

NOISE ASSESSMENT

PROPOSED PADEL COURTS WESTLODE STREET, SPALDING

BROADGATE GROUP

OCTOBER 2026

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Revision	Prepared By	Date
1.2	L Jephson BEng (Hons) MIOA	13/10/26
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1. Introduction

It is proposed to redevelop part of the existing car park situated between the Hollywood Bowl leisure complex and the Spalding Police Station with a dedicated padel and pickleball facility.

At present, the proposed facility is located within a commercial area, with no noise sensitive properties identified. Outline planning permission has been granted to redevelop the existing swimming pool complex into an ExtraCare facility. The proposed care home is located approximately 27 metres from the proposed courts.

An assessment of the noise levels attributable to the operation of the facility has been made at the proposed care home to ensure the use does not result in a potential for adverse noise impacts.

The following section of this report provides a summary of the relevant standards and guidance. Section 3 provides a description of the site, the proposals, and the surrounding area. A summary of the baseline conditions is provided in Section 4. Calculations and assessment of the noise levels attributable to the operation of the padel court are presented in Section 5. Finally, Section 6 presents a summary of the report.

This report has been prepared by L Jephson BEng(Hons) MIOA, Director of LF Acoustics Ltd.

2. Applicable Standards and Guidance

A description of the noise units referred to in this report is provided in Appendix A.

2.1. National Planning Policy Framework

The National Planning Policy Framework (NPPF) updated in August 2026 [1], sets out the Government's policies for plan-making and for making decisions on development proposals in England. The plan-making policies in the Framework must be taken into account in preparing any part of local development plans.

The purpose of the planning system is to contribute to the achievement of sustainable development, by managing the use and development of land in the long-term public interest.

With regards noise and new residential development, the Framework specifies the following.

P1: Planning for clean and safe places

1. To support efforts to avoid and mitigate risks from natural and man-made hazards, minimise levels of pollution and create clean, liveable and safe places for people to live, work and visit, development plans should:

- a. Allocate land for development where, taking into account the potential for mitigation:*
 - iii. Development proposals will not cause unacceptable levels of pollution, either alone or in combination with other pollution sources, taking into account communities which may be particularly vulnerable to its effects, such as children and older people, as well as habitats and species which may be vulnerable to pollution.*
- b. Consider any wider opportunities to reduce air, water, soil, noise or other forms of pollution, and contribute to compliance with national and local environmental targets and objectives, through the spatial strategy and policies for specific parts of the plan area (such as by identifying opportunities for strategic nature-based solutions).*

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.*

Reference has also been made to the Noise Policy Statement for England [2] (NPSE), which sets out the long-term vision of the Government noise policy. Further information has been provided on the assessment of noise within recent Planning Practice Guidance, updated in July 2019 and available on the Government planning web site. Whilst this guidance does not provide any objective criteria upon which to base noise assessments, the guidance provides a description of the relevant Effects Levels identified within the NPPF and NPSE and this is reproduced in Table 2.1.

Perception	Examples of Outcomes	Increasing Effect Level	Action
Not noticeable	No Effect	No Observed Effect (NOEL)	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 (LOAEL)	
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. 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 (SOAEL)	
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

Table 2.1 Significance Criteria

2.2. British Standard BS 8233

British Standard BS 8233 [3] recommends design aims for noise levels to be achieved in new buildings. Whilst not directly applicable to the operation of the proposed facility, the Standard does provide guidance on noise levels within properties, which are considered to be acceptable, to minimise the potential for adverse impacts.

For residential properties, the guidance recommends the following design aims for the daytime (07:00 – 23:00) periods when the court would be operational:

- 35 dB $L_{Aeq,T}$ within living rooms and bedrooms during the daytime period;
- 40 dB $L_{Aeq,T}$ within dining areas / rooms during the daytime period; and
- 50 – 55 dB $L_{Aeq,T}$ within gardens and patios during the daytime.

With regards internal noise levels, the Standard advises:

“Where development is considered necessary or desirable, external noise levels above WHO guidelines, the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved.”

2.3. World Health Organisation Guidelines

The World Health Organisation guidance [4] provides guidance upon potential effects in relation to noise. For daytime noise, the guidelines recommend that few people are moderately annoyed at levels below 50 dB $L_{Aeq,T}$, with sound during the evening and at night 5 – 10 dB lower than during the day.

2.4. Sport England Guidance

Sport England produced guidance relating to the use of Artificial Grass Pitches (AGP) in 2015 [5]. The guidance provides advice on acceptable noise levels from sporting activities and provides recommendations to reduce and mitigate noise.

The guidance advises the use of the lower 50 dB $L_{Aeq,T}$ threshold within the WHO guidelines, noting that a lower assessment period of 1 hour should be applied.

The document also advises that the context should be considered, particularly when considering impact noise from uses such as hockey, when impact noise would be evident, although falls short of providing any specific criteria in this regard.

2.5. Padel Noise Guidance

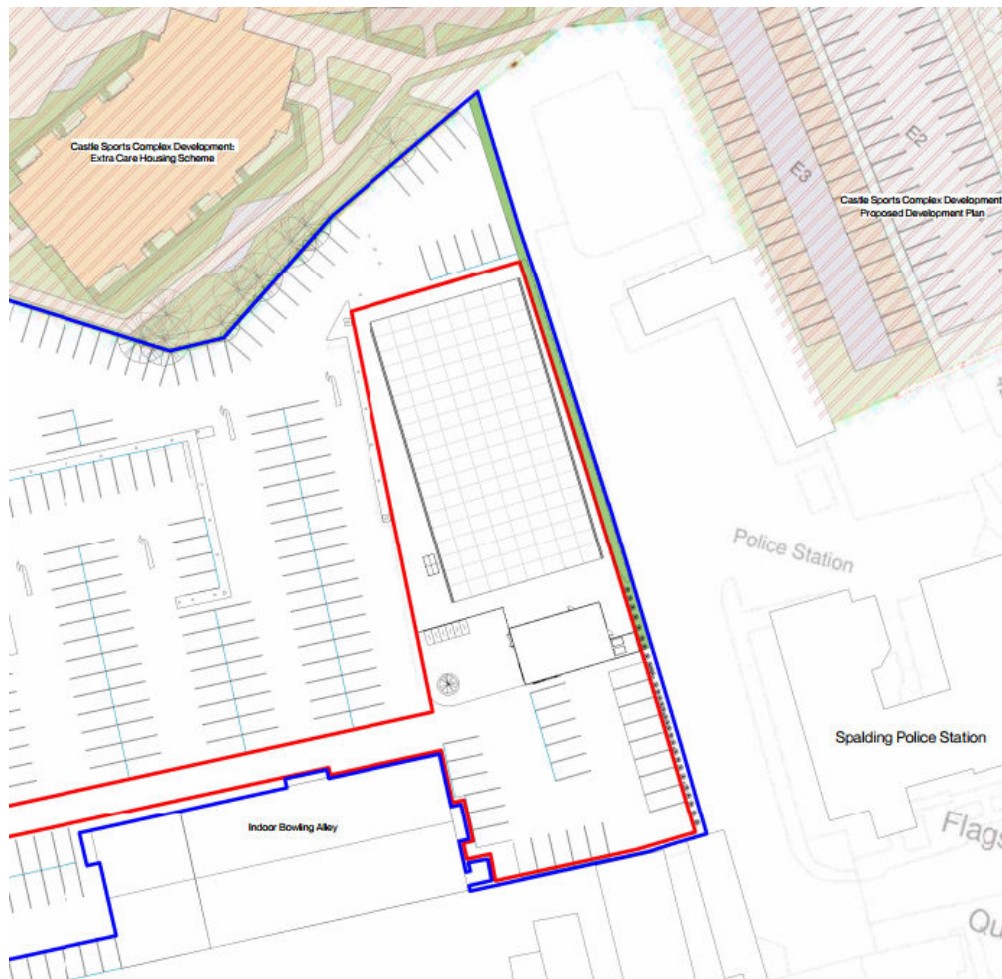
MW Acoustic Consultants have recently published a research paper on the assessment of noise from padel courts [6].

The paper provides a review of applicable guidance when considering appropriate noise limits from padel courts.

The report presents measurements and a methodology for calculating noise levels from the use of padel courts. This approach has been adopted for the purposes of this assessment.

3. Site Description and Development Proposals

The Application Site is located on part of the existing car park to the north of the bowling complex, as indicated below.



Four padel / pickleball courts are proposed. The courts would be positioned beneath a single vaulted canopy, located within the northern part of the site, providing shelter from adverse weather while maintaining a more controlled and consistent environment for play.

Glass screens would be provided around each court, which would be 4 metres in height at the rear of the courts and 3 metres along the sides.

The canopy around the courts would be open for the lower 3 metres along the sides of the canopy to provide air flow across the courts, with a weather resistant Opal 60 fabric roof construction above, at the ends and roof of the construction.

An illustration of the proposed facility is provided below.



At present, there are no noise sensitive receptors within the vicinity of the facility. As indicated above, outline planning permission has recently been granted to demolish the existing swimming pool complex to the north and construct an ExtraCare care home on the site (Application Ref. H16-0506-24). This property has been identified as a future noise sensitive receptor and considered within this assessment.

4. Baseline Noise Assessment

A noise assessment was prepared by Pace Consult [7] to accompany the planning application for the ExtraCare care home.

The report included a baseline noise monitoring exercise to establish the existing noise levels at the positions of the façades of the proposed building.

Daytime noise measurements were obtained at a position representative of the southern façade of the property, which would be that potentially most affected by the operation of the padel courts, which indicated the following levels:

- 48 dB $L_{Aeq,T}$; and
- 44 dB L_{A90} .

As there have been no changes in the surrounding area since that survey was carried out in 2024, the noise levels monitored are representative of the current conditions and have been used as the basis of this assessment.

5. Calculation and Assessment of Noise from Proposed Development

5.1. Calculation of Noise Levels

Reference has been made to the methodology proposed within the MW report to calculate noise levels from the use of the court.

The report principally considers noise from external courts, which is applicable to the proposed development.

Based upon the noise levels presented in the report, the following Sound Power Level has been adopted for a ball strike.

Overall A-Weighted SWL [dB]	Octave Band SWL [dB]						
	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz
90.7	92.6	84.7	87.0	85.5	88.7	80.3	73.4

Typically, the ball is struck once every 4 seconds, with the ball struck proportionally between the players in each area of the court. The modelling has assumed that each strike of the ball would generate noise for 0.5 seconds and thus an appropriate on time correction has been applied within the modelling. The modelling has assumed two players on each single court and four players on each double court.

A noise model for the court has been prepared using the SoundPlan computer modelling package, which implements the calculation methodology from ISO9613-2:2024.

Internal noise levels have been calculated on the basis of the above source terms and assuming each player standing centrally towards the rear of each court, with the ball hit at a height of 1m above the ground.

The internal noise modelling has been based upon the assumption of a hard floor, with glass screens constructed around each court, as indicated previously.

The proposed fabric weatherproof lining on the upper parts of the sides and roof of the canopy would provide a small degree of acoustic attenuation, which has been included within the modelling. The acoustic specifications for the building materials used are provided in Appendix B.

Calculations of the noise levels at the closest façades of the proposed care home have been made on the basis of the above assumptions to predict the $L_{Aeq, 1 \text{ hr}}$ noise levels.

The calculated noise levels are presented on Figure 1.

5.2. Assessment

The noise modelling indicates that the padel courts would generate noise levels of up to 47 dB $L_{Aeq, 1\text{ hr}}$ at the closest façades of the care home.

The predicted noise levels would remain below the Sport England guideline value of 50 dB $L_{Aeq, 1\text{ hr}}$, derived for artificial grass pitches, which is considered also to be applicable to this type of sports development.

The noise levels attributable to the proposed use would remain below the lower guideline values of 50 dB $L_{Aeq,T}$ for acceptable external noise specified within BS 8233 and WHO guidelines.

Considering the cumulative effect of the existing ambient noise, which is principally attributable to vehicles using the car park and that associated with the operation of the facility, ambient noise levels would be 51 dB $L_{Aeq, 1\text{ hr}}$, thus remaining within the lower guideline values for external amenity areas specified within BS 8233 and WHO guidance.

Internally, the acoustic assessment prepared to accompany the planning application for the care home indicated that a standard construction would be adequate, with the use of standard thermal double glazing, with the proposed construction providing a 28 dB(A) reduction in noise levels between outside and in. On this basis, internal noise levels attributable to the use of the proposed facility would be up to 19 dB $L_{Aeq, 1\text{ hr}}$, thus ensuring a good standard of noise would be maintained. Assuming windows open, which typically provides a 15 dB reduction in noise levels, internal noise levels would also maintain a good standard of noise internally, with regards to the requirements of BS 8233.

Whilst the noise from the operation of the padel courts is likely to be audible at the proposed care home, the noise would be at a level that would not cause any change in behaviour or attitude. Taking reference from the NPSE, the operation of the proposed facility would result in a No Observed Effects Level. On this basis, the proposed use would not result in a potential for significant adverse effects and would thus be compliant with the requirements of the NPPF.

6. Summary

It is proposed to redevelop part of the existing car park situated between the Hollywood Bowl leisure complex and the Spalding Police Station with a dedicated padel and pickleball facility.

At present, the proposed facility is located within a commercial area, with no noise sensitive properties identified. Outline planning permission has been granted to redevelop the existing swimming pool complex into an ExtraCare facility. The proposed care home is located approximately 27 metres from the proposed courts.

Noise levels at the proposed care home are presently influenced by vehicles parking within the car park and general road traffic noise within the surrounding area.

A noise model has been prepared to predict the noise levels attributable to the proposed operation of the padel courts at the care home, based upon the proposed construction for the facility and all courts in use.

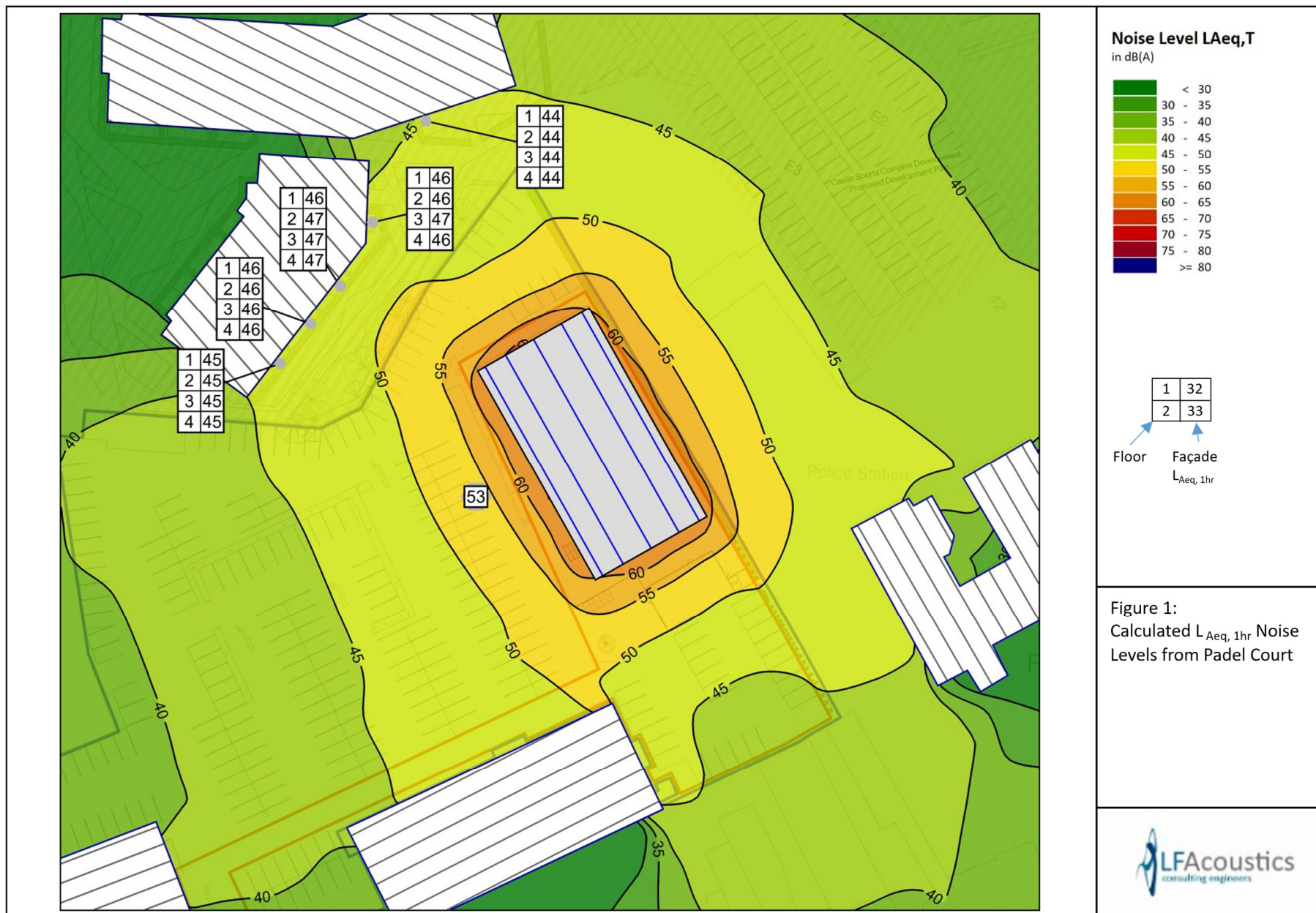
The noise modelling indicates relatively low noise levels at the care home, with predicted noise levels below that associated with the existing ambient noise.

An assessment of the predicted noise levels indicated that the proposed use would generate acceptable levels of noise at the care home, which would not result in a potential for adverse noise impacts. The proposals are therefore compliant with the requirements of the NPPF.

References

1. Ministry of Housing, Communities and Local Government. National Planning Policy Framework. August 2026.
2. Department for Communities and Local Government. Noise Policy Statement for England. 2010.
3. British Standards Institute. Guidance on Sound Insulation and Noise Reduction for Buildings. BS 8233. 2014.
4. World Health Organisation. Guidelines for Community Noise. 1999. WHO Geneva.
5. Sport England. Design Guidance Note. Artificial Grass Pitch (AGP) Acoustics – Planning Implications. 2015.
6. MW Acoustic Consultants. A Noise Assessment of Padel. 2025.
7. Pace Consult. South Holland ExtraCare Unit: Noise Survey and Assessment. 11 October 2024. Ref. PC-24-0203-RP1.

Figure



Appendix A

Noise Units

Decibels (dB)

Noise can be defined as unwanted sound. Sound in air can be considered as the propagation of energy through the air in the form of oscillatory changes in pressure. The size of the pressure changes in acoustic waves is quantified on a logarithmic decibel (dB) scale firstly because the range of audible sound pressures is very great, and secondly because the loudness function of the human auditory system is approximately logarithmic.

The dynamic range of the auditory system is generally taken to be 0 dB to 140 dB. Generally, the addition of noise from two sources producing the same sound pressure level, will lead to an increase in sound pressure level of 3 dB. A 3 dB noise change is generally considered to be just noticeable, a 5 dB change is generally considered to be clearly discernible and a 10 dB change is generally accepted as leading to the subjective impression of a doubling or halving of loudness.

A-Weighting

The bandwidth of the frequency response of the ear is usually taken to be from about 18 Hz to 18,000 Hz. The auditory system is not equally sensitive throughout this frequency range. This is taken into account when making acoustic measurements by the use of A-weighting, a filter circuit which has a frequency response similar to the human auditory system. All the measurement results referred to in this report are A-weighted.

Units Used to Describe Time-Varying Noise Sources (L_{Aeq} , L_{A90} and L_{Amax})

Instantaneous A-weighted sound pressure level is not generally considered as an adequate indicator of subjective response to noise because levels of noise usually vary with time.

For many types of noise the Equivalent Continuous A-Weighted Sound Pressure Level ($L_{Aeq,T}$) is used as the basis of determining community response. The $L_{Aeq,T}$ is defined as the A-weighted sound pressure level of the steady sound which contains the same acoustic energy as the noise being assessed over a specific time period, T.

The L_{A90} is the noise level exceeded for 90% of the measurement period. It is generally used to quantify the background noise level, the underlying level of noise which is present even during the quietest part of the measurement period.

The L_{Amax} is the maximum value that the A-weighted sound pressure level reaches during a measurement period. $L_{Amax,F}$, or Fast, is averaged over 0.125 of a second.

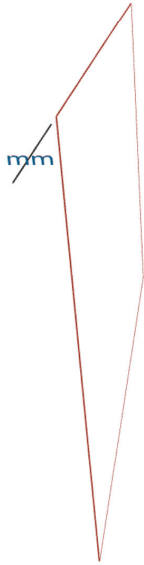
Appendix B
Acoustic Specifications of Building Materials

Sound Insulation Prediction (v10.0.7)

Program copyright Marshall Day Acoustics 2023 | Margin of error is generally within $R_w \pm 3$ dB

Date: 30/09/2026

Job Name:



R_w 19 dB

$C_{50-5000}$ 0 dB

$C_{tr,50-5000}$ -4 dB

System description

Panel 1 1 x 1 mm Mass loaded vinyl
Details Panel Size 2.7 m x 4.0 m, Partition surface mass = 2.6 kg/m²

freq. (Hz)	R (dB)	Roct (dB)
50	5	
63	5	5
80	5	
100	6	
125	6	6
160	7	
200	8	
250	10	10
315	11	
400	13	
500	14	14
630	16	
800	18	
1000	19	19
1250	21	
1600	23	
2000	25	25
2500	27	
3150	28	
4000	30	30
5000	32	

