of the development and the degree of noise risk at the proposed development site. In this context, ProPG states that the level of detail to be provided within the ADS should increase with the increasing level of risk.

A4.1.16 Supporting Decision-Makers

A4.1.17 ProPG also provides advice and support to decision-makers when taking into account noise and new residential development. These recommendations are aligned to the outcomes of Stage 1 and Stage 2 of the assessment along with the considerations made within the Acoustic Design Statement. Section 3 of ProPG details the recommendations to decision-makers.

A4.1.18 Sites Exposed to Industrial and/or Commercial Noise

- A4.1.19 In the case of sites exposed to industrial and/or commercial noise, ProPG states that if the industrial and/or commercial noise is present but not dominant, then its contribution may be included in the noise level used to establish the degree of risk.
- A4.1.20 If the industrial and/or commercial noise is considered to be dominant, then the risk assessment should not be applied to the industrial or commercial noise and instead the assessment should follow the methodology and guidance provided in BS 4142.
- A4.1.21 ProPG states that “[t]he judgement on whether or not to undertake a BS 4142:2014 assessment to determine dominance should be proportionate to the level of risk. In low-risk cases a subjective judgement of dominance, based on audibility, would normally be sufficient.”

A4.2 British Standard 8233:2014 ‘Guidance on Sound Insulation and Noise Reduction for Buildings’

- A4.2.1 BS 8233:2014 provides guidance for the control of noise in and around buildings. It is applicable to the design of new buildings, or refurbished buildings undergoing a change of use.
- A4.2.2 BS 8233:2014 provides noise guidance for buildings of different uses, however in respect to dwellings and habitable residential spaces, Table 4 of BS 8233:2014 provides guideline values that it is desirable not to exceed during daytime and night-time periods. These guideline values are reproduced in **Table A4-3** and:
- Apply to noise “without character” that excludes features such as “a distinguishable, discrete and continuous tone...irregular enough to attract attention, or has strong low-frequency content, in which case lower noise limits might be appropriate”;
 - Apply to overall noise levels (i.e. the sum of all noise);
 - Include normal diurnal fluctuations in external noise (shorter time periods may otherwise be used);
 - Do not have to be achieved in all circumstances (such as seasonal / occasional events); and,
 - Excludes noise from new mechanical ventilation equipment.

Table A4-3: Indoor Ambient Noise Levels for Residential Dwellings

Activity	Location	Daytime Guideline (07:00 – 23:00)	Night-time Guideline (23:00 – 07:00)
Resting	Living Room	35 dB L _{Aeq,16hr}	-
Dining	Dining Room / Area	40 dB L _{Aeq,16hr}	-
Sleeping (Daytime Resting)	Bedroom	35 dB L _{Aeq,16hr}	30 dB L _{Aeq,8hr}

A4.2.3 Internal Noise

- A4.2.4 The internal noise requirements are not intended to be met with open windows, although BS 8223:2014 states that the internal noise levels should take account of the proposed ventilation strategy.
- A4.2.5 BS 8233:2014 also notes that: “where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved”. This sentence refers to the World Health

Organization 'Guidelines for Community Noise' (WHO GCN, 1999). This statement is also reiterated in ProPG.

- A4.2.6 BS 8233:2014 does not provide specific guidance on noise levels for regular individual noise events, such as passing trains, which can cause sleep disturbance. Guidance on suitable noise levels for individual events is provided in ProPG, which states:

"In most circumstances in noise-sensitive rooms at night (e.g. bedrooms) good acoustic design can be used so that individual noise events do not normally exceed 45 dB $L_{Amax,F}$ more than 10 times a night. However, where it is not reasonably practicable to achieve this guideline then the judgement of acceptability will depend not only on the maximum noise levels but also on factors such as source, number, distribution, predictability and regularity of noise events."

- A4.2.7 On this basis, it is considered appropriate to adopt the 10th highest $L_{Amax,F}$ noise event occurring in the night time period for the purposes of the assessment.

A4.2.8 External Amenity

- A4.2.9 With respect to external amenity spaces, BS 8233:2014 states that *"it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments"*.
- A4.2.10 BS 8233:2014 also states that it will not always be possible to achieve these guideline values for all circumstances where development may be desirable, and that development in higher noise areas, such as urban areas adjoining the strategic transport network or city centres, may warrant a compromise between elevated noise levels and other factors (for example the convenience of living in these locations). In these situations, BS 8233:2014 states that *"development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited"*. This approach is also advocated in PPG-N.

A4.3 Building Regulations Approved Document F – Ventilation

- A4.3.1 The Building Regulations Approved Document F – Ventilation (ADF) sets out requirements for adequate means of ventilation in buildings to maintain indoor air quality. Ventilation for dwellings (ADF Requirement F1: Means of Ventilation) can be separated into three categories:
- Extract Ventilation – the extraction of water vapour and indoor air pollutants from areas where they are produced in significant quantities (e.g. kitchens, utility rooms and bathrooms)
 - Whole Dwelling Ventilation – the provision of a minimum level of outdoor air for occupants' health
 - Purge Ventilation – for the rapid dilution of indoor air pollutants and dispersal of water vapour, when necessary, in habitable rooms (bedrooms and living rooms).
 - Motorway roads: $L_{night} = 0.87 \times L_{A10,18hr} + 4.24$.

A4.4 Calculation of Road Traffic Noise (CRTN) 1988

- A4.4.1 The Department of Transport (1988), Calculation of Road Traffic Noise (CRTN, 1988) provides a methodology for the measurement and prediction of road traffic noise. CRTN was prepared to determine entitlement under the Noise Insulation Regulations 1975 (as amended 1988), but it is stated in the document that the guidance is equally appropriate to the calculation of traffic noise for land use planning purposes.
- A4.4.2 A full CRTN calculation accounts for road gradient, road surface, distance attenuation, ground conditions and screening. The use of BNL enables a direct comparison to be made of the change in

noise level associated with particular sections of road and is used to provide an initial indication of the likely impact of such a change.

A4.5 Transport Research Laboratory Report PR/SE/451/02 Converting the UK Traffic Noise Index $LA_{10,18hr}$ to EU Noise Indices for Noise Mapping (TRL)

A4.5.1 TRL have developed three methods for converting road traffic noise levels $LA_{10,18hr}$ to EU Noise Indices for Noise Mapping. Where appropriate, method 3 is used to calculate the L_{night} noise levels (assumed to be equivalent to $L_{Aeq,8hr}$ noise levels due to the assumptions pertaining to annual traffic flows) based on the following formulae:

- Non-motorway roads: $L_{night} = 0.90 \times LA_{10,18hr} - 3.77$ dB.

A4.6 Design Manual for Roads and Bridges: Sustainability & Environmental Appraisal LA 111 Noise and Vibration (LA 111) 2020

A4.6.1 Highways England (2020), Design Manual for Roads and Bridges (DMRB), LA111 'Noise and vibration' provides guidance on undertaking noise and vibration assessments on the impact of road projects. The methodologies have informed the assessment of operational road traffic noise effects for the Development.

A4.6.2 DMRB first provides fixed LOAEL and SOAEL thresholds for operational road traffic. The document does **not define any 'unacceptable adverse effect levels' (UAELs).**

Table A4-4: Operational Road Traffic Noise LOAEL's and SOAEL's

Time Period	LOAEL	SOAEL
Daytime (06:00 - 00:00)	55 dB $LA_{10,18hr}$ facade	68 dB $LA_{10,18hr}$ facade
Night-time (23:00 - 07:00)	40 dB L_{night} (free-field)	55 dB L_{night} (free-field)

A4.6.3 **Long-term significance criteria are then suggested, which are generally informed by exceedances above LOAEL and SOAEL, and are reproduced in the table below.** Negligible and minor adverse impacts, above the LOAEL, are not considered significant. Moderate or major adverse impacts, above the LOAEL, are considered potentially significant, or where the change is 1 dB and the baseline noise level already exceeds the SOAEL set out in **Table A4-5**.

Table A4-5: Road Traffic Noise Magnitude of Impact

Magnitude of Impact	Long-term Change in Road Traffic Noise Level (dB $LA_{10,18hr}$ / L_{Night})
Major Adverse	Greater than or equal to 10
Moderate Adverse	Greater than or equal to 5.0 and less than 9.0
Minor Adverse	Greater than or equal to 3.0 and less than 5.0
Negligible	Less than 3.0

A5 Assessment Assumptions

A5.1 Internal Spaces

A5.1.1 For the purposes of the outline noise assessment, internal habitable rooms are assumed to have the following dimensions and glazed areas:

- Living Rooms: floor area 12m², ceiling height 2.4 m, glazed area 3.8 m²
- Bedrooms: floor and ceiling area 9m², ceiling height 2.4 m, glazed area 1.5 m²

A5.2 Standard Building Envelope Sound Insulation Specifications

A5.2.1 Walls, Roofs and Windows

A5.2.2 It is assumed that the external walls are of a standard brick and block cavity wall construction and the roof comprises a pitched roof with tiles on felt, 100 mm mineral wool on a 12.5 mm plasterboard ceiling. Sound reduction indices for example constructions have been obtained from BS 8233:2014.

A5.2.3 Standard thermal double glazing is assumed based on a generic product specification of 6 mm glass / 12 mm air gap / 6 mm glass.

A5.2.4 **Table A5-1** summarises the sound insulation performance specifications for external walls, roofs and windows.

Table A5-1: Standard Building Envelope Sound Insulation Performance – Walls, Roofs and Windows

Element	Sound Reduction Index (SRI) at Octave Centre Band Frequency (Hz)								R _w (C; C _{tr})
	63	125	250	500	1k	2k	4k	8k	
Brick and Block External Wall ⁸	34	40	44	45	51	56	56	59	51 (-1; -4)
Standard Cold Roof ⁹	25	28	34	40	45	49	49	52	43 (-2; -5)
Standard Warm Roof ¹⁰	15	30	44	51	56	58	61	61	54 (-3; -10)
Double Glazing (6/12/6) ¹¹	18	20	19	29	38	36	44	44	32 (-2; -5)

A5.2.5 Background Ventilation

A5.2.6 For the purposes of an outline noise assessment based on a standard building envelope sound insulation specification, it has been assumed that whole dwelling ventilation provision in habitable rooms (living rooms and bedrooms) would achieve the sound insulation performance specification

⁸ BS 8233:2014 Annex G More Rigorous Calculation.

⁹ Pitched, tiled roof with 100 mm mineral wool above 12.5 mm plasterboard ceiling.

¹⁰ Pitched, tiled roof with 100 mm foil-faced insulation between rafters, 9 mm plywood with and 62.5 mm laminated insulated plasterboard under with an additional 15 mm wallboard to the inner face of the room.

¹¹ Based on Pilkington Insulight 6/12/6.

advised in **Table A5-2** for a background ventilator. This performance is broadly commensurate with an equivalent area of 8,000 mm².

- A5.2.7 The acoustic performance of most background ventilation products will be specified in terms of a single ventilator. Where a room requires more than one ventilator, this will need to be compensated for by adopting a commensurately higher performance for individual units. For example, if a room required two or three ventilators, this would require an improvement in performance of 3 or 5dB respectively per unit.

Table A5-2: Standard Building Envelope Sound Insulation Performance – Small Elements

Element	Level Difference ($D_{n,e}$) at Octave Band Centre Frequency (Hz)								$D_{n,e,w}$ (C ; C_{tr})
	63	125	250	500	1k	2k	4k	8k	
Standard 8,000 mm ² non-acoustic background ventilator	31	31	31	31	31	31	31	31	32 (-1; -1)

A6 Modelling Assumptions

Table A6-1: Noise Model Calculation Parameters and Input Data

Modelling Parameter	Input Parameter
Calculation methodology	Daytime (dB $L_{A10,18hr}$) noise levels calculated using the procedure set in Department of Transport (1988), Calculation of Road Traffic Noise and traffic data for the proposed access road provided by the clients Transport consultant. Night-time (dB L_{Night}) noise levels calculated using the procedure set out Method 2 of Transport Research Laboratory (TRL, 2002) Report PR/SE/451/02 Converting the UK Traffic Noise Index $L_{A10,18hr}$ to EU Noise Indices for Noise Mapping. Traffic data for the proposed access road provided by the clients Transport consultant (840 AAWT)
Topography	Digital Terrain Map (DTM) Obtained from Environment Agency's National LIDAR Programme¹² published on the Defra Data Services Platform and available under the Open Government Licence v3.0 1.0m vertical intervals
Mapping	Geospatial data for the model was informed by publicly available mapping data, as well as the layout plans provided by the Client. OpenStreetMap data © OpenStreetMap contributors.
Order of reflections	1
Ground absorption, G	0.5
Temperature / Humidity	10 °C / 70%
Adverse weather conditions	Noise model default settings – downwind propagation to all receivers
Heights of existing and proposed buildings	Existing buildings – based on digital building height model calculated from DTM and Digital Surface Model (DSM) ¹² and on Site observations
Road traffic source	Site access road: road source, 0.5 m above carriageway centre. Road surface: macadam, 6.0 m wide

¹² Available at <https://environment.data.gov.uk/survey> (Accessed 12 December 2025).

A7 Acoustics and Overheating

A7.1 Building Regulations Approved Document O – Overheating

- A7.1.1 The Building Regulations Approved Document O – Overheating (ADO) came into force in June 2022 and sets out requirements for the control of overheating. ADO sets out two assessment methodologies: the Simplified Method and Dynamic Thermal Modelling. The Simplified Method identifies minimum window opening requirements and maximum glazed area requirements based on floor area. Dynamic thermal modelling (DTM) offers an alternative method of demonstrating compliance and provides more flexibility in addressing constraints to the overheating mitigation strategy from, for example, noise, air quality, safety and security.
- A7.1.2 ADO intimates that windows are assumed to be closed where the internal noise levels in bedrooms at night-time will exceed:
- 40 dB $L_{Aeq,8hr}$ (2300 hrs to 0700 hrs); and
 - 55 dB L_{AFmax} more than 10 times a night (between 2300 hrs and 0700 hrs).
- A7.1.3 These constraints are also assumed to apply equally to alternative methods of ventilation (i.e. acoustic louvres).
- A7.1.4 The Association of Noise Consultants Approved Document O Noise Guide (ADO Noise Guide) provides a method to demonstrate compliance to the Building Control Body of the noise constraints in ADO. It provides clarity for both practitioners and regulators so that assessments can be carried out consistently and the outcome is repeatable and reliable.

A7.2 Simplified Method

- A7.2.1 Assuming the use of the Simplified Method, ADO defines the minimum equivalent areas for high¹³ and moderate¹⁴ risk locations as 13% and 4% of the floor area of the bedrooms, respectively. The ADO Noise Guide estimates the resultant level differences from outside to inside as 5 dB for high risk locations and 10 dB for moderate risk locations.
- A7.2.2 Notably, these equivalent areas are based on large openings. For comparison, the equivalent area for a partially open window is typically assumed to provide approximately 13 dB sound level difference from outside to inside¹⁵. This equates to an equivalent area of 2% of the floor area of the associated bedroom.
- A7.2.3 Consequently, the external noise levels above which the ADO Simplified Method cannot be used are summarised in **Table A7-1**.

¹³ Urban and some suburban parts of London and some parts of central Manchester. Detailed in Appendix C of ADO.

¹⁴ All other parts of England.

¹⁵ Waters-Fuller, T., Lurcock, D., Mackenzie, R. & MacKenzie, R. (2007). NANR 116: 'Open/Closed Window Research' Sound Insulation Through Ventilated Domestic Windows.

Table A7-1: External Noise Level Above Which the Simplified Method Cannot be Used

Parameter	High Risk Areas	Moderate Risk Areas
L _{Aeq,8hr}	45 dB	50 dB
L _{AFmax} (more than ten times a night-time)	60 dB	65 dB

A7.3 Dynamic Thermal Modelling

- A7.3.1 Importantly, a DTM approach could show that ADO overheating criteria can be met with significantly smaller equivalent areas than the Simplified Method resulting in a commensurate reduction in terms of noise constraints. The DTM approach also enables consideration of alternatives to open windows such as ventilation louvres with any required acoustic properties.
- A7.3.2 The ADO Noise Guide sets out a methodology for calculating the required equivalent area based on the level difference needed to reduce the internal noise levels to meet the ADO noise criteria, once room dimensions are known. These equivalent areas can be provided to the Overheating Consultant to feed into the DTM exercise.
- A7.3.3 As noted in **Section A7.2**, a partially open window is typically assumed to provide approximately 13 dB sound level difference from outside to inside. As an initial guide, the threshold levels (SOAEL) between the low and medium risk categories in the ProPG Stage 1 site risk assessment (**Table 2-1**) are 13 dB higher than the ADO noise constraints. Importantly, the sound level difference achieved will vary significantly from 13 dB depending on the equivalent area required to support the DTM exercise.



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