Old Mill Street
Manchester

Environmental Noise Survey and Noise Impact Assessment Report

33237/NIA

17 September 2026

For:
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Document Control

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1.0 Introduction

Hann Tucker Associates Limited (Hann Tucker) has been commissioned by Zentra Group Plc to undertake a noise assessment for a site in Manchester.

The site, which is located on Old Mill Street, is being considered for residential development and the construction of a 6-storey block providing 41No residential apartments (use class C3) and together with landscaping, cycle parking, supporting infrastructure and associated works.

The site is subject to road and rail noise from Old Mill Street, Lampwick Lane and Piercy Street and New Islington Tram Station.

Baseline noise conditions have been established by means of a detailed noise survey, presented herein. The findings have subsequently been used to assess the suitability of the site for residential use. Measures required to mitigate noise impacts for the proposed development (when operational) have been discussed in context with relevant national & local planning policies, design standards and good practice guides.

2.0 Objectives

To provide a desktop noise assessment to support the full planning application at Old Mill Street using previously measured noise monitoring data collected at the site during 2025.

The assessment will involve a review of the previously obtained noise survey information, including measurement locations, monitoring periods, prevailing acoustic conditions, and recorded noise levels undertaken by Hann Tucker Associates.

The survey results will enable noise emission limits from the development to be identified with reference to the requirements of the Local Authority and/or the application of BS 4142: 2014 and to minimise the possibility of noise nuisance to neighbours.

Based on the results of the survey, to undertake a noise assessment to assess the suitability of the proposed development for residential use in accordance with the Noise Policy Statement for England (NPSE), National Planning Policy Framework (NPPF), Planning Practice Guidance (ProPG), British Standard BS8233:2014, Part O of the Building Regulations and Local Authority guidance/requirements.

To present our methodology and findings in a detailed Environmental Noise Survey and Noise Impact Assessment Report to accompany the planning application.

3.0 Acoustic Terminology

For an explanation of the acoustic terminology used in this report please refer to Appendix A enclosed.

4.0 Site Description

4.1 Location

The site is located to the East of Manchester City Centre and is located on Old Mill Street see Figure 1.

The site falls within the jurisdiction of Manchester City Council.

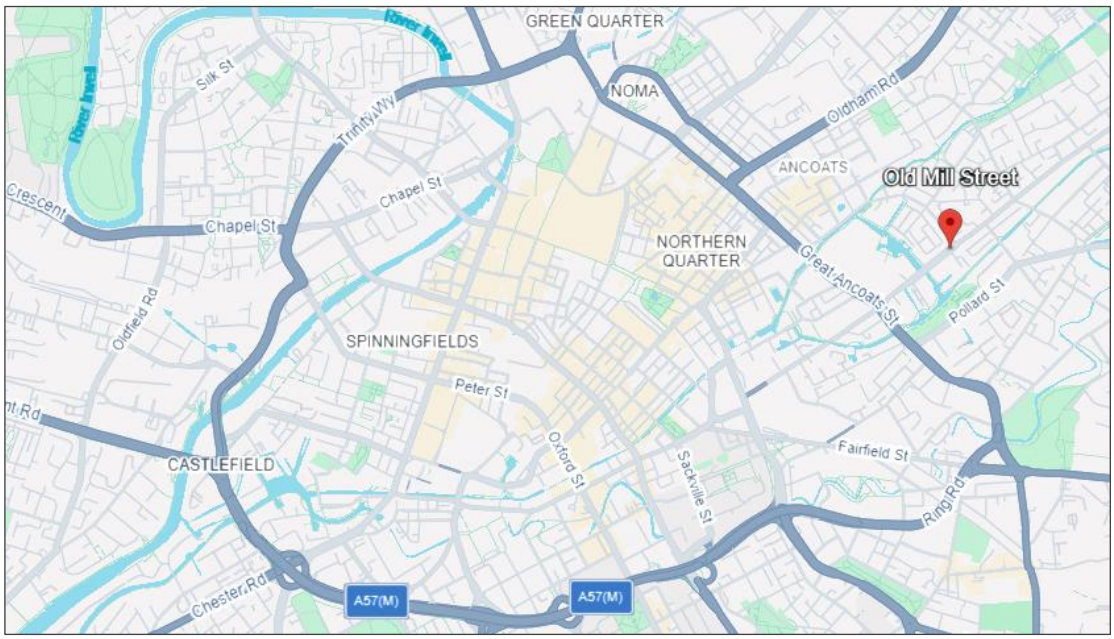


Figure 1: Location Map (Google Map data ©2026)

4.2 Description

The Proposed development is a 6-storey building with surround premises mostly being residential. The dominant noise sources will be general road noise and trams.

To the immediate southwest there is Ancoats hospital, To the immediate north and to the east there are residencies. Approximately 120 meters to the south is New Islington Tram Station

To the south east approximately 260 meters is St Annes RC Primary School

The site is shown in Figure 2.

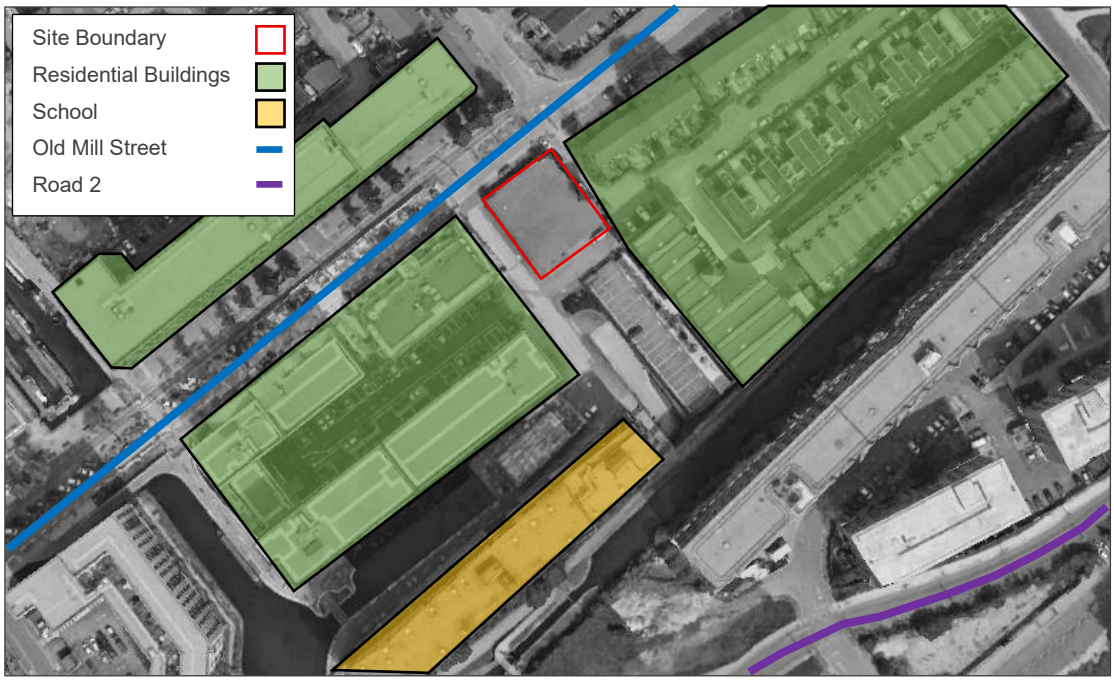


Figure 2: Site Plan (Google Map data ©2026)

5.0 Proposed Development

As previously discussed, the proposals are for the construction of a resident's block which will have 41 apartments (use Class C3) with landscaping, cycle parking, supporting infrastructure and associated works. The ground floor and typical floor plan are shown to provide further context

The site is shown in Figure 3



Figure 3 Proposed Elevation (Plans Prepared by Buttress Architects)

6.0 Planning Policies, Standards & Guidance

6.1 Policies & Guides

In order to provide a suitable assessment a number of national planning policies have been considered, including:

- The National Planning Policy Framework (NPPF) 2026
- The Noise Policy Statement for England (NPSE), 2010
- Planning Practice Guidance – Noise (PPGN), 2019

The above documents highlight the importance of considering the potential noise effects on any new residential development and provide a qualitative approach to assessment. However, each of the above does not provide any quantitative guidance. As such, all quantitative guidance used to form a noise impact assessment is taken from various other standards, guidance, and Local Authority requirements as summarised below:

- Manchester City Council Planning and Noise Technical Guidance document (October 2022)
- World Health Organisation: 2018
- British Standard BS8233: 2014
- ProPG : Planning & Noise: 2017
- Building Regulations Approved Document O: 2021
- British Standard 4142:2014 + A1:2019

Detailed information for relevant planning policies and guidance can be found within Appendix B.

6.2 Specific Local Authority Criteria

Manchester City Council requirements are outlined in Section 6.2 of Manchester City Council Planning and Noise Technical Guidance document (Oct 2022).

6.2.1 Noise from Fixed Building Services Plant

Section 3.7.1.5 outlines the noise assessment for fixed plan should be based on BS4142:2014 and the assessment must demonstrate that:

> "*Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location".*

6.2.2 Achieving Suitable Internal Noise Levels

Section 3.7.1.1 outlines that the following noise levels should be achieved for residential developments.

> *"Bedrooms (nighttime – 23:00 – 07:00) 30 dB LAeq (individual noise events should not normally exceed 45 dB LAmax,F by more than 10 times)*
> *Living Rooms (daytime – 07:00 – 23:00) 35 dB LAeq*
> *Gardens and terraces (daytime) 55 dB LAeq."*

Section .3.1.6 states the following with regards to maintaining internal ambient noise levels when desired to keep windows closed but still provide adequate ventilation:

> *"Occupants should be provided with a supply of fresh air in habitable rooms without having to open the windows (whilst also having the option to do this for purge ventilation, or at the occupants' discretion i.e. to reduce the potential for overheating).*
>
> *Where ambient noise levels are high a scheme of ventilation will need to be provided that does not compromise the acoustic attenuation afforded by the glazing. This may come in the form of individual window trickle vents or acoustic trickle vents."*

7.0 Baseline Noise Survey

7.1 Procedure

Fully automated environmental noise monitoring was undertaken from approximately 11:00 hours on 18 July 2025 to 19:00 hours on 19 June 2025, to establish full daytime and night-time noise levels over a typical weekday and weekend period.

7.2 Measurement Position

The microphone was attached to a pole approximately 2.5 metres above ground level.

The noise level measurements were undertaken at 2no. positions as described in Table 1 and indicated in Figure 4.

Table 1 Measurement Location Descriptions

Position	Type	Description
1	Unattended	To the northwest of the site, approximately 1m from the edge of Old Mill Street. Microphone in free field conditions approximately 2.5m above ground.
2	Unattended	To the south corner of the site, approx. 1m from the nearside edge of Lampwick Lane, Microphone in free-field conditions approx. 2.5m above ground.

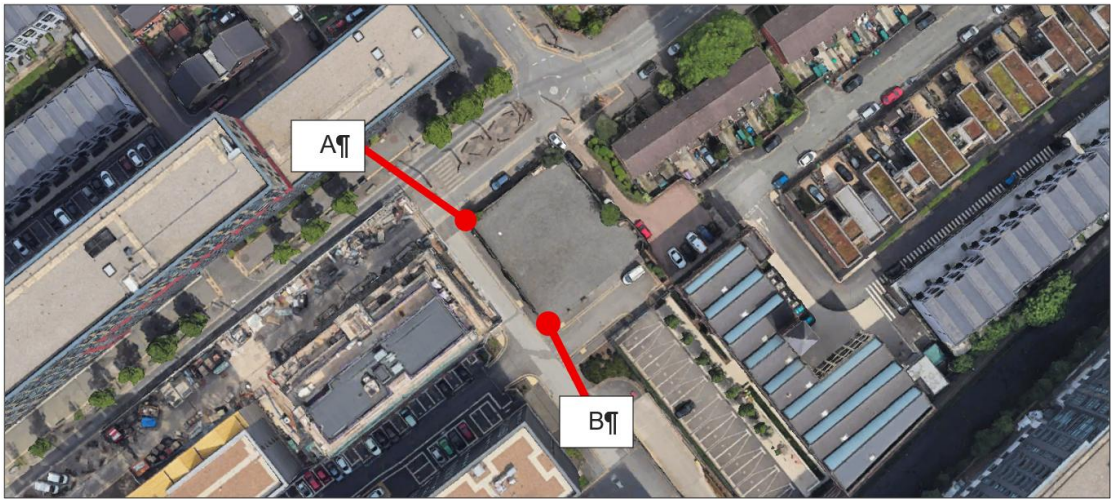


Figure 4: Measurement Locations (Imagery ©2026 Google Airbus, Maxar Technologies, Map data)

7.3 Weather Conditions

Due to the nature of the survey, i.e. unmanned, it is not possible to accurately describe the weather conditions throughout the entire survey period. However, upon set-up and collection of the equipment measurements wind conditions were calm, road surfaces were dry and the sky was clear.

Local weather reports confirm no significant change, and thus conditions were considered suitable for obtaining representative measurement results.

7.4 Instrumentation

The instrumentation used during the survey is presented in Table 2.

Table 2 Instrumentation and Calibration Information

Position	Description	Manufacturer	Type	Serial Number	Calibration
A	Type 1 SLM	Larson Davis	824	4074	26/05/2024
B	Type 1 SLM	Larson Davis	824	3838	29/05/2024
1 & 2	Type 1 SLM	Larson Davis	LxT	4086	28/05/2024
All	Calibrator	Larson Davis	Cal200	3083	28/02/2025

Each sound level meter, including the extension cable, was calibrated prior to and on completion of the surveys. No significant changes were found to have occurred (no more than 0.1 dB).

Each sound level meter was located in an environmental case with the microphone connected to the sound level meter via an extension cable. Each microphone was fitted with a windshield.

7.5 Results

In order to compare the results of our survey with the relevant guidelines it is necessary to convert the measured $L_{Aeq(15\,minute)}$ noise levels into single figure daytime $L_{Aeq(16\text{-}hour)}$ (07:00-23:00 hours) and night-time $L_{Aeq(8\text{-}hour)}$ (23:00-07:00 hours) levels.

A summary of the results, as used to inform subsequent assessments against current guidelines, is presented in the table below.

The L_{A90} values presented are the 'representative' levels determined through statistical analysis of the 15-minute readings in line with BS 4142. L_{Afmax} values are the '10^{th} highest' 2-minute value in line with Approved Document O (Part O) requirements.

Table 3: Results

Position	Daytime (07:00 – 23:00 hrs)		Night-time (23:00 – 07:00 hrs)		
	$L_{Aeq,16hr}$	L_{A90}	$L_{Aeq,8hr}$	L_{A90}	L_{Amax}
A	62	46	57	38	79
B	57	-	51	-	72

The above levels are as measured at the measurement positions and include local reflections

7.6 Discussion of Noise Climate

Due to the nature of the survey, i.e. unattended, it is not possible to accurately describe the dominant noise sources, or specific noise events throughout the entire survey period. However, at the beginning and end of the survey period the noise climate was noted to be dominated by road traffic.

8.0 Incident Noise Levels

Table 4 and Figure 5 outline the free-field incident noise levels across the development. For purposes of any subsequent assessment, these zones are considered to be the “Façade Zones”.

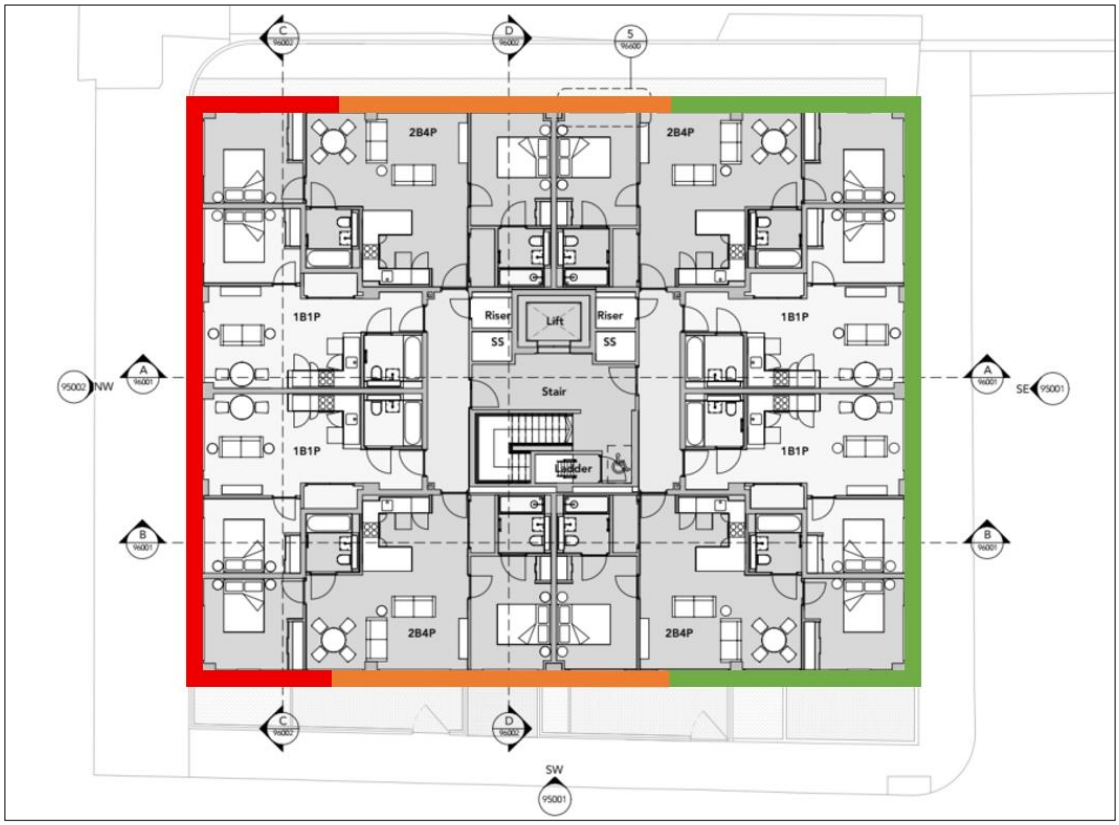


Figure 5: Mark-up Showing incident Noise Levels (Plans Prepared by Buttress Architects)

Table 4: Calculated Incident Noise Levels – Façade Zones

Façade Zone	Calculated Incident Noise Levels		
	Daytime $L_{Aeq,16h}$ (dB)	Night $L_{Aeq,8h}$ (dB)	10th Highest Night $L_{max,2min}$ (dB)
Red	64	61	80
Orange	61	56	74
Green	57	51	71

9.0 Achieving Internal Noise Levels

There are 3No ventilation conditions applicable to proposed residential dwellings. These are Background Ventilation as described in Approved Document F (Part F), Overheating as described in Approved Document O (Part O), and Purge Ventilation (odour and smells).

9.1 Purge Ventilation

It should be noted that the internal noise level guidelines are generally not applicable under *"purge ventilation"* conditions as defined by Part F, as this should only occur occasionally (e.g.

to remove odour from painting and decorating or from burnt food).

As such, acoustic conditions are generally not a concern during purge ventilation.

9.2 Background Ventilation Condition

9.2.1 Criteria

With reference to the acoustic standards and guidelines as reviewed in Appendix B, the external noise intrusion levels from environmental sources should be controlled so as to not exceed the following criteria.

Table 5: Internal Noise Level Criteria

Activity	Location	Desirable Internal Ambient Criteria	
		07:00 – 23:00	23:00 – 07:00
Resting	Living Rooms	35 dB $L_{Aeq,16hour}$	-
Dining	Dining Room/Area	40 dB $L_{Aeq,16hour}$	-
Sleeping (Daytime Resting)	Bedroom	35 dB $L_{Aeq,16hour}$	30 dB $L_{Aeq,8hour}$ 45 dB[1] L_{Amax}

[1] regular noise events such as trains, aircraft (10th highest)

9.2.2 Outline Specifications

Based on the prevailing noise climate at the site, open windows as a means of background ventilation would not be suitable on any façade across the development. As such, alternative ventilation measures would be required

Allowance should be made to provide appropriate sound insulation solutions as required including, where necessary, suitably specified glazing and attenuated ventilators/mechanical ventilation systems. Preliminary calculations have been carried out to determine the likely façade sound insulation performance requirements for each façade. Calculation methods follow those outlined in BS 8233:2014 Section G.2 and are based on the following:

- Insulated SFS with rainscreen cladding
- 25m^3 or 75m^3 approximate room volume for Bedrooms and Living Areas.
- Window area 30% of the façade.
- Reverberation time of 0.5 seconds.

From the results of the assessment, the following minimum preliminary acoustic performance specifications are recommended. These are intended for planning use only, and detailed design stage octave band acoustic specifications will need to be developed for tender.

Table 6: Recommended Minimum Window and Ventilator Specifications

Façade Zone		Façade Element	Preliminary Minimum Sound Reduction Specification
Red	Bedroom	Window	35 dB $R_w + C_{tr}$
		Ventilator	42 dB $D_{ne,w} + C_{tr}$ or MVHR
	Living/Kitchen/ Dining	Window	32 dB $R_w + C_{tr}$
		Ventilator	37 dB $D_{ne,w} + C_{tr}$ or MVHR
Orange & Green	All Spaces	Window	27 dB $R_w + C_{tr}$
		Ventilator	33 dB $D_{ne,w} + C_{tr}$ or MVHR

9.2.3 Example Glazing Configurations

Example glazing configurations commensurate with achieving the sound insulation specifications noted in Section 9.2.2 are given in Table 7.

Table 7 Example Glazing Configurations

Glazing Specification, $R_w + C_{tr}$ (dB)	Example Configuration (glass / airspace / glass)
35	6 / 16 / 8.8 mm
32	10 / 16 / 6 mm
27	6 / 16 / 6 mm

9.2.4 Example Ventilation Solutions

Example ventilation solutions commensurate with achieving the elemental sound insulation performances noted in Section 9.2.2 are discussed in Table 8.

Table 8 Example Ventilator Descriptions

Ventilator Specification, $D_{new} + C_{tr}$ (dB)	Example Configuration
≥43	High performance in-wall acoustic ventilator with absorption, or a mechanically assisted supply & extract solution (e.g. local MVHR).
34-42	Acoustic trickle vent per habitable room, or a mechanically assisted supply & extract solution (e.g. local MVHR).
33	1 x 2,500mm^2 standard hit-miss trickle vent per habitable room, or a mechanically assisted supply & extract solution (e.g. local MVHR).

The preliminary performance specifications included above are based on the provision of either full MVHR for rooms or 1no. ventilator only per habitable room as required. If additional numbers of ventilators are required to achieve the ventilation rates, the performance requirement for the individual ventilators will need to increase.

Table 9 provides guidance on the increase in performance specification required for additional numbers of ventilators.

Table 9 Specification Increase for Additional Ventilators

Number of Ventilators	Performance Increase on Ventilator Specifications Stated Above
1	+0 dB
2	+3 dB
3	+5 dB
4	+6 dB

10.0 Overheating Condition

10.1 Part O

Approved Document O 'Overheating' (ADO) was released in December 2021 and came into effect in England on 15 June 2022. It sets out the suitable methodologies to limit unwanted solar gains in summer and provide adequate means to remove heat from the indoor environment. Requirement O1(2)(a) contains criteria relating to noise with Sections 3.2 to 3.4 of ADO stating the following:

"In locations where external noise may be an issue (for example, where the local planning authority considered external noise to be an issue at the planning stage), the overheating mitigation strategy should take account of the likelihood that windows will be closed during sleeping hours (11pm to 7am).

Windows are likely to be closed during sleeping hours if noise within bedrooms exceeds the following limits.

a) *40 dB $L_{Aeq,T}$, averaged over 8 hours (between 11pm and 7am).*

b) *55 dB L_{AFmax}, more than 10 times a night (between 11pm and 7am).”*

Further to the above, the acoustic requirements of ADO relates to bedrooms and night and does not consider daytime hours or other living spaces.

To assess overheating ADO sets out 2No ways this can be done: These are by either using the simplified method or through dynamic thermal modelling (ie a TM59 assessment). For an acoustic assessment suitable to accompany a Planning Application, the simplified method is often used as it splits England into “Moderate” and “High” risk zones depending on the location of the site and provides “minimum free areas” for window openings in bedrooms. These are as follows:

- 13% of the floor area for “High Risk” locations
- 4% of the floor area for “Moderate Risk” locations

Based on the minimum free areas noted above, the IoA & ANC guidance note “Demonstrating Compliance with the Noise Requirements of Approved Document O” sets out the external noise levels above which the simplified method cannot be used, and alternative overheating strategy should be developed. These are shown in Table 10.

Table 10 Maximum External Noise Levels for Simplified ADO Assessment

Risk Category	Incident Noise Level (dB)		Notes
	$L_{Aeq,8h}$	$L_{AFmax,2min}$	
High	>44	>59	Open windows based on simplified model not suitable. Detailed modelling via TM59 assessment advised. Limited area opening windows or closed windows may be required to comply with AD-O
Moderate	>49	>64	

The site is located in (Manchester) M4 postcode and therefore falls into the” Moderate” risk category.

Based on the table above, the following figure shows the locations in which the external noise is above the point at which the simplified ADO model can be used. It aims highlight where opening bedroom windows at night as a means of overheating control is either:

- Unlikely to be viable (**Purple**)
- Potentially viable subject to detailed overheating design and open area restrictions (**Blue**); or

- Viable without acoustic restrictions (**Green**).

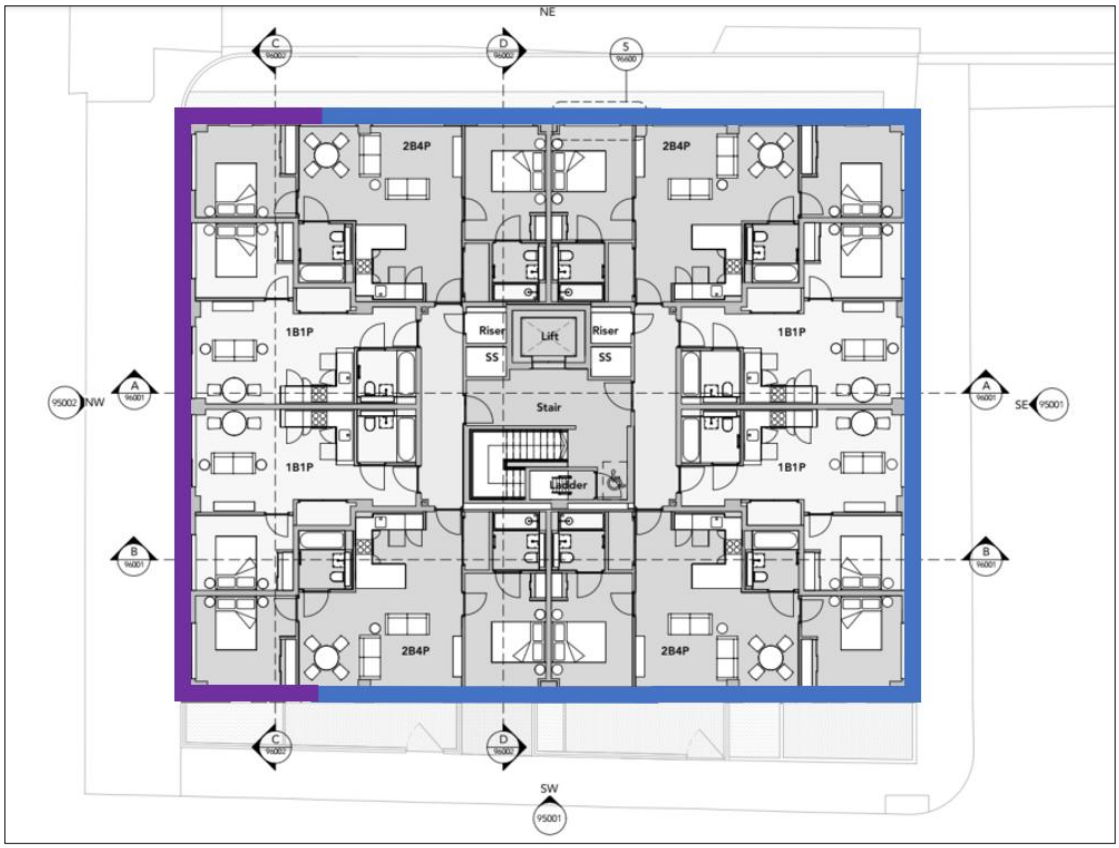


Figure 6: ADO Assessment Markup (Plans Prepared by Buttress Architects

At this stage, bedrooms should be designed to avoid or severely restrict the reliance on opening windows to satisfy overheating targets in the **Purple** zones highlighted above. This can be achieved by use of solar rated glazing, external shutters or fenestration design.

In addition, mitigation measures in the form of attenuated or plenum windows, attenuated louvres or vents for overheating and sound attenuating balconies may be suitable. These methods for reducing solar gains can be assisted with mechanical ventilation, such as MVHR with a manual summer boost function.

Air conditioning can also be considered. However, the introduction of mechanical solutions should be considered carefully; not only with regard to cost and maintenance, but sustainability and the environment.

10.2 AVO Assessment

AVO Assessment (Day-time) In accordance with the AVO guide, an Overheating Risk Assessment has been carried out. This assesses the initial risk of overheating, which can be caused by the need to mitigate noise generated by nearby transportation sources and is based on the measured noise levels at the development site.

The daytime ($L_{Aeq,16hr}$) noise levels measured at MP1 and MP2 have been compared to the information provided in Table 3. The results of the assessment are shown in Table 11 for each Façade Zone indicated in Section 8.0.

Table 11: AVO assessment

Façade Zone	Average Daytime Noise Level (dB $L_{Aeq,16hr}$)	Daytime Risk of Overheating
Red	64	High
Orange	61	Medium
Green	57	Low-Medium

Table 11 indicates that during the daytime periods, risk of overheating at the proposed dwellings would range from Low-Medium to high and therefore opening windows as a means of overheating control during the daytime is should suitable for this site in the **Orange** and **Green** Façade Zones.

11.0 Operational Noise Impacts

11.1 Fixed Plant & Equipment

Based on the results of the noise survey and the requirements of the Local Authority, Table 12 shows the proposed plant noise emission criteria be achieved incident at the nearest noise sensitive residential windows, in free-field conditions, with all plant operating simultaneously.

Table 12 Plant Noise Egress Limits

Location	Plant Noise Emission Criteria, $L_{Ar,Tr}$ (dB)	
	Daytime (07:00 – 23:00 hours)	Night-time (23:00 – 07:00 hours)
Normal Plant	41	33
Emergency Plant	56	48

Noise shall be assessed in accordance with BS 4142:2014 with corrections applied for any plant emitting noise of a tonal or irregular quality. The above limits shall be subject to the final approval of the Local Authority.

12.0 Conclusion

Hann Tucker Associates Limited has undertaken a noise assessment for the proposed residential development at Old Mill Street, Manchester. The assessment has been based on environmental noise monitoring previously undertaken at the site and has considered the suitability of the development for residential use with reference to relevant national and local planning policy, standards and guidance.

The prevailing noise climate is principally influenced by road traffic and tram movements associated with the surrounding road network and New Islington Tram Station. Calculated incident noise levels across the proposed façades range from 57 to 64 dB $L_{Aeq,16h}$ during the daytime and from 51 to 61 dB $L_{Aeq,8h}$ during the night, with 10th highest night-time maximum noise levels of between 71 and 80 dB L_{AFmax}.

On the basis of these noise levels, open windows would not provide a suitable means of background ventilation whilst maintaining the recommended internal ambient noise levels. Appropriate façade sound insulation and an alternative means of background ventilation should therefore be incorporated into the development. Preliminary glazing requirements range from 27 dB $R_w + C_{tr}$, to 35 dB $R_w + C_{tr}$, with corresponding ventilator requirements of up to 42 dB $D_{ne,w} + C_{tr}$, or alternatively an appropriately designed mechanical ventilation system such as MVHR. These specifications should be reviewed and developed further during the detailed design stage.

The assessment of overheating indicates that noise will also need to be considered as part of the overheating strategy. In the areas identified as Purple, bedrooms should be designed to avoid, or severely restrict, reliance on open windows during the night for overheating control. Alternative measures may include solar-control measures, restricted or acoustically attenuated openings, attenuated ventilation solutions and/or mechanical ventilation. The daytime AVO assessment indicates a risk ranging from Low-Medium to High across the development, with the greatest constraint applying to the Red façade zone.

For fixed building services plant associated with the development, preliminary cumulative rating noise limits of 41 dB $L_{Ar,Tr}$ during the daytime and 33 dB $L_{Ar,Tr}$ during the night have been established for normal plant operation at the nearest noise-sensitive residential windows. Corresponding limits of 56 dB and 48 dB have been identified for emergency plant. Plant should be selected, located and, where necessary, acoustically attenuated to achieve these limits, subject to final agreement with Manchester City Council.

Appendix A

Acoustic Terminology

The acoustic terms used in this report are defined as follows:

dB — Decibel - Used as a measurement of sound level. Decibels are not an absolute unit of measurement but an expression of ratio between two quantities expressed in logarithmic form. The relationships between Decibel levels do not work in the same way that non-logarithmic (linear) numbers work (e.g. 30dB + 30dB = 33dB, not 60dB).

dBA — The human ear is more susceptible to mid-frequency noise than the high and low frequencies. The 'A'-weighting scale approximates this response and allows sound levels to be expressed as an overall single figure value in dBA. The $_A$ subscript is applied to an acoustical parameter to indicate the stated noise level is A-weighted

It should be noted that levels in dBA do not have a linear relationship to each other; for similar noises, a change in noise level of 10dBA represents a doubling or halving of subjective loudness. A change of 3dBA is just perceptible.

$L_{90,T}$ — L_{90} is the noise level exceeded for 90% of the period *T* (i.e. the quietest 10% of the measurement) and is often used to describe the background noise level.

$L_{eq,T}$ — $L_{eq,T}$ is the equivalent continuous sound pressure level. It is an average of the total sound energy measured over a specified time period, *T*.

L_{max} — L_{max} is the maximum sound pressure level recorded over the period stated. L_{max} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the L_{eq} noise level.

L_p — Sound Pressure Level (SPL) is the sound pressure relative to a standard reference pressure of 2×10^{-5} Pa. This level varies for a given source according to a number of factors (including but not limited to: distance from the source; positioning; screening and meteorological effects).

L_w — Sound Power Level (SWL) is the total amount of sound energy inherent in a particular sound source, independent of its environment. It is a logarithmic measure of the sound power in comparison to a specified reference level (usually 10^{-12} W).

Appendix B

Planning Policies, Standards & Guidance

B.1 Noise Policy Statement for England

The Noise Policy Statement for England (NPSE) was published in March 2010 (i.e. before the NPPF). The NPSE is the overarching statement of noise policy for England and applies to all forms of noise other than occupational noise, setting out the long term vision of Government noise policy which is 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."

That vision is supported by the following NPSE noise policy aims which are reflected in three of the four aims of planning policies and decisions in paragraph 123 of the NPPF (see paragraph 8.2 (b) below):

"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."*

The Explanatory Note to the NPSE has three concepts for the assessment of noise in this country:

NOEL – No Observed Effect Level
This is the level below which no effect can be detected and below which there is no detectable effect on health and quality of life due to noise.

LOAEL – Lowest Observable Adverse Effect Level
This is the level above which adverse effects on health and quality of life can be detected.

SOAEL – Significant Observed Adverse Effect Level
This is the level above which significant adverse effects on health and quality of life occur.

None of these three levels are defined numerically and for the SOAEL the NPSE makes it clear that the noise level is likely to vary depending upon the noise source, the receptor and the time of day/day of the week, etc. The need for more research to investigate what may represent an SOAEL for noise is acknowledged in the NPSE and the NPSE asserts that not stating specific SOAEL levels provides policy flexibility in the period until there is further evidence and guidance.

The NPSE concludes by explaining in a little more detail how the LOAEL and SOAEL relate to the three NPSE noise policy aims listed above. It starts with the aim of avoiding significant adverse effects on health and quality of life, then addresses the situation where the noise impact falls between the LOAEL and the SOAEL when *"all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development."* The final aim envisages pro-active management of noise to improve health and quality of life, again taking into account the guiding principles of sustainable development which include the need to minimise travel distance between housing and employment uses in an area.

B.2 National Planning Policy Framework (NPPF)

The following policies are from the NPPF, published August 2026. The relevant policy wording relating to noise has been reproduced with all other non-relevant policy wording omitted.

Policy P3: Living Conditions and Pollution

1: Development proposals should be appropriate for their location, taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, whether these effects are on or off-site; and whether this is as a result of the development itself or the product of preexisting conditions in its vicinity. In assessing the potential effects of pollution, consideration should be given to the potential sensitivity of the site, and its intended occupiers and users, as well as that of the environment and population in the surrounding area (including where certain groups could be particularly vulnerable to its effects, such as children and older people).

2: Within this context development proposals should:

a) Provide healthy living conditions for occupiers and users in terms of adequate access to light and avoiding exposure to levels of air, noise, artificial light or other sources of pollution which could have an unacceptable adverse effect on health and the quality of life. Where necessary suitable mitigation measures should be incorporated to secure acceptable living conditions;

b) Not give rise to, or contribute to, an unacceptable level of access to daylight and sunlight for neighbouring residents and occupiers, or unacceptable levels of air, noise, artificial light, water, soil or other forms of pollution on or beyond the site. Adverse impacts of this nature should be avoided where possible, or else mitigated to an acceptable degree. Where possible, opportunities should be taken to reduce pollution affecting the wider area (such as through traffic and travel management or improved external lighting);

d) Mitigate and reduce to a minimum potential adverse impacts resulting from noise, not result in levels of noise exposure which would have a significant observed adverse effect, and maintain the character of tranquil areas (those areas that have remained relatively undisturbed by noise from human sources and are prized for their recreational and amenity value for this reason);

3: In applying this policy, it should be assumed, unless there is clear evidence to the contrary, that separate regulatory regimes for the control of pollution will operate effectively, as set out in policy DM7. This means that it will be appropriate to take into account emissions limits set through those other regimes.

Policy P4: Impact of Development on Existing Activities

1: Existing businesses, community facilities, public services and defence and security activities should not have unreasonable restrictions placed on their current or permitted operation as a result of development being approved after they were established. This means that development proposals should be capable of being integrated effectively with existing business, community and public service activities and infrastructure in their vicinity (including, but not limited to, uses such as pubs, music venues, places of worship, sports clubs, blue light services, defence, electricity network infrastructure and industrial and waste sites).

2: Where the operation of an existing activity could have a significant adverse effect on a proposed new development in its vicinity, development proposals should:

a) Identify the nature of the potential impacts, informed where necessary by early discussions between the applicant (i.e. the ‘agent of change’) and those existing uses which could be affected by the proposal to inform the scope for mitigation; and

b) Be able to demonstrate that suitable mitigation can be provided before first occupation of the development, if it is to be acceptable. Planning conditions or obligations should be used to secure agreed mitigation measures.

3: This policy applies to new development involving changes of use of land and property, as well as to new construction, and includes situations where new development may interfere with the operation of electronic communications networks. Both lawful current and permitted levels of operation of existing activities should be taken into account when applying this policy.

Annex B of the NPPF defines the Significant Observed Adverse Effect Level as follows:

"This is the level of noise exposure above which significant adverse effects on health and quality of life occur."

The August 2026 NPPF does not expressly reference the Noise Policy Statement for England (NPSE). Nevertheless, the terminology and approach adopted in Policy P3 are consistent with the principles established by the NPSE. The NPSE does not prescribe specific numerical noise limits but instead sets out the following three aims:

- "Avoid significant adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.
- Mitigate and minimise adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.
- Where possible, contribute to the improvement of health and quality of life through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development."

B.3 Planning Practice Guidance on Noise

Planning Practice Guidance (PPG) under the NPPF has been published by the Government as a web based resource at http://planningguidance.planningportal.gov.uk/blog/guidance/. This includes specific guidance on Noise although, like the NPPF and NPSE the PPG does not provide any quantitative advice. It seeks to illustrate a range of effect levels in terms of examples of outcomes as set out in the following table:

Perception	Examples of Outcomes	Increasing effect level	Action
Not noticeable	No effect	No Observed Effect	No specific measures required
Noticeable 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	
Noticeable 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.	Observed Adverse Effect	Mitigate and reduce to a minimum
		Significant Observed Adverse Effect Level	
Noticeable 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
Noticeable 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

B.4 World Health Organisation

The current Environmental Noise Guidelines 2018 for the European Region (ENG) supersede the Guidelines for Community Noise from 1999 (CNG). Nevertheless, the ENG recommends that all CNG indoor guideline values and any values not covered by the current guidelines (such as industrial noise and shopping areas) remain valid.

A summary of the guidance from the ENG and CNG is shown in the table below.

Source	CNG guideline indoors all sources	ENG guideline outdoors noise from specific source only
Road traffic noise	35 $L_{Aeq,\ 16h}$	53 dB L_{den}
	30 $L_{Aeq,\ 8h}$	45 dB L_{night}
Railway noise	35 $L_{Aeq,\ 16h}$	54 dB L_{den}
	30 $L_{Aeq,\ 8h}$	44 dB L_{night}
Aircraft noise	35 $L_{Aeq,\ 16h}$	45 dB L_{den}
	30 $L_{Aeq,\ 8h}$	40 dB L_{night}

With regard to single-event noise indicators, Section 2.2.2 of the WHO Environmental Noise Guidelines 2018 state:

"In many situations, average noise levels like the L_{den} or L_{night} indicators may not be the best to explain a particular noise effect. Single-event noise indicators – such as the maximum sound pressure level ($L_{A,max}$) and its frequency distribution – are warranted in specific situations, such as in the context of night-time railway or aircraft noise events that can clearly elicit awakenings and other physiological reactions that are mostly determined by $L_{A,max}$. Nevertheless, the assessment of the relationship between different types of single-event noise indicators and long-term health outcomes at the population level remains tentative. The guidelines therefore make no recommendations for single-event noise indicators."

B.5 British Standard BS8233: 2014

British Standard 8233: 2014 "Guidance on sound insulation and noise reduction for buildings" provides guidance for the control of noise in and around buildings.

Internal Areas

BS8233:2014 Section 7.7.2 titled "Internal ambient noise levels for dwellings" states:

"In general for steady external noise sources, it is desirable that internal ambient noise levels do not exceed the following guideline values:

Activity	*Location*	*Desirable Internal Ambient Criteria*	
		07:00 – 23:00	*23:00 to 07:00*
Resting	*Living Rooms*	*35 dB $L_{Aeq,16hour}$*	-
Dining	*Dining Room/Area*	*40 dB $L_{Aeq,16hour}$*	-
Sleeping (Daytime Resting)	*Bedroom*	*35 dB $L_{Aeq,16hour}$*	*30 dB $L_{Aeq,8hour}$*

Note 1 The above table provides recommended levels for overall noise in the design of a building. These are the sum total of structure-borne and airborne noise sources. Groundborne noise is assessed separately and is not included as part of these targets, as human response to groundborne noise varies with many factors such as level, character, timing, occupant expectation and sensitivity.

Note 2 The levels shown in the above table are based on the existing guidelines issued by the WHO and assume normal diurnal fluctuations in external noise. In cases where local conditions do not follow a typical diurnal pattern, for example on a road serving a port with high levels of traffic at certain times of the night, an appropriate alternative period, e.g. 1 hour, may be used, but the level should be selected to ensure consistency with the levels recommended in the above table.

Note 3 These levels are based on annual average data and do not have to be achieved in all circumstances. For example, it is normal to exclude occasional events, such as fireworks night or New Year's Eve.

Note 4 Regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of SEL or $L_{Amax,F}$ depending on the character and number of events per night. Sporadic noise events could require separate values.

Note 5 If relying on closed windows to meet the guide values, there needs to be an appropriate alternative ventilation that does not compromise the façade insulation or the resulting noise level.

If applicable, any room should have adequate ventilation (e.g. trickle ventilators should be open) during assessment.

Note 6 Attention is drawn to the Building Regulations.

Note 7 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."

External Amenity Areas

BS8233:2014 Section 7.7.3.2 titled "Design criteria for external noise" states:

"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 $L_{Aeq,T}$[1], with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments. However, it is also recognized that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited.

Other locations, such as balconies, roof gardens and terraces, are also important in residential buildings where normal external amenity space might be limited or not available, i.e. in flats, apartment blocks, etc. In these locations, specification of noise limits is not necessarily appropriate. Small balconies may be included for uses such as drying washing or growing pot plants, and noise limits should not be necessary

for these uses. However, the general guidance on noise in amenity space is still appropriate for larger balconies, roof gardens, and terraces, which might be intended to be used for relaxation. In high-noise areas consideration should be given to protecting these areas by screening or building design to achieve the lowest practicable levels. Achieving levels of 55dB $L_{Aeq,T}$ or less might not be possible at the outer edge of these areas, but should be achievable in some areas of the space."

B.6 ProPG : Planning & Noise : 2017

The primary goal of the ProPG is to assist the delivery of sustainable development by promoting good health and well-being through the effective management of noise. It seeks to do that through encouraging a good acoustic design process in and around proposed new residential development having regard to national policy on planning and noise. It is applicable to noise from existing transport sources (noting that good professional practice should have regard to any reasonably foreseeable changes in existing and/or new sources of noise). The recommended approach is also considered suitable where some industrial or commercial noise contributes to the acoustic environment provided that is "not dominant".

This ProPG advocates a systematic, proportionate, risk based, 2-stage, approach. The approach encourages early consideration of noise issues, facilitates straightforward accelerated decision making for lower risk sites, and assists proper consideration of noise issues where the acoustic environment is challenging.

The two sequential stages of the overall approach are:

- Stage 1 – an initial noise risk assessment of the proposed development site; and
- Stage 2 – a systematic consideration of four key elements.

The four key elements to be undertaken in parallel during Stage 2 of the recommended approach 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 – consideration of "Other Relevant Issues".

The ProPG considers suitable guidance on internal noise levels found in "BS8233:2014: Guidance on sound insulation and noise reduction for buildings".Table 4 in Section 7.7.2 of the standard suggests that "in general, for steady external noise sources, it is desirable that the internal ambient noise level does not exceed the guideline values". The standard states

(Section 7.7.1) that “occupants are usually more tolerant of noise without a specific character” and only noise without such character is considered in Table 4 of the standard.

Activity	Location	07:00 – 23:00 Hours	23:00 – 07:00 Hours
Resting	Living Room	35dB $L_{Aeq,16hr}$	-
Dining	Dining Room / Area	40dB $L_{Aeq,16hr}$	-
Sleeping (daytime resting)	Bedroom	35dB $L_{Aeq,16hr}$	30dB $L_{Aeq,8hr}$ 45dB $L_{Amax,F}$

NOTE 1 the Table provides recommended internal L_{Aeq} target levels for overall noise in the design of a building. These are the sum total of structure-borne and airborne noise sources. Ground-borne noise is assessed separately and is not included as part of these targets, as human response to ground-borne noise varies with many factors such as level, character, timing, occupant expectation and sensitivity.

NOTE 2 The internal L_{Aeq} target levels shown in the Table are based on the existing guidelines issued by the WHO and assume normal diurnal fluctuations in external noise. In cases where local conditions do not follow a typical diurnal pattern, for example on a road serving a port with high levels of traffic at certain times of the night, an appropriate alternative period, e.g. 1 hour, may be used, but the level should be selected to ensure consistency with the L_{Aeq} target levels recommended in the Table.

NOTE 3 These internal L_{Aeq} target levels are based on annual average data and do not have to be achieved in all circumstances. For example, it is normal to exclude occasional events, such as fireworks night or New Year’s Eve.

NOTE 4 Regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of SEL or $L_{Amax,F}$, depending on the character and number of events per night. Sporadic noise events could require separate values. 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 45dB $L_{Amax,F}$ 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 the source, number, distribution, predictability and regularity of noise events (see Appendix A).

NOTE 5 Designing the site layout and the dwellings so that the internal target levels can be achieved with open windows in as many properties as possible demonstrates good acoustic design. Where it is not possible to meet internal target levels with windows open, internal noise levels can be assessed with windows closed, however any façade openings used to provide whole dwelling ventilation (e.g. trickle ventilators) should be assessed in the "open" position and, in this scenario, the internal L_{Aeq} target levels should not normally be exceeded, subject to the further advice in Note 7.

NOTE 6 Attention is drawn to the requirements of the Building Regulations.

NOTE 7 Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal L_{Aeq} target levels may be relaxed by up to 5dB and reasonable internal conditions still achieved. The more often internal L_{Aeq} levels start to exceed the internal L_{Aeq} target levels by more than 5dB, the more that most people are likely to regard them as "unreasonable". Where such exceedances are predicted, applicants should be required to show how the relevant number of rooms affected has been kept to a minimum. Once internal L_{Aeq} levels exceed the target levels by more than 10dB, they are likely to be regarded as "unacceptable" by most people, particularly if such levels occur more than occasionally. Every effort should be made to avoid relevant rooms experiencing "unacceptable" noise levels at all and where such levels are likely to occur frequently, the development should be prevented in its proposed form (See Section 3.D).

B.7 Building Regulations Approved Document O

Building Regulations Approved Document O relates to setting standards for overheating in new residential buildings. It aims to protect the health and welfare of occupants of the building by reducing the occurrence of high indoor temperatures.

Requirement O1 of Approved Document O is met by designing and constructing the building to achieve both of the following:

a. Limiting unwanted solar gains in summer.

b. Providing an adequate means of removing excess heat from the indoor environment.

Sections 3.2 to 3.4 of this document relate to noise and state the following:

"In locations where external noise may be an issue (for example, where the local planning authority considered external noise to be an issue at the planning stage), the overheating mitigation strategy should take account of the likelihood that windows will be closed during sleeping hours (11pm to 7am).

Windows are likely to be closed during sleeping hours if noise within bedrooms exceeds the following limits.

a. 40dB $L_{Aeq,T}$, averaged over 8 hours (between 11pm and 7am).

b. 55dB L_{AFmax}, more than 10 times a night (between 11pm and 7am).

Where in-situ noise measurements are used as evidence that these limits are not exceeded, measurements should be taken in accordance with the Association of Noise Consultants' Measurement of Sound Levels in Buildings with the overheating mitigation strategy in use.

***NOTE:** Guidance on reducing the passage of external noise into buildings can be found in the National Model Design Code: Part 2 – Guidance Notes (MHCLG, 2021) and the Association of Noise Consultants' Acoustics, Ventilation and Overheating: Residential Design Guide (2020).*

B.8 British Standard 4142:2014 + A1:2019

When setting plant noise emission criteria reference is commonly made to BS 4142:2014 "*Methods for rating and assessing industrial and commercial sound".*

The procedure contained in BS 4142:2014 provides an assessment of the likely effects of sound on people when comparing the specific noise levels from the source with representative background noise levels. Where the noise contains "a tone, impulse or other characteristic" then various corrections can be added to the specific (source) noise level to obtain the "rating level".

BS 4142 states that: *"The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs". An estimation of the impact of the specific noise can be obtained by the difference of the rating noise level and the background noise level and considering the following:*

• *"Typically, the greater this difference, the greater the magnitude of the impact."*

• *"A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context."*

• *"A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context."*

• *"The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact.*

Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context."

The determination of the "rating level" and the "background level" are both open to interpretation, depending on the context.