



Architectural & Environmental Consultants
Acoustics | Vibration | Air Quality

Noise Assessment

Land North of Swindon Road, Royal Wootton
Bassett

Noise Assessment

Project: LAND NORTH OF SWINDON ROAD, ROYAL WOOTTON
BASSETT

Report reference: RP01-25240-R1

Client: GLEESON LAND LTD
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0	10 July 2025	Nathan Hyde, BSc (Hons), Acoustics Consultant	Tim Ives, PhD BEng CEng FIOA, Director	Initial issue
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1. EXECUTIVE SUMMARY

- 1.1 Cass Allen has been instructed by Gleeson Land Ltd to assess noise and vibration affecting a proposed new development at Land North of Swindon Road, Royal Wootton Bassett.
- 1.2 The assessment was carried out in accordance with relevant local and national planning guidance.
- 1.3 A noise and vibration survey was carried out at the site. Noise and vibration levels at the site are dictated by road traffic noise emissions from Swindon Road.
- 1.4 Noise affecting the development has been assessed in accordance with ProPG guidance. The design of the development is considered to be acceptable subject to the adoption of acoustically upgraded glazing and ventilation and acoustic screening around gardens. This can be investigated further at the detailed design stage and may be secured by the imposition of a noise related planning condition by the Local Planning Authority.
- 1.5 Compliance with noise criteria in Building Regulations Part O has also been assessed. Some bedrooms will need to be designed so that windows can remain closed at night without the rooms overheating. This can be assessed further in due course.
- 1.6 Ground-borne vibration levels at the site have been measured and are considered to be acceptable for the development.
- 1.7 In summary, it is our view that the site is suitable for the development in terms of noise and vibration levels and that planning permission may be granted subject to the imposition of suitable planning conditions, if necessary.

2. INTRODUCTION

- 2.1 Cass Allen has been instructed by Gleeson Land Ltd to assess noise and vibration affecting a proposed new development at Land North of Swindon Road, Royal Wootton Bassett.
- 2.2 The assessment has been carried out in accordance with relevant local and national planning guidance.
- 2.3 The aims of the assessment were:
- to establish the suitability of existing noise and vibration levels at the site for the proposed development
 - where required, identify appropriate measures to optimise the acoustic design of the development and achieve acceptable noise levels in habitable areas
- 2.4 This report contains technical terminology; a glossary of terms can be found at www.cassallen.co.uk/glossary.

3. PROJECT DESCRIPTION

- 3.1 The site currently contains an open field and is located in a mixed-use area, bounded to the east by the Churchill Pub and Hotel, to the south by Swindon Road (A3102) and to the west by a residential dwelling. To the north of the site are open fields. To the south of the site, beyond Swindon Road, is a residential area.
- 3.2 The site location is shown in Figure 1 below.

Figure 1 Site Location and Surrounding Area



- 3.3 The proposal is to develop the site into residential properties. A current drawing of the proposed development layout is shown in Appendix 1.

4. PLANNING POLICY

National Policy

- 4.1 Outline guidance for the assessment of noise affecting new developments is given in the National Planning Policy Framework (NPPF) (December 2024). Relevant sections in this case are highlighted below:

187. Planning policies and decisions should contribute to and enhance the natural and 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 ...noise pollution.

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:

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;

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

200. Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or ‘agent of change’) should be required to provide suitable mitigation before the development has been completed.

Local Policy

- 4.2 Wiltshire Local Council's Core Strategy (2015) provides outline guidance for how noise should be mitigated and managed for new developments within the borough and states:

Applications for new development must be accompanied by appropriate information to demonstrate how the proposal will make a positive contribution to the character of Wiltshire through:...

...vii. Having regard to the compatibility of adjoining buildings and uses, the impact on amenities of existing occupants, and ensuring that appropriate levels of amenity are

achievable within the development itself, including the consideration of privacy, overshadowing, vibration, and pollution (e.g. noise)

- 4.3 To address the requirements of the national and local policies, the following key acoustic matters have been assessed:
- noise affecting the habitable areas of the proposed development
 - ground-borne vibration affecting the habitable areas of the proposed development

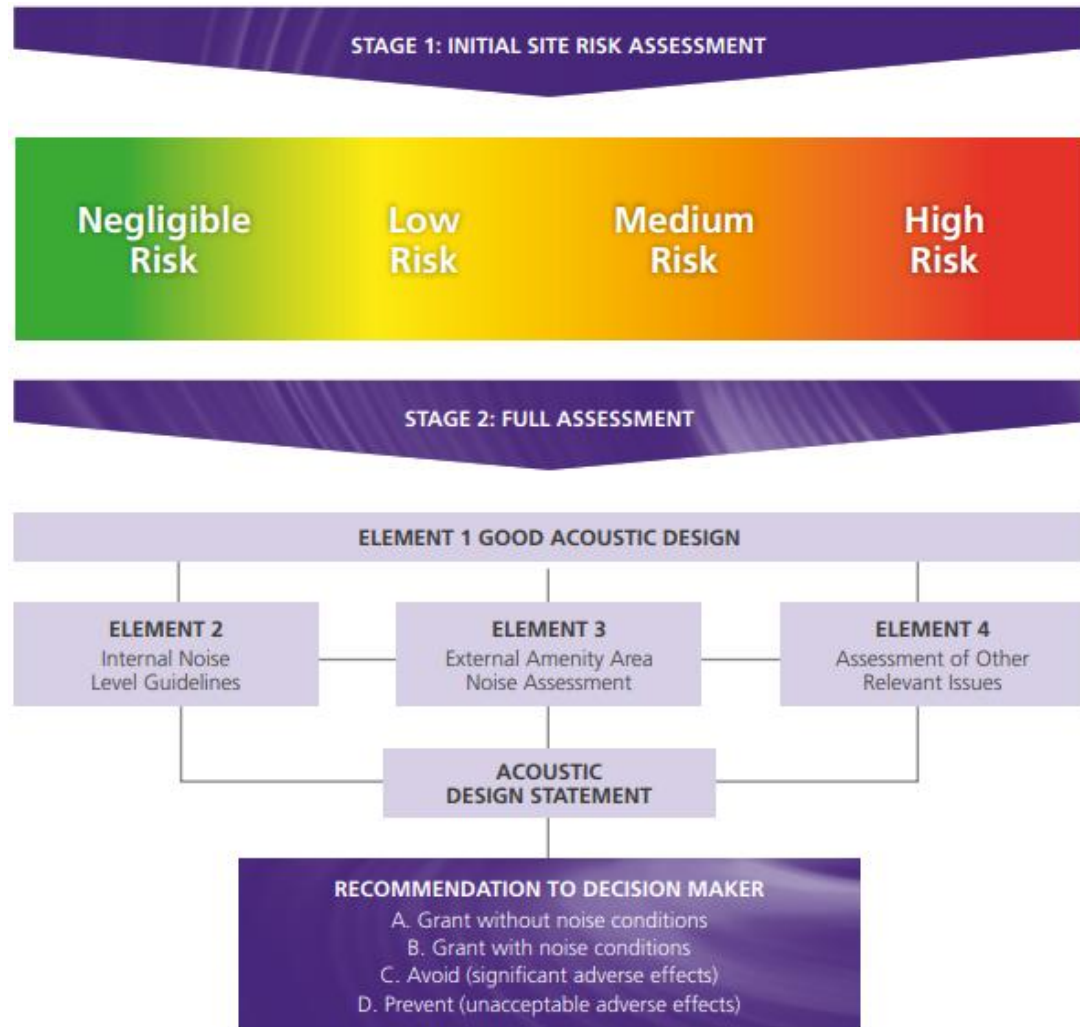
5. NOISE AFFECTING THE DEVELOPMENT

5.1 Specific guidance on the assessment of noise affecting new residential development is given in ProPG: Planning and Noise for New Residential Development, May 2017 (ProPG). The process within the ProPG guidance for the appraisal of noise levels affecting new residential development is considered to be current 'best practice' and has, therefore, been followed for the assessment. The assessment process can be summarised as follows:

- Stage 1 – measure noise levels at the site and carry out an initial noise risk assessment of the proposed development site based on the measured levels.
- Stage 2 – where a higher noise risk is identified, carry out a detailed assessment including the following four considerations:
 - Element 1 – the overall acoustic design and layout of the site
 - Element 2 – internal noise levels in habitable areas
 - Element 3 – noise levels in external amenity areas
 - Element 4 – consideration of other relevant issues
- Based on the results of the Stage 2 assessment, provide a recommendation to the decision maker on whether planning permission can and should be granted.

5.2 The process is shown visually in Figure 2 below.

Figure 2 ProPG Assessment Process



- 5.3 It should be noted that the guidance in ProPG relates primarily to noise from transportation sources, i.e. road traffic, aircraft, rail etc. Any significant noise from other sources (e.g. industrial, commercial or entertainment sources) is outside the scope of the ProPG guidance and, therefore, requires separate consideration.

Stage 1 – Noise survey and initial assessment

- 5.4 A noise survey was carried out at the site from 3rd – 7th July 2025 to assess existing noise levels in the area. The full methodology and results of the noise survey are provided in Appendix 2.
- 5.5 Average noise levels (LAeq) across the site were generally dictated by road traffic on Swindon Road (A3102).

- 5.6 Maximum noise levels (LA_{max}) across the site were largely dictated by fast car passes along Swindon Road (A3102).
- 5.7 Background noise levels (LA₉₀) across the site were dictated by constant road traffic noise from Swindon Road (A3102) and nature sounds.
- 5.8 Noise from the Churchill Pub and Inn was not identified during the noise survey and is deemed insignificant in comparison to noise from Swindon Road. Therefore, this will not be considered further for this assessment.
- 5.9 Vibration measurements were taken onsite and were found to be insignificant. Therefore, this will not be considered further for this assessment.
- 5.10 Areas of the development at the southern edge of the site will be subject to the highest noise levels. The values below have been corrected to take into account the location of the nearest houses to the road. The noise survey results show that noise levels at these positions are as follows:
- Southern location of proposed houses:
 - Average noise levels during the daytime - 64 dB LA_{eq,0700-2300hrs}
 - Average noise levels during the night-time - 58 dB LA_{eq,2300-0700hrs}
 - Typical maximum noise levels during the night-time - 73 dB LA_{max}
- 5.11 The measured noise levels can be compared with Figure 3 below to assess the 'noise risk' of the site. Where the noise risk is high, significant acoustic design measures may be required to achieve acceptable noise levels in the development. Where the noise risk is low, acceptable noise levels may be achievable with no specific acoustic design measures.

Figure 3 Noise Risk Assessment (Adaption of Figure 1 from ProPG)



- 5.12 It can be seen from a comparison of the measured noise levels in paragraph 5.10 above with Figure 3 that the site is 'Medium' risk in relation to daytime noise levels and 'Medium to High' risk in relation to night-time noise levels. Therefore, ProPG requires that a more detailed 'Stage 2' assessment is carried out.

Stage 2 – Element 1 – Overall acoustic design of the site

5.13 The acoustic design of development has been reviewed in relation to the measured noise levels at the site. The layout of the development is considered to represent good acoustic design for the following reasons:

- the layout positions sensitive areas of the residential properties away from the noise sources through the use of having the houses set back from the road
- gardens are positioned behind dwellings so that they will be acoustically screened from the noise sources

Stage 2 – Element 2 - Internal noise levels

5.14 Appropriate design criteria for acceptable noise levels in acoustically sensitive areas of new developments are given in BS8233:2014 '*Guidance on sound insulation and noise reduction for buildings*'.

5.15 Relevant BS8233 design criteria are summarised in Table 1 below.

Table 1 BS8233:2014 Internal Noise Criteria

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living room	35 dB LAeq,16hour	-
Dining	Dining room/area	40 dB LAeq,16hour	-
Sleeping (daytime resting)	Bedroom	35 dB LAeq,16hour	30 dB LAeq,8hour

5.16 Full construction details for the development have not been finalised as the project is at an early design stage. It has therefore been assumed that the external walls of the development will be constructed using a standard masonry construction (e.g. 102mm brick, 100mm insulated cavity, 100mm concrete block) or a light-weight construction designed to achieve a similar level of sound insulation (this is technically achievable subject to detailed design).

5.17 The ventilation strategy for the development has not yet been confirmed and therefore it is assumed that background ventilation will be provided via trickle ventilators in the building facade. This is a 'worst case' assumption from an acoustic perspective as trickle ventilators are often an acoustic weak point in the facade.

5.18 Calculations were carried out using facade modelling software in accordance with the methodology given in BS8233:2014 to calculate the sound insulation performance required of the glazing and ventilation to achieve the nominated internal noise criteria in the 'worst-case' habitable rooms of the development (i.e. the habitable rooms that will be subject to the highest external noise levels). The calculations included a 3 dBA design margin.

5.19 If acceptable internal noise levels can be achieved in 'worst case' habitable rooms then it follows that acceptable internal noise levels can be achieved in all other habitable rooms of the development using similar glazing and ventilator types.

5.20 The calculations were carried out based on the following typical dimensions/details for facade elements:

- glazing – 1.5m² for bedrooms and 2.5m² for living rooms
- external walls – 8m² for bedrooms and 15m² for living rooms
- 2 in-frame trickle ventilators in bedrooms and 3 in-frame trickle ventilators in living rooms

5.21 The results of the calculations are shown in Appendix 3 and are summarised in Table 2 below.

Table 2 Acoustic Requirements for ‘Worst Case’ Habitable Rooms

‘Worst Case’ Rooms	Glazing Performance Requirements (inc. Frames)	Ventilator Performance Requirements (in Open Position)
Habitable rooms facing Swindon Road	30 dB Rw+Ctr	40 dB Dne,w + Ctr

Note The requirements given are approximate only and should be confirmed at the detailed design stage when full design details are available.

5.22 The required sound insulation performance values in Table 2 could typically be achieved by the glazing and ventilator types shown in Table 3.

Table 3 Typical Glazing / Ventilator Acoustic Performances

Glazing (in Good Quality Sealed Frames)	Typical Weighted Sound Reduction (Rw + Ctr)
6/16/6.4mm thermal double glazing	30
Ventilators	Typical Acoustic Performance (Dnew + Ctr)
Greenwood 2500EAW.AC1 (Vent + 1 acoustic module)	40

Note The acoustic performance of the glazing systems (including frames) should always be confirmed with the manufacturer before selection for installation on site.

5.23 It can be seen from the above that acceptable internal noise levels will be achievable in the development subject to the specification of suitable glazing and ventilation systems at the detailed design stage. It is our view therefore that the proposed development is, in principle, acceptable with regards to the noise levels that will exist within the habitable rooms.

5.24 It should be noted that it will be possible to use lower acoustic performance glazing and ventilators for habitable rooms on facades that are further from or acoustically screened from the surrounding noise sources. This can be investigated further at the detailed design stage.

5.25 The above ProPG assessment for planning purposes is based on internal noise levels with windows closed (assumed to be “normal” circumstances). However, it is anticipated that residents

will open their windows at times for thermal comfort (e.g. to prevent overheating in warmer months). Noise levels in the rooms will increase under these circumstances.

- 5.26 The development will be subject to Part O of the Building Regulations (Approved Document O), which came into effect on 15 June 2022. Section 3.2 of Approved Document O (ADO) states:

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 LAeq,T, averaged over 8 hours (between 11pm and 7am).

b. 55dB LAFmax, more than 10 times a night (between 11pm and 7am).

- 5.27 The results of the noise survey indicate that areas of the development facing Swindon Road may exceed the noise limits provided in ADO when the windows are opened. The overheating assessment is, therefore, not likely to be able to rely solely on open windows. This will need to be confirmed as part of the overheating assessment during the detailed design stage.

Stage 2 – Element 3 – Noise levels in external amenity areas

- 5.28 BS8233 states that it is desirable that noise levels in external amenity areas of residential developments do not exceed 50 dB LAeq and that 55 dB LAeq,T should be regarded as an upper guideline value. However, BS8233 recognises that these guideline values will not always be achievable in city centres or urban areas adjoining main roads or other transport sources. In these cases, BS8233 states that the development should be designed to achieve the lowest practicable noise levels in the amenity spaces.
- 5.29 Noise levels in some gardens are predicted to exceed the 55 dB LAeq,T limit by 9 dB, however whilst this is not ideal, it is not uncommon for noise levels in gardens in urban areas to be higher than the BS8233 recommended levels.
- 5.30 To reduce noise levels in these gardens as far as practicable, it is recommended that gardens are positioned behind dwellings so that the house provides acoustic screening from the road for the garden and 1.8m high close-boarded timber fencing is used around the gardens where levels are predicted to be higher than the BS8233 recommended levels.
- 5.31 In summary of the above, noise levels in external amenity areas of the development are predicted to be acceptable provided that 1.8m high close-boarded timber fencing is used around gardens where noise levels are predicted to be higher than the BS8233 recommended upper level (55 dB LAeq,T). If deemed necessary, this could be secured through the imposition of a suitable planning condition.

Stage 2 – Element 4 – Other relevant issues

- 5.32 In our view the design and acoustic approach outlined above is in line with both local and national noise policy. It is common for residential properties to be situated near to main roads and this is an acceptable scenario provided that the properties are acoustically upgraded where necessary to achieve acceptable noise levels in habitable areas.

Recommendation to decision maker

- 5.33 It is our view that planning permission may be granted in relation to noise affecting habitable areas of the development subject to the imposition of suitable planning conditions to ensure that acceptable noise levels are achieved in the finished development.

6. CONCLUSIONS

- 6.1 Cass Allen was instructed by Gleeson Land Ltd to assess noise and vibration affecting the development.
- 6.2 The assessment was carried out in accordance with relevant local and national planning guidance.
- 6.3 Noise levels at the site are dictated by road traffic from Swindon Road.
- 6.4 Noise affecting the development has been assessed in accordance with ProPG guidance. The design of the development is considered to be acceptable subject to the adoption of acoustically upgraded glazing and ventilation and acoustic screening around gardens. This can be investigated further at the detailed design stage and may be secured by the imposition of a noise related planning condition by the Local Planning Authority.
- 6.5 Compliance with noise criteria in Building Regulations Part O has also been assessed. Some bedrooms will need to be designed so that windows can remain closed at night without the rooms overheating. This can be assessed further in due course.
- 6.6 Ground-borne vibration levels at the site have been measured and are considered to be acceptable for the development.
- 6.7 It is our view that the site is suitable for the development in terms of noise and vibration levels and that planning permission should be granted subject to the imposition of suitable planning conditions, if necessary.

Appendix 1 Development Layout



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- NOTES:
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 3. THIS DRAWING IS NOT INTENDED FOR CONSTRUCTION
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APPLICATION BOUNDARY

INDICATIVE PROPOSED CONTOURS

HARD LANDSCAPE

BLACK ASPHALT SURFACING

SELF BINDING GRAVEL
SELF BINDING GRAVEL, COLOUR BUFF

TIMBER MULCH
CONIFER BARK MULCH, NATURAL COLOUR

WET POUR SURFACING
NATURAL / BETULUS COLOUR TO BE COORDINATED

SAND SURFACING FOR PLAY AREA

BLOCK PAVING TO PARKING AREAS

BLOCK PAVING TO CARRIAGEWAY / SHARED SPACES

BLOCK PAVING TO DWELLING ACCESS FOOTPATHS

SOFT LANDSCAPE

EXISTING VEGETATION RETAINED AND ASSOCIATED ROOT PROTECTION AREAS

LANDMARK / FEATURE TREES

STREET TREES / OPEN SPACE TREES

FRUITING TREES

AMENITY GRASS
3370m² / 2400m²

WILDFLOWER MEADOW MIX
10130m² / 8887m²

NATIVE SCRUB PLANTING MIX
7600m²

SHRUB PLANTING MIX
10550m²

SWALE PLANTING MIX / SUDS
6450m²

NATIVE HEDGEROW PLANTING
156m / 124m

FURNITURE

PLAY EQUIPMENT

BENCHES

STEPPING LOGS

LOGS

BOULDERS

PROPOSED FENCING
THREE RAIL RAILING

Rev	Description	Date
01	Draft issue	01.10.25
00	For Coordination	24.09.25

Purpose of Issue

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Gleeson Land

Project
ROYAL WOOLTON BASSETT

Drawing Title
General Arrangement Plan

Drawn YE	Checked HP	Approved LJ	Date 24/09/2025
Job No. 22.0071	Scale 1:750	Sheet Size A1	Revised
Drawing Number BMD.22.0071.DR.001			

Appendix 2 Survey Results

Survey Summary:

The survey comprised short-term operator attended noise and vibration measurements and longer-term unattended noise monitoring at the site. Noise levels at the site were generally dictated by road traffic on surrounding roads. Vibration levels at the site were very low.

Survey Period:

03/07/2025 to 07/07/2025

Survey Objectives:

- To identify noise and vibration sources that contribute to ambient noise levels at the site;
- To measure noise levels around the site over a typical day and night-time period.
- To measure vibration levels around the site over a typical daytime period.

Equipment Used:

Type	Manufacturer	Model	Serial Number
Calibrator	01dB	CAL31	83380
Sound level meter ¹ (noise logger)	Rion	NL-32	00482672
Sound level meter ¹ (noise logger)	Rion	NL-32	00251125
Sound level meter ¹	Rion	NL-52	00965090
Tri-Axial Vibration Meter	Rion	XV-2P	00380055
Tri-axial accelerometer	Rion	PV-83C	73649

Note 1: All sound level meters were calibrated before and after measurement periods and no significant drift in calibration was found to have occurred. The results of the measurements are therefore considered to be representative.

Weather Conditions:

The observed weather conditions were acceptable for acoustic measurement throughout the attended survey periods (low-medium wind speeds and no rain). Weather records for the area confirmed that weather conditions were also generally acceptable for acoustic measurement during the unattended monitoring. Any periods of unattended monitoring that may have been adversely affected by weather conditions have been excluded from the data analysis.

Measurement Positions:

Position (refer plan below)	Description
N1	Attended noise monitoring position. 1.5m above ground. Free-field. Direct line of sight to nearby roads
N2	Attended noise monitoring position. 1.5m above ground. Free-field. Direct line of sight to nearby roads
L1	Unattended noise logging position. 3m above ground level. Free-field. Direct line of sight to nearby roads

Measurement Positions:

Position (refer plan below)	Description
L2	Unattended noise logging position. 3m above ground level. Free-field. Direct line of sight to nearby roads
V1	Attended ground-borne vibration monitoring position. The vibration measurements were taken on top of the existing concrete foundations.
V2	Attended ground-borne vibration monitoring position. The vibration measurements were taken on top of the existing concrete foundations.

Site Plan showing Measurement Positions:



Attended Noise Monitoring Results:

Date	Position	Time	Meas. Length	LAeq, dB	LAmix, dB	LA90, dB	Observations
03/07/2025	N1	12:31	5 mins	72	83	50	Noise dictated by road traffic from Swindon Road (A3102) and nature sounds
	N2	12:40		55	64	49	

Unattended Noise Monitoring Results:

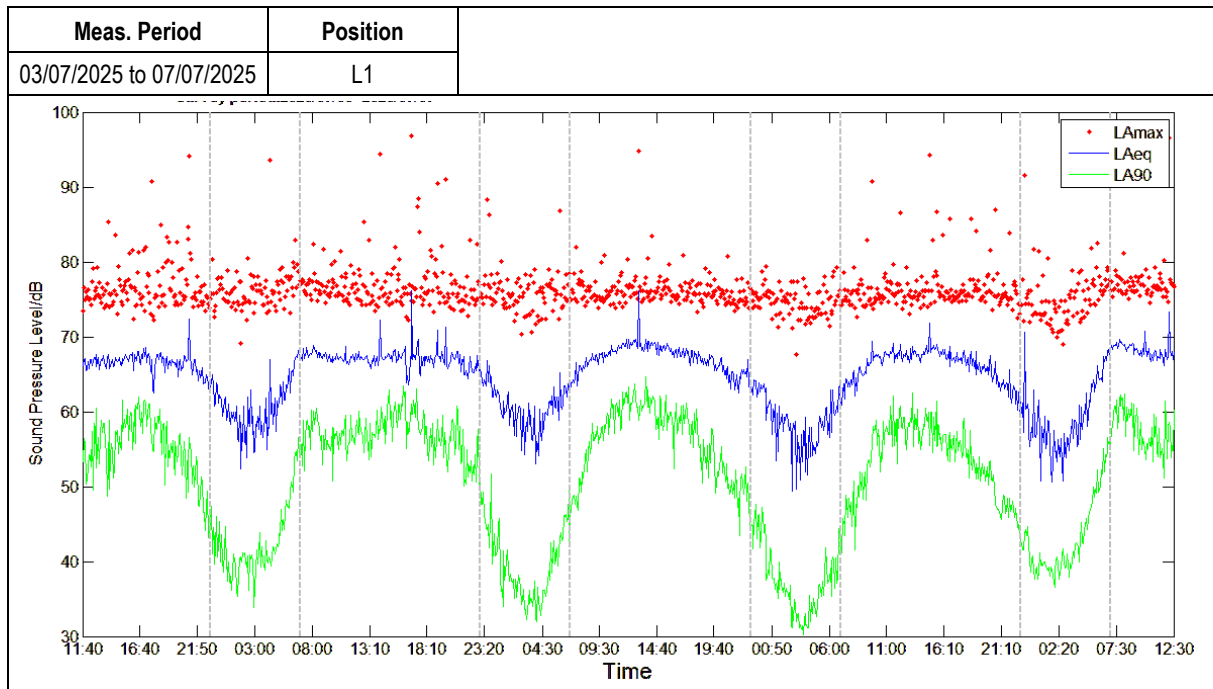
Meas. Period	Position	Daytime (0700-2300hrs)	Night-time (2300-0700hrs)
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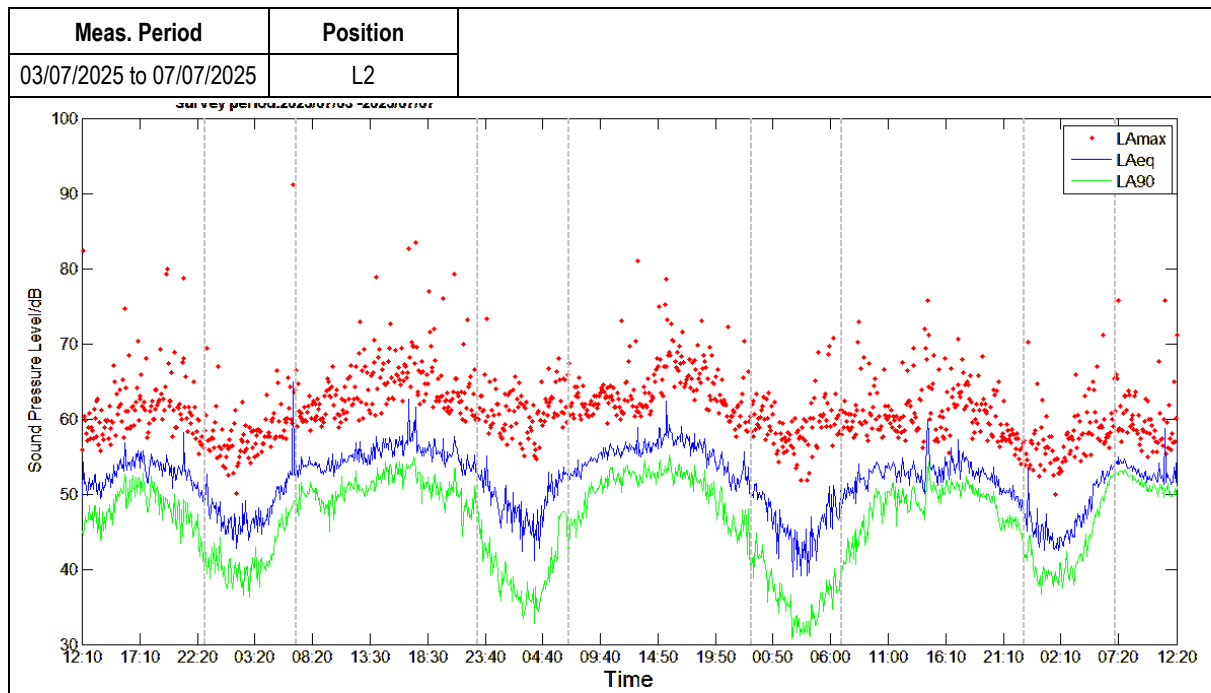
		L _{Aeq} ,16hr, dB	L _{A90} ,1hr dB ¹	L _{Aeq} ,8hr, dB	L _{A90} ,5mins, dB ¹	L _{Amax} , dB ²
03/07/2025 to 07/07/2025	L1	67	56	61	40	78
	L2	55	50	49	40	63-64

Note 1: Typical lowest measured during the period shown.

Note 2: Highest typical maximum noise level during the night-time (not exceeded more than 10-15 times per night).

Unattended Noise Monitoring Results:





Attended Ground-borne Vibration Monitoring Results:

Date	Position	Time	Meas. Length	X VDV	Y VDV	Z VDV	Observations
03/07/2025	V1	12:45	10 mins	0.00066	0.00099	0.00898	Road traffic along Swindon Road (A3102)
	V2			0.00045	0.00027	0.00356	

Note 1: Vibration measurements were taken across the low-frequency range (1-80Hz)

Appendix 3 Facade Calculations

PROJECT: Swindon Road, Royal Wootton Bassett

ROOM: Bedroom

VARIANT: Worst-Case Average Noise Level (LAeq)

NOTES: Typical assumptions used for ext. wall & glazing dimensions, and no. ventilators.

Room Dimensions [m] $\begin{matrix} W \\ 3.0 \end{matrix} \times \begin{matrix} L \\ 4.0 \end{matrix} \times \begin{matrix} H \\ 2.4 \end{matrix}$

Room Volume = 28.8 m³

Partition Area = 9.5 m²

Ventilation ref area = 10.0 m²

Free Field SPL K = 3 dB

SELECT Free Field or Façade SPL for model input >>> ☐

NOTES:

EXTERNAL SPECTRUM (A weighted)

EXTERNAL SPECTRUM (A weighted)								
dBA	63	125	250	500	1000	2000	4000	
Direct input - Free Field SPL (A weighted octave bands) dB ----->	-							No data
Road traffic spectrum (according to BS 8233:1999 section 6)	64.0							
	45.8	49.9	53.4	56.8	60.0	57.2	52.0	Reference spectrum

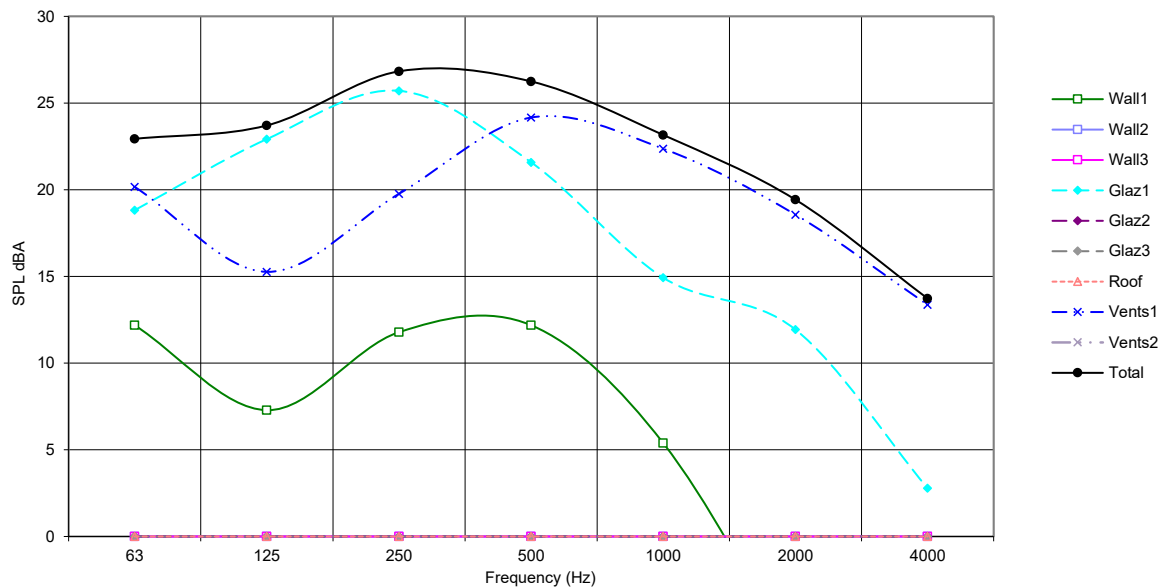
REVERBERATION TIME

DIRECT INPUT ----->								No data
EQUAL RT for all bands ----->	0.5	0.5	0.5	0.5	0.5	0.5	0.5	Default - RT set to 0.5s

Façade Element	Area [m ²]	SRI dB to BS EN ISO 140-3:1995								Rw	C	Ctr
Wall 1 Typical - 102mm brick/50mm cavity/100mm block	8.0	36	45	44	47	57	67	77	3%	54	0	-4
ATTENUATION												
Wall 2 WALLS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Wall 3 WALLS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Glazing 1 30 dB Rw + Ctr - Acoustically Upgraded Double Glazing	1.5	22	22	23	30	40	40	44	50%	30 (inc Ctr)	-	-
ATTENUATION												
Glazing 2 GLAZING		0	0	0	0	0	0	0	0%			
ATTENUATION												
Glazing 3 GLAZING		0	0	0	0	0	0	0	0%			
ATTENUATION												
Roof ROOF / FLOOR		0	0	0	0	0	0	0	0%			
ATTENUATION												
Resultant composite Façade SRI		29	30	31	38	48	48	52				
Resultant SPL inside room excluding ventilators dB	29.5	20	23	26	22	15	12	3	54%			

Ventilator Type	Num	D _{n,e} dB to BS EN 20140-10:1992								D _{nw}	C	Ctr
Ventilation Greenwood 2500EAW.AC1 (Vent + 1 External Acoustic Module)	2	32	41	40	39	44	45	45	46%	42	-1	-2
ATTENUATION												
Ventilation VENTS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Resultant SPL inside room through ventilators dB	28.8	20	15	20	24	22	19	13	46%			
Total SPL inside room	32.2	23	24	27	26	23	19	14				

Element contribution to total internal noise level



PROJECT: Swindon Road, Royal Wootton Bassett
ROOM: Bedroom
VARIANT: Worst-Case Average Noise Level (LAeq)
NOTES: Typical assumptions used for ext. wall & glazing dimensions, and no. ventilators.

Room Dimensions [m] $\begin{matrix} W \\ 3.0 \end{matrix}$ X $\begin{matrix} L \\ 4.0 \end{matrix}$ X $\begin{matrix} H \\ 2.4 \end{matrix}$

Room Volume = 28.8 m³
 Partition Area = 9.5 m²
 Ventilation ref area = 10.0 m²
 Free Field SPL K = 3 dB

SELECT Free Field or Façade SPL for model input >>> ☐

NOTES:

EXTERNAL SPECTRUM (A weighted)

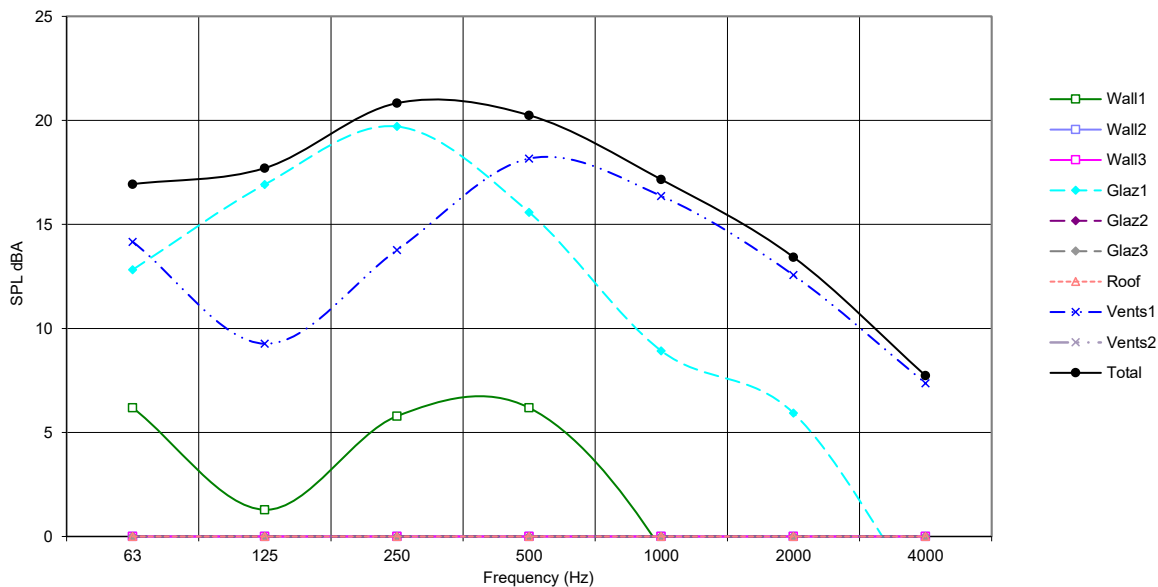
EXTERNAL SPECTRUM (A weighted)								
dBA	63	125	250	500	1000	2000	4000	
Direct input - Free Field SPL (A weighted octave bands) dB ---->	-							No data
Road traffic spectrum (according to BS 8233:1999 section 6)	58.0							
	39.8	43.9	47.4	50.8	54.0	51.2	46.0	Reference spectrum

REVERBERATION TIME

DIRECT INPUT ---->								No data
EQUAL RT for all bands ---->	0.5	0.5	0.5	0.5	0.5	0.5	0.5	Default - RT set to 0.5s

Façade Element	Area [m ²]	SRI dB to BS EN ISO 140-3:1995								Rw	C	Ctr
Wall 1 Typical - 102mm brick/50mm cavity/100mm block	8.0	36	45	44	47	57	67	77	3%	54	0	-4
ATTENUATION												
Wall 2 WALLS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Wall 3 WALLS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Glazing 1 30 dB Rw + Ctr - Acoustically Upgraded Double Glazing	1.5	22	22	23	30	40	40	44	50%	30 (inc Ctr)	-	-
ATTENUATION												
Glazing 2 GLAZING		0	0	0	0	0	0	0	0%			
ATTENUATION												
Glazing 3 GLAZING		0	0	0	0	0	0	0	0%			
ATTENUATION												
Roof ROOF / FLOOR		0	0	0	0	0	0	0	0%			
ATTENUATION												
Resultant composite Façade SRI		29	30	31	38	48	48	52				
Resultant SPL inside room excluding ventilators dB		23.5	14	17	20	16	9	6	-3	54%		

Ventilator Type	Num	D _{n,e} dB to BS EN 20140-10:1992								D _{nw}	C	Ctr
Ventilation Greenwood 2500EAW.AC1 (Vent + 1 External Acoustic Module)	2	32	41	40	39	44	45	45	45%	42	-1	-2
ATTENUATION												
Ventilation VENTS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Resultant SPL inside room through ventilators dB		22.8	14	9	14	18	16	13	7	46%		
Total SPL inside room		26.2	17	18	21	20	17	13	8			

Element contribution to total internal noise level

PROJECT: Swindon Road, Royal Wootton Bassett
ROOM: Bedroom
VARIANT: Worst-Case Maximum Noise Level (LAMax)
NOTES: Typical assumptions used for ext. wall & glazing dimensions, and no. ventilators.

Room Dimensions [m] $\begin{matrix} W \\ 3.0 \end{matrix}$ X $\begin{matrix} L \\ 4.0 \end{matrix}$ X $\begin{matrix} H \\ 2.4 \end{matrix}$

Room Volume = 28.8 m³
 Partition Area = 9.5 m²
 Ventilation ref area = 10.0 m²
 Free Field SPL K = 3 dB

SELECT Free Field or Façade SPL for model input >>> ☐

NOTES: _____

EXTERNAL SPECTRUM (A weighted)

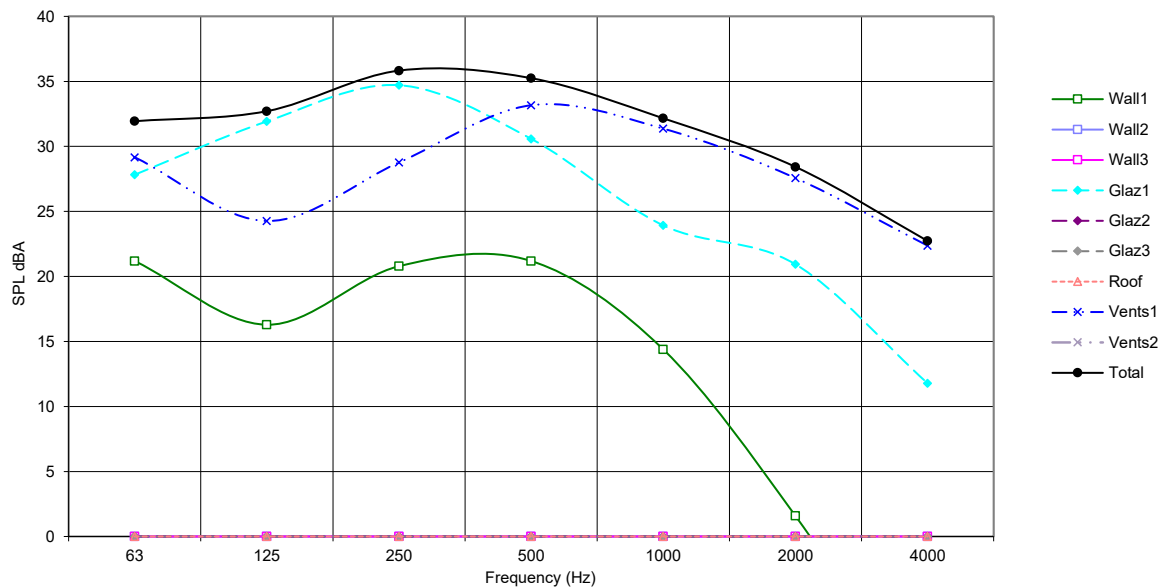
EXTERNAL SPECTRUM (A weighted)								
dBA	63	125	250	500	1000	2000	4000	
Direct input - Free Field SPL (A weighted octave bands) dB ----->	-							No data
Road traffic spectrum (according to BS 8233:1999 section 6)	73.0							
	54.8	58.9	62.4	65.8	69.0	66.2	61.0	Reference spectrum

REVERBERATION TIME

DIRECT INPUT ----->								No data
EQUAL RT for all bands ----->	0.5	0.5	0.5	0.5	0.5	0.5	0.5	Default - RT set to 0.5s

Façade Element	Area [m ²]	SRI dB to BS EN ISO 140-3:1995								Rw	C	Ctr
Wall 1 Typical - 102mm brick/50mm cavity/100mm block	8.0	36	45	44	47	57	67	77	3%	54	0	-4
ATTENUATION												
Wall 2 WALLS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Wall 3 WALLS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Glazing 1 30 dB Rw + Ctr - Acoustically Upgraded Double Glazing	1.5	22	22	23	30	40	40	44	51%	30 (inc Ctr)	-	-
ATTENUATION												
Glazing 2 GLAZING		0	0	0	0	0	0	0	0%			
ATTENUATION												
Glazing 3 GLAZING		0	0	0	0	0	0	0	0%			
ATTENUATION												
Roof ROOF / FLOOR		0	0	0	0	0	0	0	0%			
ATTENUATION												
Resultant composite Façade SRI		29	30	31	38	48	48	52				
Resultant SPL inside room excluding ventilators dB	38.5	29	32	35	31	24	21	12	54%			

Ventilator Type	Num	D _{n,e} dB to BS EN 20140-10:1992								D _{nw}	C	Ctr
Ventilation Greenwood 2500EAW.AC1 (Vent + 1 External Acoustic Module)	2	32	41	40	39	44	45	45	46%	42	-1	-2
ATTENUATION												
Ventilation VENTS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Resultant SPL inside room through ventilators dB	37.8	29	24	29	33	31	28	22	46%			
Total SPL inside room	41.2	32	33	36	35	32	28	23				

Element contribution to total internal noise level

PROJECT: Swindon Road, Royal Wootton Bassett
 ROOM: Living Room
 VARIANT: Worst-Case Average Noise Level (LAeq)
 NOTES: Typical assumptions used for ext. wall & glazing dimensions, and no. ventilators.

Room Dimensions [m] $\begin{matrix} W \\ 4.0 \end{matrix}$ X $\begin{matrix} L \\ 5.0 \end{matrix}$ X $\begin{matrix} H \\ 2.4 \end{matrix}$
 Room Volume = 48.0 m³
 Partition Area = 17.5 m²
 Ventilation ref area = 10.0 m²
 Free Field SPL K = 3 dB

SELECT Free Field or Façade SPL for model input >>> ☐

EXTERNAL SPECTRUM (A weighted)

Direct input - Free Field SPL (A weighted octave bands) dB ---->	-							No data
Road traffic spectrum (according to BS 8233:1999 section 6)	64.0							
		45.8	49.9	53.4	56.8	60.0	57.2	52.0
								Reference spectrum

REVERBERATION TIME

DIRECT INPUT ----->								No data
EQUAL RT for all bands ----->	0.5	0.5	0.5	0.5	0.5	0.5	0.5	Default - RT set to 0.5s

NOTES:

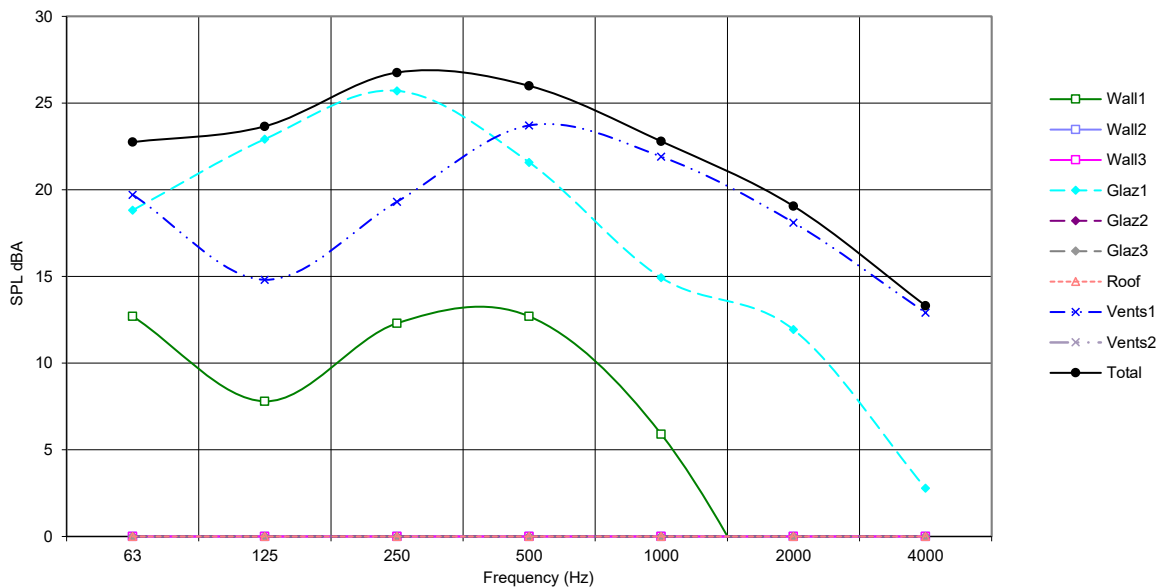
Façade Element	Area [m ²]	SRI dB to BS EN ISO 140-3:1995								Rw	C	Ctr
Wall 1 Typical - 102mm brick/50mm cavity/100mm block	15.0	36	45	44	47	57	67	77	4%	54	0	-4
ATTENUATION												
Wall 2 WALLS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Wall 3 WALLS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Glazing 1 30 dB Rw + Ctr - Acoustically Upgraded Double Glazing	2.5	22	22	23	30	40	40	44	53%	30 (inc Ctr)	-	-
ATTENUATION												
Glazing 2 GLAZING		0	0	0	0	0	0	0	0%			
ATTENUATION												
Glazing 3 GLAZING		0	0	0	0	0	0	0	0%			
ATTENUATION												
Roof ROOF / FLOOR		0	0	0	0	0	0	0	0%			
ATTENUATION												
Resultant composite Façade SRI		30	30	31	38	48	49	53				
Resultant SPL inside room excluding ventilators dB	29.5	20	23	26	22	15	12	3	57%			

Ventilator Type	Num	D _{n,e} dB to BS EN 20140-10:1992								D _{nw}	C	Ctr
Ventilation Greenwood 2500EAW.AC1 (Vent + 1 External Acoustic Module)	3	32	41	40	39	44	45	45	43%	42	-1	-2
ATTENUATION												
Ventilation VENTS		0	0	0	0	0	0	0	0%			
ATTENUATION												
Resultant SPL inside room through ventilators dB	28.3	20	15	19	24	22	18	13	43%			

Total SPL inside room

32.0	23	24	27	26	23	19	13
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Element contribution to total internal noise level





Architectural & Environmental Consultants

Acoustics | Vibration | Air Quality

This report has been prepared by Cass Allen Associates Ltd in accordance with the CDM regulations with all reasonable skill, care and diligence, and taking account of the resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid at the time of collection. This report is for the exclusive use of the client named above; no warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from Cass Allen Associates Ltd. Cass Allen Associates Ltd disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of work.



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