

Acoustic South East



Internal Ambient Noise Levels Assessment

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Date: 17/08/2026

Project: J4265

Issue 1

Site: **51 Teville Road, Worthing, BN11 1UX**

Client: **ISSO Investments Ltd**

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1 Introduction and Executive Summary

Acoustic South East have been appointed to undertake an assessment of the internal ambient noise levels at 51 Teville Road, Worthing, BN11 1UX to check whether the building façade sufficiently reduces the sound pressure level to the inside such that internal ambient noise levels meet the requirements set out in BS8233:2014 and Planning Condition 5 set out by the Local Planning Authority.

Planning Application No. AWDM/1032/25 refers.

Drawings can be found in the appendices of this report, of the former layout and the now-current layout following the change of use which occurred in this building.

Measurements (carried out in completed rooms, with windows closed but background ventilation open) have shown that the majority conditions fall short of the requirements with the exception of the night-time average L_{eq} sound pressure level in the smaller front bedroom, which is **at** parity with the maximum allowed criterion value of $L_{eq,8hr}$ 30dBA.

However, it is important to note a statement within BS8233:2014 (Note 7 against Table 4) that for developments occurring in locations which are considered necessary or desirable, a 5dB relaxation can occur and still achieve satisfactory living conditions inside.

Alongside this, it is important to note that the two first floor front bedroom locations assessed were already residential bedrooms in the previous use of the first floor and so this aforementioned 5dB relaxation is considered applicable and justifiably reasonable.

Therefore, it is recommended that the internal ambient noise levels section of Planning Condition 5 is discharged.

Please note that the sound insulation of the separating floor is dealt with in a different report.

2 Noise Criteria & Noise Assessment Methodology

2.1 Applicable Internal Noise Levels

As discussed above, the standard for consideration will be BS8233:2014 and more specifically, Table 4 values for internal sound pressure levels within habitable rooms of dwellings.

Furthermore, Planning Condition 5 of AWDM/1032/25 states the following:

Construction work shall not commence until a scheme for protecting the proposed noise sensitive development has been submitted to and approved by the Local Planning Authority. The details shall include:

- sound insulation of the floor/ceiling between the ground and first floor shall achieve a minimum airborne sound insulation value of 50dB (DnTw + Ctr dB).*
- protection from traffic noise. The scheme shall have regard to the principles contained within the World Health Organisation community noise guidelines and achieve the recommended indoor ambient noise levels for dwellings specified in BS8233:2014.*

All works, which form part of the scheme, shall be completed before any part of the noise sensitive development is occupied. Following approval and completion of the scheme, a test shall be undertaken to demonstrate that the attenuation measures proposed in the scheme are effective and protect the residential unit from noise.

Reason: *To protect the occupiers from noise in accordance with policies DM5 and DM22 of the Worthing Local Plan (2023).*

2.2 Methodology

2.2.1 Environmental Internal Survey

A sound level meter was set up on the afternoon of Thursday 13th August 2026 and collected on the afternoon of Monday 17th August 2026. The site is completed and all construction staff were absent. The client was advised to ensure that no one entered the rooms whilst the survey was running.

The survey was carried out to check if the building envelope was providing sufficient sound insulation from the outside environment.

The noise survey used a 01dB Symphonie sound level meter system with one microphone set up in the middle of the large front bedroom on the first floor and the second microphone set up in the middle of the small front bedroom.

These positions allowed the microphones to collect the all-encompassing internal noise level.

As is required, the windows were closed but the background slot ventilators in the window frames were open. Doors to each of the rooms were closed.

3 Measured Internal Sound Pressure Levels

3.1 General

The reference internal noise levels from condition 5 relate to Table 4 values from BS8233:2014. These state as follows:

Activity	Location	Time period of day	
		07:00-23:00	23:00-07:00
Resting	Living Rooms	35dB $L_{Aeq,16hour}$	-
Dining	Dining Room/Area	40dB $L_{Aeq,16hour}$	-
Sleeping (daytime resting)	Bedroom	35dB $L_{Aeq,16hour}$	30dB $L_{Aeq,8hour}$

Figure 1. Table 4 Values from BS8233:2014

Importantly, note 7 to table 4 states as follows:

NOTE 7 Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved.

Figure 2. Note 7 to BS8233:2014 Table 4 values

It is relevant to note that the measured sound energy inside the first-floor room(s) is a result of the how the external noise is passing through the building envelope and reacting with the room space and the localised conditions within. As a bare room with just its carpeted but unfurnished state, it is a reasonable assumption that localised reflections inside the room will cause a slight increase in sound pressure levels. It is therefore reasonable to apply a correction factor (reverberation time) for the measured internal noise levels. Clearly as more absorbent materials are introduced (bedding, duvet, curtains, sofas, chairs, etc), the sound levels are likely to reduce further still.

3.2 Measured Internal Ambient Noise Levels

The measured internal sound pressure levels are as follows and exceed table 4 values of BS8233:2014 with the exception of the night-time L_{eq} in the small bedroom.

	Mean Average Daytime L_{eq} ,16hr (dBA) 07:00 – 23:00	Mean Average Night-time L_{eq} ,8hr (dBA) 23:00 – 07:00
1 st Floor Front Large Bedroom	40.6	35.5
1 st Floor Front Small Bedroom	38.0	30.4

Table 1: Measured Internal Ambient Noise Levels

3.3 Reverberation Times

The reverberation times for the large front bedroom room are detailed below.

T20	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1 kHz	1.25 kHz	1.6 kHz	2 kHz	2.5 kHz	3.15 kHz
	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)
Position 1	0.56	0.55	0.5	0.64	0.63	0.67	0.55	0.72	0.8	0.79	0.68	0.95	0.91	0.78	0.69	0.82
Position 2	0.28	0.77	0.54	0.41	0.85	0.68	0.42	0.54	0.55	0.74	0.61	0.81	0.66	0.8	0.74	0.77
Position 3	0.25	0.7	0.7	0.67	0.54	0.64	0.48	0.62	0.78	0.77	0.77	0.98	0.79	0.76	0.61	0.65
Position 4	0.57	0.72	0.76	0.58	0.65	0.75	0.75	0.54	0.49	0.79	0.84	0.86	0.71	0.66	0.63	0.73
Position 5	0.34	0.57	0.58	0.43	0.76	0.67	0.62	0.79	0.76	0.79	0.57	0.8	0.84	0.68	0.76	0.89
Position 6	0.28	0.46	0.8	0.68	0.77	0.68	0.5	0.51	0.64	0.71	0.76	0.78	0.8	0.73	0.7	0.69
Mean RT60 per 1/3 Octave Frequency)	0.4	0.6	0.6	0.6	0.7	0.7	0.6	0.6	0.7	0.8	0.7	0.9	0.8	0.7	0.7	0.8
Adjustment Factor for furnished room																1.28251
Broadband RT60 for Frequency Range	0.67177															

Table 2: Measured Reverberation Times – Large Front Bedroom

The reverberation times for the small front bedroom room are detailed below.

T20	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1 kHz	1.25 kHz	1.6 kHz	2 kHz	2.5 kHz	3.15 kHz
	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)	T20 (sec)
Position 1	0.49	0.59	0.58	0.39	0.54	0.62	0.57	0.75	0.55	0.73	0.58	0.75	0.6	0.6	0.5	0.61
Position 2	0.52	0.54	0.69	0.67	0.65	0.59	0.57	0.53	0.64	0.58	0.78	0.71	0.59	0.58	0.58	0.63
Position 3	0.32	0.47	0.46	0.54	0.54	0.5	0.63	0.67	1.03	0.63	0.57	0.61	0.6	0.61	0.53	0.57
Position 4	0.46	0.63	0.35	0.65	0.53	0.47	0.62	0.59	0.57	0.58	0.56	0.61	0.67	0.61	0.5	0.6
Position 5	0.27	0.51	0.54	0.72	0.44	0.68	0.55	0.78	0.72	0.73	0.4	0.52	0.6	0.64	0.56	0.6
Position 6	0.45	0.64	0.57	0.72	0.46	0.64	0.58	0.42	0.56	0.84	0.61	0.67	0.57	0.6	0.52	0.61
Mean RT60 per 1/3 Octave Frequency)	0.4	0.6	0.5	0.6	0.5	0.6	0.6	0.6	0.7	0.7	0.5	0.7	0.6	0.6	0.5	0.6
Adjustment Factor for furnished room																0.68958
Broadband RT60 for Frequency Range	0.58604															

Table 3: Measured Reverberation Times – Small Front Bedroom

The reverberation time adjustment is made to consider a furnished room with greater amounts of absorption.

The calculation applied is: $10 \log(\text{arithmetic average}/0.5)$

As can be seen in Table 3, above, the correction factor to apply for the large front bedroom is 1.28 seconds (1.3 when rounded to 1 decimal place) and this correction is the amount by which the measured internal sound pressure levels are to be reduced by for the large front bedroom. For the small front bedroom, the correction factor is 0.69 seconds (0.7 when rounded to 1 decimal place) and this correction is the amount by which the measured internal sound pressure levels are to be reduced by for the small front bedroom

3.4 Revised Internal Ambient Noise Levels

The internal sound pressure levels in the table below have been reduced by 1.3dB and 0.7dB as per the correction factors discussed in section 3.3 above.

	Mean Average Daytime Leq, 16hr (dBA) 07:00 – 23:00	Mean Average Night-time Leq, 8hr (dBA) 23:00 – 07:00
1st Floor Front Large Bedroom	39.3	34.2
BS8233 Criterion (daytime enhanced) (dBA)	35	30
Extra Sound Reduction Required (dB)	4.3	4.2
1st Floor Front Small Bedroom	37.3	29.7
BS8233 Criterion (daytime enhanced) (dBA)	35	30
Extra Sound Reduction Required (dB)	2.3	0

Table 4: Revised Internal Ambient Noise Levels

As can be seen, the measured internal sound pressure level results do not satisfy the requirements of BS8233:2014 for either daytime or night time periods and thus additional sound insulation measures to the windows will be required in order to comply. As stated previously, the measurements were made with trickle vents open to ensure a robust assessment.

However, they do all satisfy the comment within BS8233 relating to a 5dB relaxation and given that the property was already residential with first floor front bedrooms remaining in the exact same locations, it is considered that this relaxation is viable and that the planning condition should be discharged.

4 Conclusion and Discussion

Acoustic South East have been appointed to undertake an assessment of the internal ambient noise levels at 51 Teville Road, Worthing, BN11 1UX to check whether the building façade sufficiently reduces the sound pressure level to the inside such that internal ambient noise levels meet the requirements set out in BS8233:2014 and Planning Condition 5 set out by the Local Planning Authority.

Measurements (carried out in completed rooms, with windows closed but background ventilation open) have shown that the majority conditions fall short of the requirements with the exception of the night-time average L_{eq} sound pressure level in the smaller front bedroom, which is parity with the maximum allowed criterion value of $L_{eq,8hr}$ 30dBA.

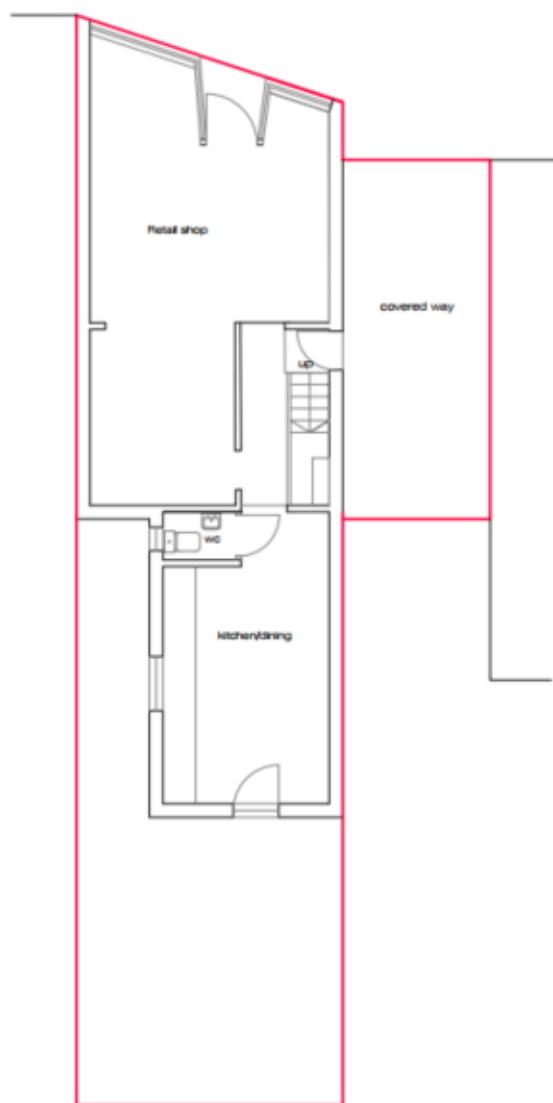
However, it is important to note a statement within BS8233:2014 (Note 7 against Table 4) that for developments occurring in locations which are considered necessary or desirable, a 5dB relaxation can occur and still achieve satisfactory living conditions inside.

Alongside this, it is important to note that (as can be seen from the drawings in the appendices of this report) the two first floor front bedroom locations assessed were already residential bedrooms in the previous use of the building and so this aforementioned 5dB relaxation is considered applicable and justifiably reasonable.

Therefore, it is recommended that the internal ambient noise levels section of Planning Condition 5 is discharged.

Please note that the sound insulation of the separating floor is dealt with in a different report.

Appendix A – Previous and Current Plan Layouts



EXISTING GROUND FLOOR PLAN



EXISTING FIRST FLOOR PLAN

