



33 CATHERINE STREET SALISBURY SP1 2DQ

BS8233 NOISE ASSESSMENT REPORT

26 March 2026

Build Architects

Aran Acoustics Ltd
20-22 Wenlock Road,
London N1 7GU

t: 0845 544 2695
e: info@aranacoustics.com
w: www.aranacoustics.com

Aran Acoustics Ltd is a limited company registered in England and Wales.
Company Registration No. 08480500 | Registered Offices: 20-22 Wenlock Road, London N1 7GU, United Kingdom

33 CATHERINE STREET SALISBURY SP1 2DQ

BS8233 NOISE ASSESSMENT REPORT

Document Reference: RPT.260326.0 - 33 CATHERINE STREET SALISBURY - NOISE ASSESSMENT.DOCX

Revision	Description	Issued by	Issue date
-	First Issue - Noise Assessment Report	Damien Hesnan	26/03/2026

DISCLAIMER

This report has been prepared by Aran Acoustics Ltd with due care and diligence in accordance with the instruction of the client and within the terms and conditions of the Contract with the Client.

The report is for the sole use of the Client and Aran Acoustics Ltd shall not be held responsible for any use of the report or its content for any purpose other than that for which it was prepared and provided to the Client.

Aran Acoustics Ltd accepts no responsibility of whatever nature to any third parties who may have been made aware of or have acted in the knowledge of the report or its contents.

No part of this document may be copied or reproduced without the prior written approval of Aran Acoustics Ltd.

TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	SITE DESCRIPTION	2
3.0	NOISE SURVEY.....	3
3.1	Measurement Positions	3
3.2	Measurement Equipment	3
3.3	Weather Conditions	4
4.0	SURVEY RESULTS.....	5
4.1	Measurement Position 1 (MP1)	5
4.2	Measurement Position 2 (MP2)	6
5.0	GUIDANCE DOCUMENTATION – NOISE CONTROL	7
5.1	National Planning Policy Framework	7
5.2	Noise Policy Statement for England.....	7
5.3	World Health Organisation Guidelines	8
5.4	British Standard 8233:2014	9
5.5	Summary of Guidance Documentation and Conclusion	9
6.0	BS8233 FAÇADE ASSESSMENT	10
6.1	External Envelope Construction.....	10
6.2	Glazing Specifications.....	10
6.3	Ventilation.....	11
6.4	Maximum Internal Noise Levels.....	12
6.5	Overheating Assessment	12
7.0	PLANT NOISE.....	13
8.0	SUMMARY.....	14
	APPENDIX A – SITE PLANS	15
	APPENDIX B – SITE PHOTOS	16
	APPENDIX C – CALCULATION SHEETS	17
	APPENDIX D – INSUL DATA SHEETS	22

1.0 INTRODUCTION

This report has been prepared by Aran Acoustics Ltd to assess the impact of environmental noise at the proposed residential development located at 33 Catherine Street, Salisbury.

The proposal comprises a planning application for the change of use of an existing building to a 6-bedroom House in Multiple Occupation (HMO). The building fronts directly onto Catherine Street within Salisbury city centre, with a public car park and associated commercial uses located to the rear of the site.

The objective of this assessment is to determine the existing environmental noise climate affecting the site and to provide appropriate recommendations for the building envelope and ventilation strategy to ensure that internal noise levels within habitable rooms are suitable for residential use. The assessment has been undertaken in accordance with BS 8233:2014 'Guidance on sound insulation and noise reduction for buildings' and relevant planning policy guidance.

Following consultation responses from the Local Planning Authority, a site-specific Noise Impact Assessment was requested to address potential noise impacts arising from:

- Road traffic noise along Catherine Street affecting the front elevation; and
- Environmental noise associated with the rear car park and surrounding commercial activities.

In response to these requirements, an environmental noise survey has been undertaken to characterise noise levels affecting the front façade of the site. In addition, reference has been made to noise survey data previously obtained at the adjacent property, 35 Catherine Street, which is considered representative of the noise environment affecting the rear elevation of the proposed development.

The assessment has been carried out using measured noise data for both façades to establish external noise exposure levels and to undertake façade noise break-in calculations for the proposed habitable accommodation. The results have been used to determine appropriate glazing and ventilation requirements to achieve suitable internal noise conditions.

This report presents the findings of the noise survey, reviews relevant guidance and policy, and provides an assessment of internal noise levels together with recommendations for mitigation measures suitable for submission to the Local Planning Authority in support of the planning application.

2.0 SITE DESCRIPTION

The proposed development is located at 33 Catherine Street, Salisbury and comprises the change of use of an existing building to a 6-bedroom House in Multiple Occupation (HMO). The ground floor will remain in commercial use, with separate access provided to the upper floors which will accommodate the residential units. Habitable rooms are located at first and second floor levels with windows facing both the front and rear elevations.

The building forms part of a continuous terrace within Salisbury city centre and fronts directly onto Catherine Street, a well-trafficked urban road. The front elevation is therefore primarily influenced by road traffic noise, including light vehicles, delivery traffic and general servicing activity throughout the day and night.

To the rear of the site is a public car park serving surrounding commercial premises. The rear elevation is influenced by intermittent vehicle movements and general activity associated with the car park and nearby commercial uses, including occasional plant and servicing operations.

The surrounding area is characterised by a mix of retail, commercial and residential uses typical of a town centre environment. Whilst the area includes a number of food and beverage premises, the prevailing noise climate at the site is considered to be dominated by road traffic and general urban activity rather than significant late-night entertainment noise.

The acoustic environment at the site is therefore influenced by two principal noise sources: road traffic noise affecting the front façade and intermittent car park and commercial activity affecting the rear. These factors have informed the scope of the environmental noise survey and the façade noise break-in assessment presented within this report.

Figure 2.1 below shows a location map and aerial photo of the site and surrounding area.

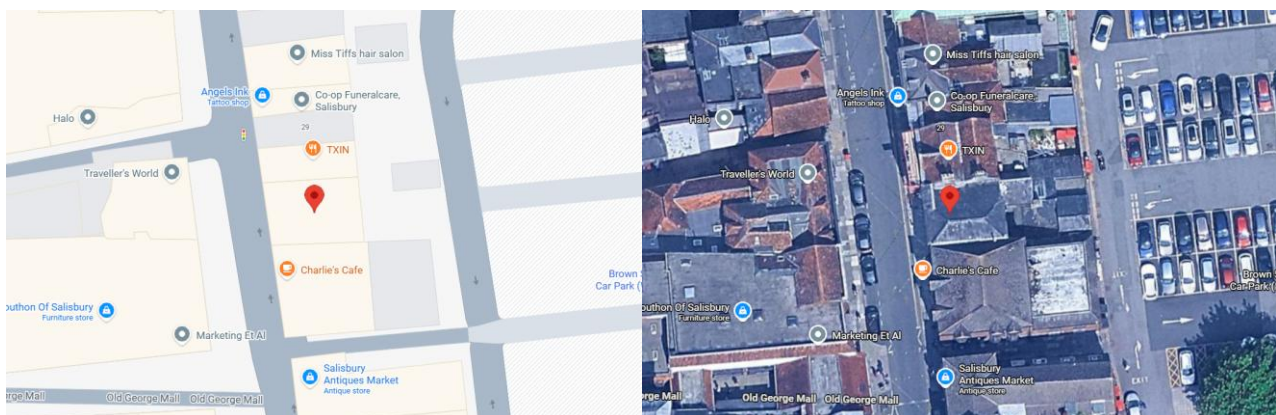


Figure 2.1 - Location map and aerial photo of proposed site*

**Imagery courtesy of Google Maps*

3.0 NOISE SURVEY

An environmental noise survey was undertaken to characterise the existing noise environment affecting the proposed residential development at 33 Catherine Street, Salisbury. The survey comprised unattended monitoring at the front elevation of the building, supplemented by reference to previously obtained survey data at the rear of the adjacent property, 35 Catherine Street.

The survey was undertaken over a continuous 24-hour period commencing on 17 March 2026 and included both daytime and night-time measurements. The results have been used to establish representative external noise levels affecting the development and to inform the façade noise break-in assessment presented in Section 6.0.

3.1 Measurement Positions

Measurement Position 1 (MP1): Monitoring was undertaken at first floor level on the front elevation, facing Catherine Street. The microphone was positioned to represent the most exposed habitable room windows at the façade, with a clear line of sight to the road. Noise levels measured at this location are considered representative of worst-case exposure to road traffic affecting the front elevation.

Rear Elevation: Noise levels affecting the rear façade have been derived from the environmental noise survey previously undertaken at the adjacent property, 35 Catherine Street. The measurement position in that survey was located at first floor level overlooking the same car park and associated commercial plant. The position is considered acoustically comparable to the rear of the application site due to the shared boundary, similar orientation, and exposure to the same noise sources.

Site plans showing the measurement locations are provided in Appendix A. Photographs of the equipment positions are presented in Appendix B.

3.2 Measurement Equipment

The following measurement equipment was used, which complies with the performance specifications for Class 1 devices in accordance with BS EN 61672-1:2003.

Name	Serial Number	Last Calibrated	Calibration Due
Svantek SV 977A Sound and Vibration Analyser	81342	Feb 2025	Feb 2027
ACO 7052E Condenser Microphone	75729	Feb 2025	Feb 2027
Svantek SV 12L Preamplifier	87536	Feb 2025	Feb 2027
Svantek SV 36 Acoustic Calibrator	93003	Feb 2026	Feb 2027

Table 3.1 - Measurement equipment

The meter was calibrated before and after the noise survey where no significant deviations were found. The meters were set to measure consecutive 'A' weighted 10-min time samples.

3.3 Weather Conditions

The weather was mainly clear and dry for the duration of the survey. Wind speeds remained below 5 m/s. The temperature range was approximately 06 - 14 °C.

The weather conditions were considered suitable for environmental noise surveying in accordance with BS 7445-1:2003 '*Description and measurement of environmental noise*'.

4.0 SURVEY RESULTS

The noise levels measured at the fixed measurement positions are shown in Figures 4.1 & 4.2 below. The full set of acoustic data measured on site is available upon request.

4.1 Measurement Position 1 (MP1)

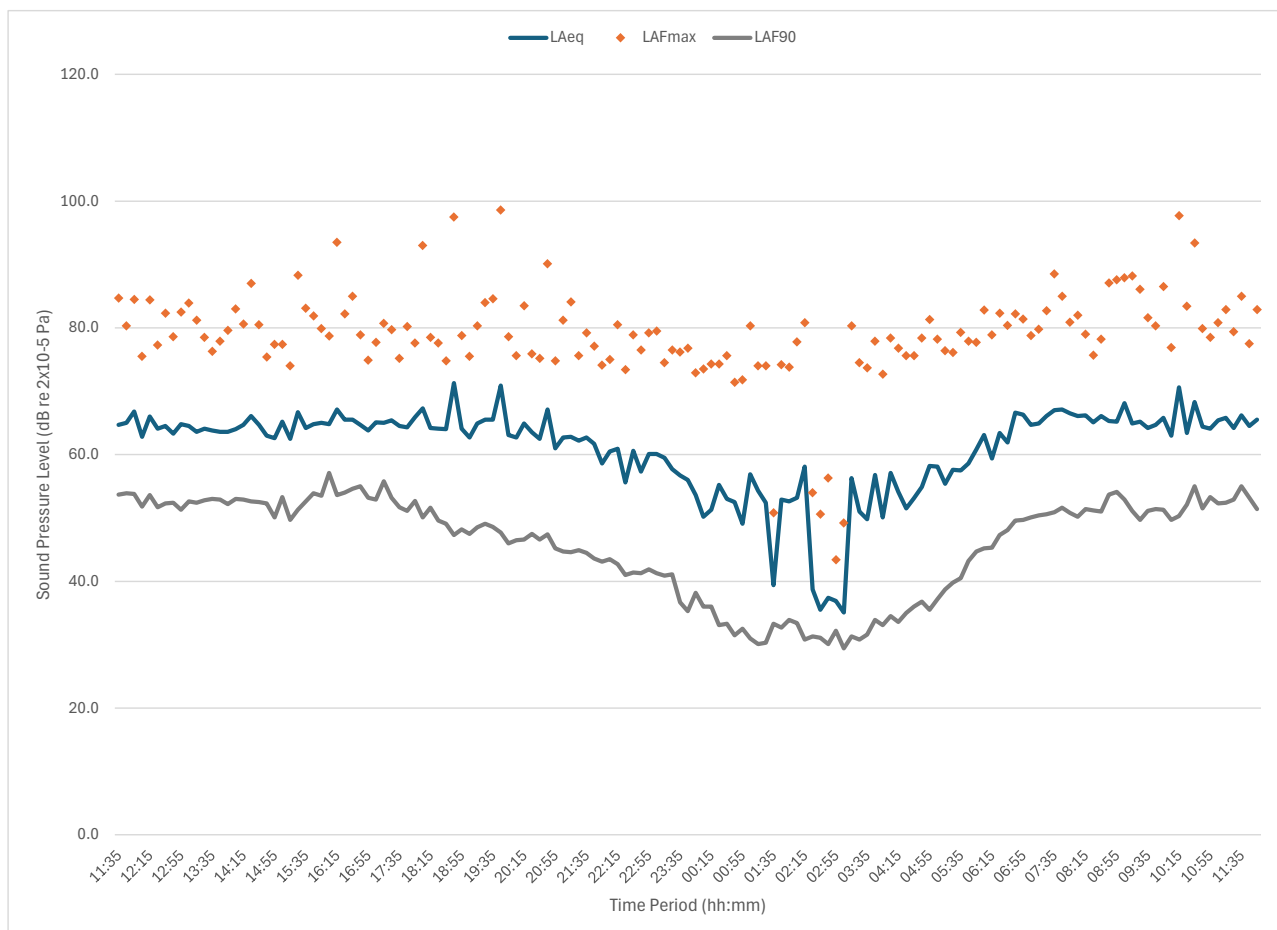


Figure 4.1 – Measured Noise Levels (MP1)

Noise levels at MP1 represent the acoustic environment at the front façade and are dominated by road traffic along Catherine Street, with a clear diurnal pattern. Noise levels remain relatively high during the daytime and reduce at night, although they remain elevated and steady due to ongoing traffic activity. Occasional short-duration maximum noise events were recorded, associated with individual vehicle pass-bys and localised activity, with no evidence of sustained late-night entertainment noise.

A summary of the measured noise levels at MP1 is presented in Table 4.1.

Time Period	Average Noise Levels		Maximum Noise Level	
	LAeq		LAFmax, dB	
Daytime LAeq,16 Hour (07:00 – 23:00 hours)	65		-	
Night time LAeq,8 Hour (23:00 – 07:00 hours)	58		83	

Table 4.1 – Summary of Measured Noise Levels (MP1)

4.2 Measurement Position 2 (MP2)

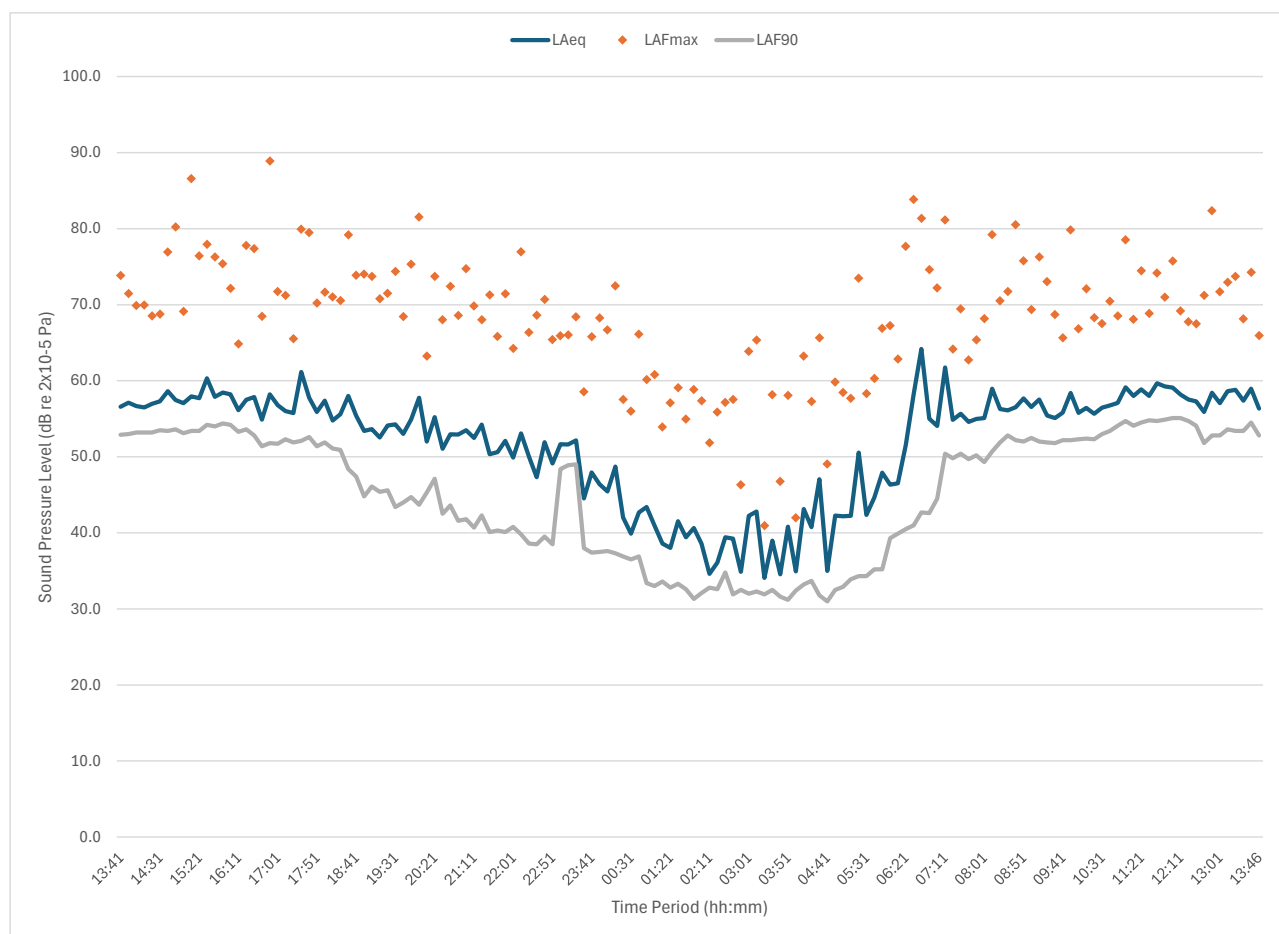


Figure 4.2 – Measured Noise Levels (MP2)

Noise levels at MP2 represent the acoustic environment at the rear of the site and are characterised by lower overall levels than the front façade, primarily influenced by intermittent car park activity and nearby commercial sources. Noise levels remain relatively steady during the daytime with occasional short-duration maximum events, while night-time levels reduce further and exhibit limited variability, reflecting reduced activity and the absence of significant night-time operations.

The following table provides a summary of noise levels measured at MP2.

Time Period	Average Noise Levels		Maximum Noise Level	
	LAeq		LAFmax, dB	
Daytime LAeq,16 Hour (07:00 – 23:00 hours)	57		-	
Night time LAeq,8 Hour (23:00 – 07:00 hours)	50		84	

Table 4.2 – Summary of Measured Noise Levels (MP2)

The measured noise data have been used to inform the assessment of external noise exposure at the site. The survey results provide a robust basis for establishing representative façade noise levels and for undertaking the subsequent BS 8233 façade noise break-in assessment as detailed in Section 6 of this report.

5.0 GUIDANCE DOCUMENTATION – NOISE CONTROL

The section above provides a summary of the noise levels on site. The purpose of this section is to provide a summary of guidance documentation relating to this development.

5.1 National Planning Policy Framework

The Government published the National Planning Policy Framework (NPPF) which sets out the Government's planning policies for England and how these are expected to be applied.

The Framework replaced many of the Planning Policy documents including Planning Policy Guidance 24: Planning and Noise that provided guidance on the control of noise to sensitive developments which may be affected by noise and vice versa. The NPPF provides a framework within which local people and their council can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities.

With regards to noise, the Framework states that 'Planning policies and decisions should aim to:

- avoid noise from giving rise to significant adverse impacts²⁷ on health and quality of life as a result of new development;
- mitigate and reduce to a minimum other adverse impacts²⁷ on health and quality of life arising from noise from new development, including through the use of conditions;
- recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established;²⁸ and
- identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

²⁷ See Explanatory Note to the Noise Policy Statement for England (Department for the Environment, Food and Rural Affairs).

²⁸ Subject to the provisions of the Environmental Protection Act 1990 and other relevant law.

With regards to 'adverse impacts' and 'significant adverse impacts' the NPPF does make reference to The Noise Policy Statement for England, published by Defra in March 2010.

5.2 Noise Policy Statement for England

The aim of the Noise Policy Statement for England (NPSE) is to provide clarity regarding current policies and practices to enable noise management decisions to be made within the wider context, at the most appropriate level, in a cost-effective manner and in a timely fashion. The NPSE applies to all forms of noise including environmental noise, neighbour noise and neighbourhood noise.

Noise Policy Vision: Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development.

Noise Policy Aims: Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- avoid significant adverse impacts on health and quality of life;
- mitigate and minimise adverse impacts on health and quality of life; and
- where possible, contribute to the improvement of health and quality of life

The NPSE explanatory note provides further guidance on ‘adverse’ and ‘significant adverse’ impacts as follows:

- NOEL - No Observed Effect Level: the level below which no effect can be detected. Below this level there is no detectable effect on health and quality of life due to noise;
- LOAEL - Lowest Observable Adverse Effect Level: the level above which adverse effects on health and quality of life can be detected;
- SOAEL - Significant Observed Adverse Effect Level: the level above which significant adverse effects on health and quality of life occur.

The NPSE states that: *it is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times.*

It can be concluded that the NPPF and NPSE define the concepts for the various levels of effect from noise however do not provide specific values. It is seen that it is up to the discretion of the Local Planning Authority to decide on what is deemed acceptable taking into account the specific circumstances for the proposed development.

5.3 World Health Organisation Guidelines

The World Health Organisation (WHO) document ‘Guidelines for Community Noise’ 1999 provides guidance to local authorities and professionals trying to protect people from the harmful effects of noise in non-industrial environments. Section 4 of the document provides guideline values with regards to specific environments and effects. The WHO document states the following:

In dwellings, the critical effects of noise are on sleep, annoyance and speech interference. To avoid sleep disturbance, indoor guideline values for bedrooms are 30 dB L_{Aeq} for continuous noise and 45 dB L_{AFmax} for single sound events. Lower levels may be annoying, depending on the nature of the noise source.

WHO guidelines are typically adopted and applied to various noise sources with the criteria that indoor ambient noise levels in bedrooms at night does not exceed 30 dB L_{Aeq} and individual noise events should not normally exceed 45 dB L_{AFmax} . For indoor areas during the daytime, noise levels should not generally exceed 35 dB L_{Aeq} .

5.4 British Standard 8233:2014

BS8233:2014 'Guidance for sound insulation and noise reduction for buildings' provides information on the design of buildings that have internal acoustic environments appropriate to their functions. It provides guidance on the control of noise from outside the building, noise from plant and services within it, and room acoustics for non-critical situations.

BS8233 provides a range of internal noise levels within unoccupied spaces depending on the buildings use. BS8233 states that for bedrooms at night, it is desirable that the indoor ambient noise level does not exceed 30 dB L_{Aeq} . For living rooms during the daytime, indoor ambient noise levels should not generally exceed 35 dB L_{Aeq} .

BS8233:2014 advises that: *Regular individual noise events can cause sleep disturbance. A guideline value may be set in terms of SEL or $L_{AFmax,F}$ depending on the character and number of events per night. Sporadic noise events could require separate values.*

5.5 Summary of Guidance Documentation and Conclusion

The Noise Policy Statement for England does not provide any specific guidance on noise levels for residential developments however there are a number of documents that provide guideline values.

It is proposed that the noise level criteria within the WHO Guidelines 1999 and BS8233:2014 are adopted. These noise level targets have been imposed upon similar developments and are seen as suitable design targets where disturbance to future habitants are unlikely. These target noise level values are tabulated within the table below.

Habitable Space	Time Period	Noise Level Target
Sleeping (night)	23:00 – 07:00 hours	30 dB $L_{Aeq\ 8hr}$ / 45 dB L_{AFmax}
Resting / Sleeping (day)	07:00 – 23:00 hours	35 dB $L_{Aeq\ 16hr}$

Table 5.1 - Proposed noise level targets

6.0 BS8233 FAÇADE ASSESSMENT

To assess the internal acoustic environment within the proposed development, façade noise break-in calculations have been undertaken in accordance with BS 8233:2014. The assessment considers measured noise levels at the front elevation (MP1) together with representative rear elevation data (MP2), as presented in Section 4.

The calculations have been based on the proposed room layouts and façade orientations shown on the architectural drawings. A 3 dB design tolerance has been included to account for reasonable variation in environmental noise levels and to provide a conservative assessment. Sample calculation sheets are provided in Appendix C.

6.1 External Envelope Construction

The building is assumed to comprise traditional solid masonry external walls with a minimum thickness of 300 mm. Based on this construction, a minimum airborne sound insulation performance of R_w 60 dB has been adopted for external walls.

The roof is assumed to comprise a traditional slate covering on battens with internal ceiling linings, providing a sound insulation performance of R_w 47 dB.

The adopted sound insulation values are considered appropriate for the purposes of façade noise break-in calculations and are supported by example construction data provided in Appendix D.

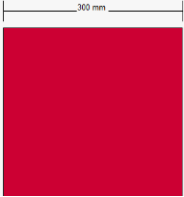
Wall Ref	Plan view	Construction Specification	Acoustic Rating
EW_01		300mm Brick (density $>1600 \text{ kg/m}^3$) - PlasterBoard Lining	60 dB R_w
RF_01		7mm Slate Tiles on Battens - Minimum 200mm Joists 100mm Mineral Wool (density $>10 \text{ kg/m}^3$) 1 layer of 12.5mm PlasterBoard	47 dB R_w

Table 6.1 - Building envelope sound insulation performance requirements

6.2 Glazing Specifications

The existing sash windows to the building are to be retained and refurbished. To achieve the required internal noise levels, secondary glazing will be installed to habitable room windows, particularly at the front elevation where noise exposure is highest.

The assessment indicates that a secondary glazing system comprising 6 mm glass with a minimum 100 mm air gap is required to achieve a minimum sound insulation performance of R_w 45 dB. This specification applies to the combined performance of the primary and secondary glazing system.

The use of a large air cavity between the existing sash window and the secondary glazing is critical to achieving enhanced low-frequency performance, particularly in relation to road traffic noise. Manufacturer test data shall be provided to demonstrate compliance with the required acoustic performance.

At the rear elevation, where external noise levels are lower, the same glazing approach may be adopted where required, although reduced performance may be acceptable subject to detailed design and confirmation through the façade calculations.

Rooms Locations	Example Glazing Specifications	Acoustic Performance
Front and Rear Elevations	Existing 4mm Glazing / 100mm Cavity / 6mm Secondary Glazing	45 dB R_w

Table 6.2 – Minimum glazing performance requirements

6.3 Ventilation

A partially open window typically provides approximately 10–15 dB attenuation from external noise sources. Given the measured noise levels at the front elevation, reliance on open windows for background ventilation is not considered appropriate.

Habitable rooms on the front façade shall therefore be served by alternative means of ventilation, either via a Mechanical Ventilation with Heat Recovery system or proprietary through-wall acoustic ventilators achieving a minimum sound reduction performance of $D_{n,e,w}$ 42 dB.

Background ventilation to rooms at the rear elevation may be achieved using acoustically treated ventilators with a minimum performance of $D_{n,e,w}$ 32 dB, reflecting the lower external noise levels at this façade.

Where secondary glazing is installed, background ventilation shall not be provided via window-mounted trickle vents, as this would compromise the acoustic performance of the glazing system.

Room Locations	Ventilation Strategy	Minimum $D_{n,e,w}$ (dB)
Rear Elevation	Acoustic trickle ventilator	32 dB (Open)
Front Elevation	MVHR or through-wall acoustic ventilator	42 dB (Open)

Table 6.3 - Minimum Sound reduction for acoustic trickle vents

Where multiple ventilators are installed within a single room, an allowance should be made for the cumulative effect using the standard logarithmic correction: $10 \times \log(N_1 / N_2)$, where N_1 is the reference number (typically 1), and N_2 is the actual number of vents.

6.4 Maximum Internal Noise Levels

To achieve a reasonable standard in bedrooms during the night, the World Health Organisation *Guidelines for Community Noise* recommend that individual noise events should not regularly exceed 45 dB L_{AFmax} internally. The WHO references research by Vallet & Vernet, which defines "regularly" as occurring no more than 10 to 15 times per night.

Based on a glazing specification providing a minimum sound reduction of 45 dB R_w for front facing bedrooms, this would allow for external maximum noise levels of up to 85 dB L_{AFmax} without exceeding the internal guideline.

Analysis of the measured data indicates that external noise levels did not exceed 85 dB L_{AFmax} on any occasions at the front façade. The frequency and magnitude of L_{AFmax} events are below the threshold associated with sleep disturbance, and no additional mitigation is therefore required with respect to maximum noise events.

6.5 Overheating Assessment

Consideration has been given to the interaction between acoustic mitigation and overheating risk, with reference to the ANC/IOA Acoustics, Ventilation and Overheating Design Guide (2020).

Measured night-time external noise levels at the front elevation exceed the recommended screening thresholds set out within the guidance. As such, reliance on open windows for night-time cooling and background ventilation at this façade is not considered appropriate from an acoustic perspective.

Habitable rooms located on the front elevation shall therefore achieve background ventilation via either a Mechanical Ventilation with Heat Recovery (MVHR) system or proprietary through-wall acoustic ventilators, as set out in Section 6.3. These measures allow windows to remain closed while maintaining adequate internal air quality and limiting noise ingress.

Measured night-time noise levels at the rear fall below the relevant screening thresholds. Openable windows at this façade may therefore be used for purge ventilation and night-time cooling without giving rise to adverse internal noise conditions. Background ventilation at the rear elevation shall be provided via acoustically treated ventilators achieving the performance identified in Section 6.3.

The proposed strategy ensures that compliance with BS 8233:2014 internal noise criteria can be achieved without reliance on open windows at the most exposed façade, while still providing adequate means of ventilation and thermal comfort.

7.0 PLANT NOISE

It is understood that no new external mechanical plant or fixed plant equipment is proposed as part of the development. On this basis, a detailed plant noise assessment in accordance with BS 4142:2014+A1:2019 is not required for the purposes of this application.

The rear of the site is influenced by existing commercial uses, including plant and servicing activity associated with adjacent premises. These sources have been considered within the environmental noise survey data referenced in Section 4 and are therefore inherently accounted for within the façade noise break-in assessment.

Any building services associated with the proposed development, such as kitchen or bathroom extract systems or Mechanical Ventilation with Heat Recovery units, shall be designed and installed to ensure that noise emissions do not give rise to adverse impacts at the proposed dwelling or at neighbouring noise-sensitive receptors.

Where external terminals are required, these should be positioned away from habitable room windows where practicable. Where this cannot be achieved, appropriate acoustic mitigation should be incorporated, such as attenuated terminals, acoustic louvres or inline silencers.

Noise from any external plant or ventilation openings should be controlled such that it does not adversely affect the amenity of future occupants or neighbouring properties.

8.0 SUMMARY

This Noise Impact Assessment has been undertaken to support a planning application for the change of use of an existing building to a 6-bedroom House in Multiple Occupation at 33 Catherine Street, Salisbury. The assessment has been carried out in accordance with BS 8233:2014 and is informed by site-specific environmental noise measurements and relevant national guidance.

An environmental noise survey has been undertaken at the front elevation of the site, confirming that the noise environment is dominated by road traffic along Catherine Street, with elevated noise levels during both daytime and night-time periods. Noise levels at the rear elevation have been derived from a previous survey undertaken at the adjacent property, which identified lower noise levels associated with intermittent car park activity and nearby commercial uses.

Façade noise break-in calculations have been undertaken using measured noise levels and conservative assumptions regarding the building envelope. The assessment demonstrates that, subject to appropriate mitigation, internal noise levels in accordance with BS 8233:2014 and WHO guidance can be achieved within all habitable rooms.

The assessment confirms that:

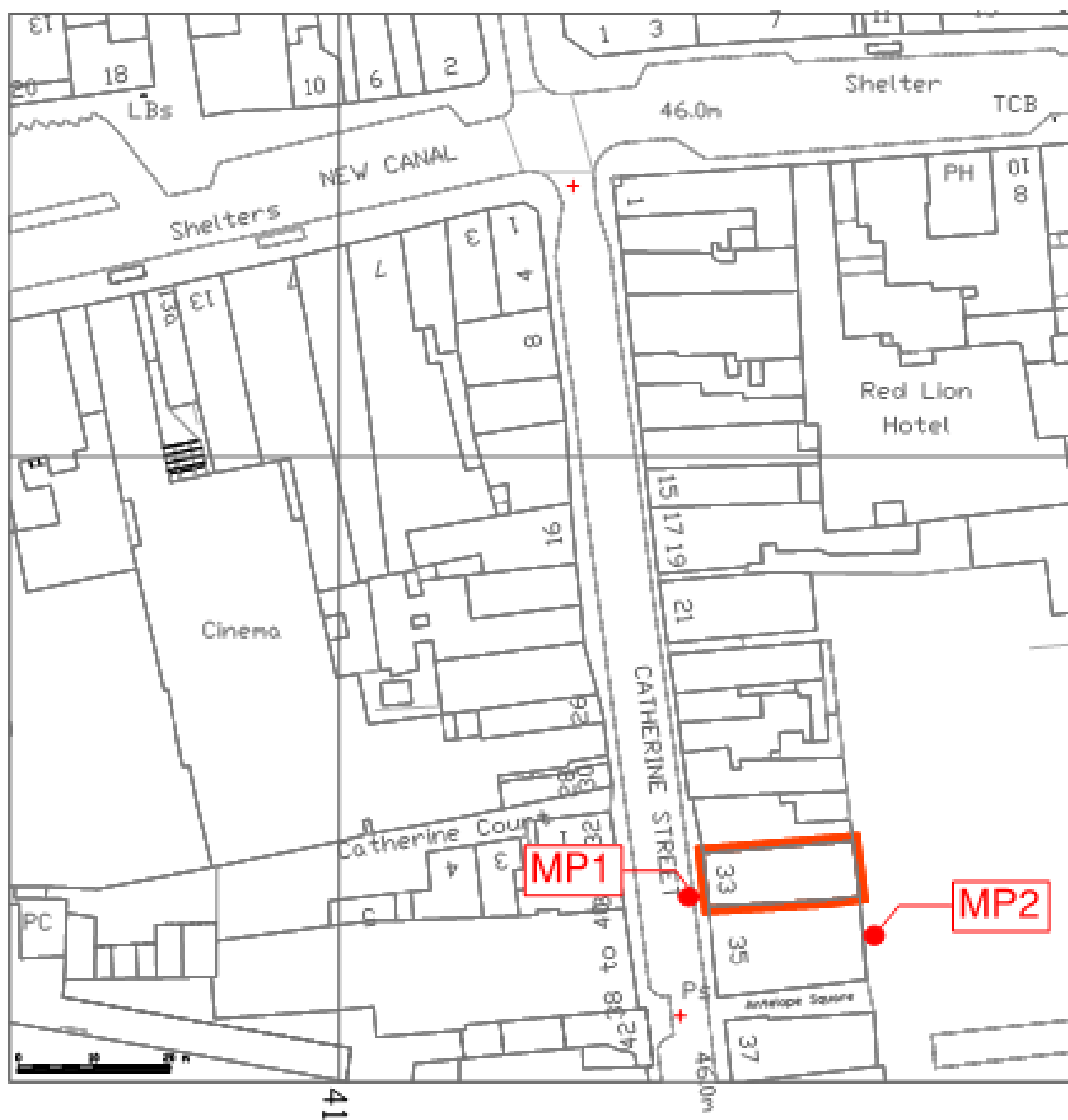
- Existing sash windows shall be retained and upgraded with secondary glazing comprising 6 mm glass and a minimum 100 mm air gap to achieve a minimum sound insulation performance of R_w 45 dB at the front elevation.
- Background ventilation to habitable rooms on the front façade shall be provided via Mechanical Ventilation with Heat Recovery or through-wall acoustic ventilators achieving a minimum performance of $D_{n,e,w}$ 42 dB.
- Background ventilation at the rear elevation can be achieved using acoustic ventilators with a minimum performance of $D_{n,e,w}$ 32 dB.
- The existing building fabric, including solid masonry walls and slate roof construction, provides sufficient sound insulation performance for the purposes of the assessment.

An overheating assessment has been undertaken in accordance with the ANC/IOA guidance, confirming that open windows cannot be relied upon at the front façade due to elevated night-time noise levels. Alternative ventilation strategies are therefore required for these rooms. At the rear elevation, openable windows may be used for purge ventilation without giving rise to adverse internal noise conditions.

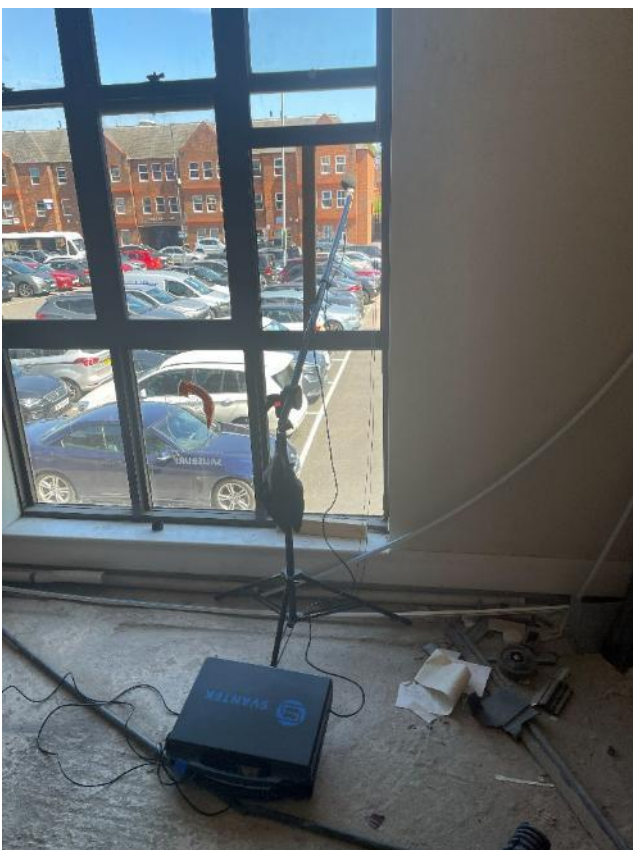
No new external plant is proposed as part of the development and a detailed BS 4142 assessment is therefore not required.

Subject to the implementation of the glazing and ventilation measures identified in this report, the proposed development is capable of achieving acceptable internal noise conditions and is considered suitable for residential use in accordance with BS 8233:2014 and relevant planning policy.

APPENDIX A – SITE PLANS



APPENDIX B – SITE PHOTOS



APPENDIX C – CALCULATION SHEETS

C:\Projects\BS8233 Assessments\260318 - 33 Catherine Street Salisbury\Noise Data\Noise Data - 35 Catherine St\35 Catherine St Salisbury Data.xlsx\Svan Data							
33 Catherine St Salisbury 1.F -Front Bed 1 (Day)							
BS8233 Façade Noise Break In Calculation	125	250	500	1000	2000	4000	dBA
Average External Noise Level - L_{eq}	67.5	62.5	60.7	61.3	57.9	51.6	65.2
Maximum External Noise Level - L_{max}							
Safety Tolerance	3 dB	3.0	3.0	3.0	3.0	3.0	
Correction Factors							
Traffic Flow Correction	0.0 dB	0.0	0.0	0.0	0.0	0.0	
Distance Correction $L2 = L1 - 10 \cdot \log(D1/D2)$	0.0 dB	0.0	0.0	0.0	0.0	0.0	
Distance Correction for Line Source - Façade 1							
Barrier Correction $A_b = 10 \log_{10} (D + d)$ dB	0.0 dB	0.0	0.0	0.0	0.0	0.0	
Angle of View Correction $A_v = 10 \log (\theta/180)$	180	0.0	0.0	0.0	0.0	0.0	
Noise Level at Façade	70.5	65.5	63.7	64.3	60.9	54.6	68.2
Calculation of environmental noise break-in to residential rooms							
$L2 = L1 - R + 10 \cdot \log(S/A) + 3dB$ (Freefield version)							
Room Volume =	45.2 m ³						
Reverberation Time =	0.5 s						
$10 \cdot \log(S/A)$	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	
FAÇADE Elements							
Total Façade Area 1	12.2 m ²						
Glazing Area, S_g - Façade 1	2.3 m ²						
4mm Glass / 100mm Cavity / 6mm Secondary Glass	SRI	18	36	45	50	51	53
	Sg/Sf	-25	-43	-52	-57	-58	-60
Predicted noise level in building from glazing 1		47.3	24.3	13.5	9.1	4.7	-3.6
Solid Area, S_w - Façade 1	10.0 m ²						
300mm Masonry Wall	SRI	41	49	56	62	67	72
	Sw/Sf	-42	-50	-57	-63	-68	-73
Predicted noise level through solid façade 1		30.8	17.8	9.0	3.6	-4.8	-16.1
Roof/Floor Area, S_c - Façade 1	0.0 m ²						
No Roof	SRI	29	39	44	49	49	59
	Sc/Sf	0	0	0	0	0	0
Predicted noise level through solid façade 3 / Roof		0.0	0.0	0.0	0.0	0.0	0.0
Trickle Vent(s) - Façade 1	1 Vent						
Simon Acoustic EHAS with AEA851	Dne	44	40	38	39	48	44
	Ao/S	-45	-41	-39	-40	-49	-45
Predicted noise level through trickle vents $L_{ff-Dne} + 10 \log(A0/A) + K$		27.7	26.7	27.1	26.3	14.3	11.5
Combined Internal Noise Level - L_{eq}	47.5	29.1	27.4	26.5	15.5	12.9	34
Target Internal Noise Level (dBA)							35
							Pass

C:\Projects\BS8233 Assessments\260318 - 33 Catherine Street Salisbury\Noise Data\Noise Data - 35 Catherine St\35 Catherine St Salisbury Data.xlsx\Svan Data

33 Catherine St Salisbury 1.F -Front Bed 1 (Night)

BS8233 Facade Noise Break In Calculation		125	250	500	1000	2000	4000	dBA
Average External Noise Level - L_{eq}		55.1	52.4	52.5	54.6	51.2	44.9	57.9
Maximum External Noise Level - L_{max}								
Safety Tolerance	3 dB	3.0	3.0	3.0	3.0	3.0	3.0	
Correction Factors								
Traffic Flow Correction	0.0 dB	0.0	0.0	0.0	0.0	0.0	0.0	
Distance Correction $L2 = L1 - 10 \cdot \log(D1/D2)$	0.0 dB	0.0	0.0	0.0	0.0	0.0	0.0	
Distance Correction for Line Source - Façade 1		0.0	0.0	0.0	0.0	0.0	0.0	
Barrier Correction $Ab = 10 \log_{10}(D + d)$ dB	0.0 dB	0.0	0.0	0.0	0.0	0.0	0.0	
Angle of View Correction $Av = 10 \log(\theta/180)$	180	0.0	0.0	0.0	0.0	0.0	0.0	
Noise Level at Façade		58.1	55.4	55.5	57.6	54.2	47.9	60.9
Calculation of environmental noise break-in to residential rooms								
$L2 = L1 - R + 10 \cdot \log(S/A) + 3dB$ (Freefield version)								
Room Volume =	45.2 m ³							
Reverberation Time =	0.5 s	0.5	0.5	0.5	0.5	0.5	0.5	
$10 \cdot \log(S/A)$		-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	
FAÇADE Elements								
Total Façade Area 1		12.2 m ²						
Glazing Area, S_g - Façade 1		2.3 m ²						
4mm Glass / 100mm Cavity / 6mm Secondary Glass	SRI	18	36	45	50	51	53	
Predicted noise level in building from glazing 1	Sg/Sf	-25	-43	-52	-57	-58	-60	
Solid Area, S_w - Façade 1		10.0 m ²						
300mm Masonry Wall	SRI	41	49	56	62	67	72	
Predicted noise level through solid façade 1	Sw/Sf	-42	-50	-57	-63	-68	-73	
Roof/Floor Area, S_c - Façade 1		0.0 m ²						
No Roof	SRI	29	39	44	49	49	59	
Predicted noise level through solid façade 3 / Roof	Sc/Sf	0	0	0	0	0	0	
Trickle Vent(s) - Façade 1		1 Vent						
Simon Acoustic EHAS with AEA851	Dne	44	40	38	39	48	44	
Predicted noise level through trickle vents	Ao/S	-45	-41	-39	-40	-49	-45	
$L_{ff-Dne} + 10 \log(A0/A) + K$		15.3	16.6	18.9	19.6	7.6	4.8	21.7
Combined Internal Noise Level - L_{eq}		35.1	19.2	19.4	19.9	10.6	9.1	24
Target Internal Noise Level (dBA)								30
								Pass

C:\Projects\BS8233 Assessments\260318 - 33 Catherine Street Salisbury\Noise Data\Noise Data - 35 Catherine St\35 Catherine St Salisbury Data.xlsx\Svan Data

33 Catherine St Salisbury 2.F -Front Bed 2 (Night)

BS8233 Facade Noise Break In Calculation		125	250	500	1000	2000	4000	dBA
Average External Noise Level - L_{eq}		55.1	52.4	52.5	54.6	51.2	44.9	57.9
Maximum External Noise Level - L_{max}								
Safety Tolerance	3 dB	3.0	3.0	3.0	3.0	3.0	3.0	
Correction Factors								
Traffic Flow Correction	0.0 dB	0.0	0.0	0.0	0.0	0.0	0.0	
Distance Correction $L2 = L1 - 10 \cdot \log(D1/D2)$	0.0 dB	0.0	0.0	0.0	0.0	0.0	0.0	
Distance Correction for Line Source - Façade 1								
Barrier Correction $Ab = 10 \log_{10}(D + d)$ dB	0.0 dB	0.0	0.0	0.0	0.0	0.0	0.0	
Angle of View Correction $Av = 10 \log(\theta/180)$	180	0.0	0.0	0.0	0.0	0.0	0.0	
Noise Level at Façade		58.1	55.4	55.5	57.6	54.2	47.9	60.9
Calculation of environmental noise break-in to residential rooms								
$L2 = L1 - R + 10 \cdot \log(S/A) + 3$ dB (Freefield version)								
Room Volume =	28.6 m ³							
Reverberation Time =	0.5 s	0.5	0.5	0.5	0.5	0.5	0.5	
$10 \cdot \log(S/A)$		-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	
FAÇADE Elements								
Total Façade Area 1		6.5 m ²						
Glazing Area, S_g - Façade 1		2.3 m ²						
4mm Glass / 100mm Cavity / 6mm Secondary Glass	SRI	18	36	45	50	51	53	
Predicted noise level in building from glazing 1	Sg/Sf	-23	-41	-50	-55	-56	-58	
Solid Area, S_w - Façade 1		4.3 m ²						
300mm Masonry Wall	SRI	41	49	56	62	67	72	
Predicted noise level through solid façade 1	Sw/Sf	-43	-51	-58	-64	-69	-74	
Roof/Floor Area, S_c - Façade 1		11.0 m ²						
7mm Slate on battens / 200mm Joist / 100mm Mineral Wool / 12.5mm Pb	SRI	32	40	45	49	50	57	
Predicted noise level through solid façade 3 / Roof	Sc/Sf	-30	-38	-43	-47	-48	-55	
Trickle Vent(s) - Façade 1		1 Vent						
Simon Acoustic EHAS with AEA851	Dne	44	40	38	39	48	44	
Predicted noise level through trickle vents	Ao/S	-42	-38	-36	-37	-46	-43	
$L_{ff-Dne} + 10 \log(A0/A) + K$		17.3	18.6	20.9	21.6	9.6	6.8	23.7
Combined Internal Noise Level - L_{eq}		37.8	23.1	22.0	22.3	13.1	9.7	27
Target Internal Noise Level (dBA)								30
								Pass

C:\Projects\BS8233 Assessments\260318 - 33 Catherine Street Salisbury\Noise Data\Noise Data - 35 Catherine St\35 Catherine St Salisbury Data.xlsx\Svan Data

33 Catherine St Salisbury 1.F -Rear KLD (Day)

BS8233 Facade Noise Break In Calculation		125	250	500	1000	2000	4000	dBA
Average External Noise Level - L_{eq}		61.3	57.9	52.7	51.2	48.3	44.2	56.7
Maximum External Noise Level - L_{max}								
Safety Tolerance	3 dB	3.0	3.0	3.0	3.0	3.0	3.0	
Correction Factors								
Traffic Flow Correction	0.0 dB	0.0	0.0	0.0	0.0	0.0	0.0	
Distance Correction $L2 = L1 - 10 \cdot \log(D1/D2)$	0.0 dB	0.0	0.0	0.0	0.0	0.0	0.0	
Distance Correction for Line Source - Façade 1								
Barrier Correction $Ab = 10 \log_{10}(D + d)$ dB	0.0 dB	0.0	0.0	0.0	0.0	0.0	0.0	
Angle of View Correction $Av = 10 \log(\theta/180)$	180	0.0	0.0	0.0	0.0	0.0	0.0	
Noise Level at Façade		64.3	60.9	55.7	54.2	51.3	47.2	59.7
Calculation of environmental noise break-in to residential rooms								
$L2 = L1 - R + 10 \cdot \log(S/A) + 3$ dB (Freefield version)								
Room Volume =	43.9 m ³							
Reverberation Time =	0.5 s	0.5	0.5	0.5	0.5	0.5	0.5	
$10 \cdot \log(S/A)$		-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	
FAÇADE Elements								
Total Façade Area 1		11.7 m ²						
Glazing Area, S_g - Façade 1		2.3 m ²						
4mm Glass / 100mm Cavity / 6mm Secondary Glass	SRI	18	36	45	50	51	53	
Predicted noise level in building from glazing 1	Sg/Sf	-25	-43	-52	-57	-58	-60	
Solid Area, S_w - Façade 1		9.4 m ²						
300mm Brick/Block Cavity Wall	SRI	45	42	47	57	67	77	
Predicted noise level through solid façade 1	Sw/Sf	-46	-43	-48	-58	-68	-78	
Roof/Floor Area, S_c - Façade 1		17.3 m ²						
7mm Slate on battens / 200mm Joist / 100mm Mineral Wool / 12.5mm Pb	SRI	32	40	45	49	50	57	
Predicted noise level through solid façade 3 / Roof	Sc/Sf	-30	-38	-43	-47	-48	-55	
Trickle Vent(s) - Façade 1		1 Vent						
Simon Acoustic FV	Dne	40	35	35	31	33	35	
Predicted noise level through trickle vents	Ao/S	-40	-35	-36	-32	-34	-36	
$L_{ff-Dne} + 10 \log(A0/A) + K$		26.1	27.6	21.9	24.7	19.8	13.7	27.9
Combined Internal Noise Level - L_{eq}		42.6	30.3	23.1	24.9	20.2	14.5	31
Target Internal Noise Level (dBA)								35
								Pass

C:\Projects\BS8233 Assessments\260318 - 33 Catherine Street Salisbury\Noise Data\Noise Data - 35 Catherine St\35 Catherine St Salisbury Data.xlsx\Svan Data

33 Catherine St Salisbury 2.F -Rear Bed 6 (Night)

BS8233 Facade Noise Break In Calculation		125	250	500	1000	2000	4000	dBA
Average External Noise Level - L_{eq}		48.6	46.0	45.8	45.6	43.2	40.4	50.2
Maximum External Noise Level - L_{max}								
Safety Tolerance	3 dB	3.0	3.0	3.0	3.0	3.0	3.0	
Correction Factors								
Traffic Flow Correction	0.0 dB	0.0	0.0	0.0	0.0	0.0	0.0	
Distance Correction $L2 = L1 - 10 \cdot \log(D1/D2)$	0.0 dB	0.0	0.0	0.0	0.0	0.0	0.0	
Distance Correction for Line Source - Façade 1								
Barrier Correction $Ab = 10 \log_{10}(D + d)$ dB	0.0 dB	0.0	0.0	0.0	0.0	0.0	0.0	
Angle of View Correction $Av = 10 \log(\theta/180)$	180	0.0	0.0	0.0	0.0	0.0	0.0	
Noise Level at Façade		51.6	49.0	48.8	48.6	46.2	43.4	53.2
Calculation of environmental noise break-in to residential rooms								
$L2 = L1 - R + 10 \cdot \log(S/A) + 3$ dB (Freefield version)								
Room Volume =	28.6 m ³							
Reverberation Time =	0.5 s	0.5	0.5	0.5	0.5	0.5	0.5	
$10 \cdot \log(S/A)$		-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	
FAÇADE Elements								
Total Façade Area 1		7.8 m ²						
Glazing Area, S_g - Façade 1		2.3 m ²						
4mm Glass / 100mm Cavity / 6mm Secondary Glass	SRI	18	36	45	50	51	53	
Predicted noise level in building from glazing 1	Sg/Sf	-23	-41	-50	-55	-56	-58	
Solid Area, S_w - Façade 1		5.5 m ²						
300mm Brick/Block Cavity Wall	SRI	45	42	47	57	67	77	
Predicted noise level through solid façade 1	Sw/Sf	-47	-44	-49	-59	-69	-79	
Roof/Floor Area, S_c - Façade 1		11.0 m ²						
7mm Slate on battens / 200mm Joist / 100mm Mineral Wool / 12.5mm Pb	SRI	32	40	45	49	50	57	
Predicted noise level through solid façade 3 / Roof	Sc/Sf	-31	-39	-44	-48	-49	-56	
Trickle Vent(s) - Façade 1		1 Vent						
Simon Acoustic FV	Dne	40	35	35	31	33	35	
Predicted noise level through trickle vents	Ao/S	-39	-34	-34	-30	-32	-34	
$L_{ff-Dne} + 10 \log(A0/A) + K$		15.3	17.6	16.9	21.0	16.6	11.8	23.8
Combined Internal Noise Level - L_{eq}		31.4	19.8	17.9	21.2	17.1	12.9	25
Target Internal Noise Level (dBA)								30
								Pass

APPENDIX D – INSUL DATA SHEETS

Sound Insulation Prediction (v8.0.7)

Program copyright Marshall Day Acoustics 2015

- Key No. 1548

Margin of error is generally within $R_w \pm 3$ dB

Job Name:

Job No.:

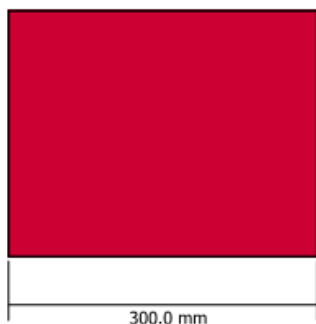
Page No.:

Notes:

Date: 24 Mar 26

Initials: dhesn

File Name: insul



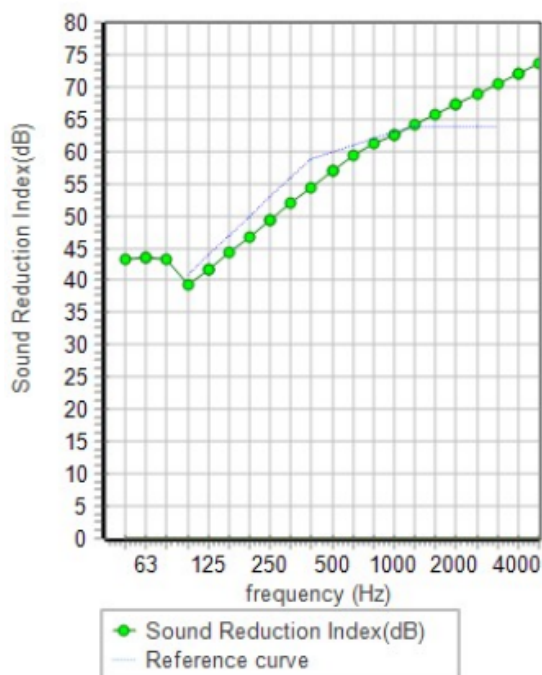
System description

Panel 1 : 1 x 300.0 mm Brick (Solid) (ρ :1600 kg/m³, E:8.9GPa, ν :0.05)

R_w	60 dB
C	-2 dB
C_{tr}	-6 dB
D_{nTw}	62 dB [V:50m3] [A:11m2]

frequency (Hz)	R(dB)	R(dB)
50	43	
63	44	43
80	43	
100	39	
125	42	41
160	44	
200	47	
250	49	49
315	52	
400	54	
500	57	56
630	59	
800	61	
1000	63	62
1250	64	
1600	66	
2000	67	67
2500	69	
3150	70	
4000	72	72
5000	74	

Panel Size 2.7x4 m; Mass 480.0 kg/m²



Sound Insulation Prediction (v8.0.7)

Program copyright Marshall Day Acoustics 2015

- Key No. 1548

Margin of error is generally within $R_w \pm 3$ dB

Job Name:

Job No.:

Page No.:

Notes:

Date: 24 Mar 26

Initials:

File Name: insul



R_w 47 dB

C -4 dB

C_{tr} -11 dB

D_{nTw} 49 dB [V.50m3]
[A.11m2]

System description

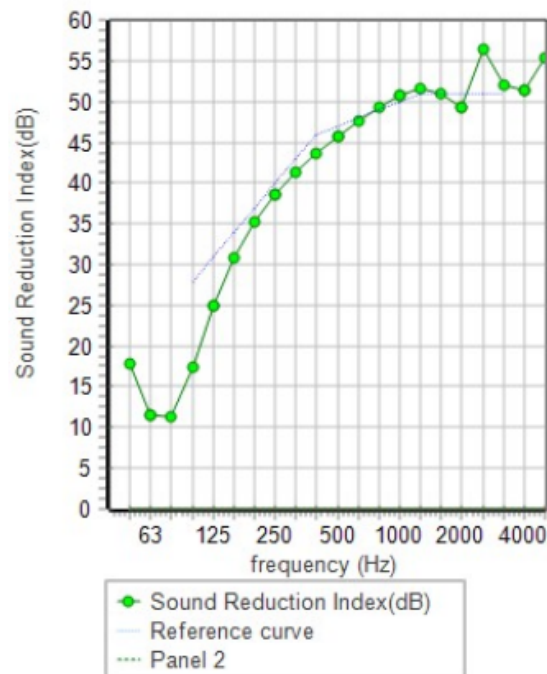
Panel 1 : 1 x 7.0 mm Roofing Slates (?2910 kg/m3,E:68GPa,?:0.01)

Cavity: Solid joist(timber or Twinaplate): Stud spacing 600 mm , Infill Fibreglass (10kg/m3) Thickness 100 mm (?:10 kg/m3, Rf:4000 Pa.s/m2)
Panel 2 + 1 x 12.5 mm Gyproc Wallboard 12.5mm (?:640 kg/m3,E:1.6GPa,?:0.01)

Mass-air-mass resonant frequency =57 Hz

frequency (Hz)	R(dB)	R(dB)
50	18	
63	12	13
80	11	
100	17	
125	25	21
160	31	
200	35	
250	39	38
315	41	
400	44	
500	46	45
630	48	
800	49	
1000	51	50
1250	52	
1600	51	
2000	49	51
2500	56	
3150	52	
4000	51	53
5000	55	

Panel Size 2.7x4 m; Mass 29.4 kg/m2



Sound Insulation Prediction (v8.0.7)

Program copyright Marshall Day Acoustics 2015

- Key No. 1548

Margin of error is generally within $R_w \pm 3$ dB

Job Name:

Job No.:

Page No.:

Notes:

Date: 26 Mar 26

Initials:dhesn

File Name: insul



R_w 45 dB
 C -5 dB
 C_{tr} -12 dB
 D_{nTw} 47 dB [V:50m3]
[A:11m2]

System description

+ 1 x 4.0 mm Glass (? :2430 kg/m3,E:52GPa,?:0.02)

+ 1 x 6.0 mm Glass (? :2430 kg/m3,E:52GPa,?:0.02)

Mass-air-mass resonant frequency =77 Hz

frequency (Hz)	R(dB)	R(dB)
50	16	
63	13	9
80	5	
100	14	
125	22	18
160	28	
200	33	
250	37	36
315	41	
400	44	
500	46	45
630	47	
800	49	
1000	50	50
1250	52	
1600	52	
2000	51	51
2500	50	
3150	50	
4000	54	53
5000	59	

Panel Size 2.7x4 m; Mass 24.6 kg/m2

