Chartered Building Consultancy

Acoustic South East

Planning Application Assessment

Client:	**Tall Oak Property**
Site Address:	**39 Brighton Road Worthing**
Reported By:	**George Orton BEng(Hons) MIOA**
Date Written:	**15/01/2026**
Issue 1	
Reference Number:	**J4089**

Constructionline Part of Capita plc

CQMS Safety Scheme

ANC THE ASSOCIATION OF NOISE CONSULTANTS

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Report by: George Orton BEng(Hons) MIOA

Issue 1	15/01/2026

1 Summary and Conclusion

Acoustic Southeast has been instructed to assess the acoustic design relating to the proposed development. The assessments in this report relate to draft planning conditions that have been recommended by the Local Authority:

- Sound Insulation of walls and floors between dwellings and commercial areas
- Protecting proposed dwellings from external sounds

Based upon the local guidance, noise levels for the day and the night time period have been assessed in terms of and following the guidelines of the documents listed below:

- BS8233[i] (Sound insulation and noise reduction for buildings) 2014
- ProPG: Planning & Noise[ii] (Professional Practice Guidance on Planning & Noise) 2017
- Approved Document E[iii] (ADE) – Resistance to the passage of sound
- Approved Document O[iv] (ADO) – Overheating 2022
- ANC/IOA Guide to Demonstrating Compliance with the Noise Requirements of Approved Document O[v] 2024
- ANC Acoustics, Ventilation and Overheating Residential Design Guide[vi] (AVOG) 2020
- ISO9613[vii] (1996) Attenuation of sound during propagation outdoors (implemented in the proprietary software model IMMI)

Noise mitigation measures have been recommended and if they are implemented correctly the internal noise levels will achieve the guideline values detailed in ProPG and BS8233.

Achieving these criteria will result in a good acoustic environment inside the proposed dwellings. As such it is considered that the planning conditions will be achieved if the recommendations are implemented into the detailed design.

2 Context and Criteria

2.1 Context

The development layout details can be found below (this report is for the 2026 revised scheme following planning refusal for the first scheme. The Planning refusal was not related to acoustic issues)

- Ground Floor
  - HMO Communal (Below HMO Beds 1/2)
  - Commercial Unit (Below HMO Bedrooms 3/4)

- 1st Floor
  - HMO Bedrooms and Ensuites

- 2nd Floor
  - 1 Bedroom Flat

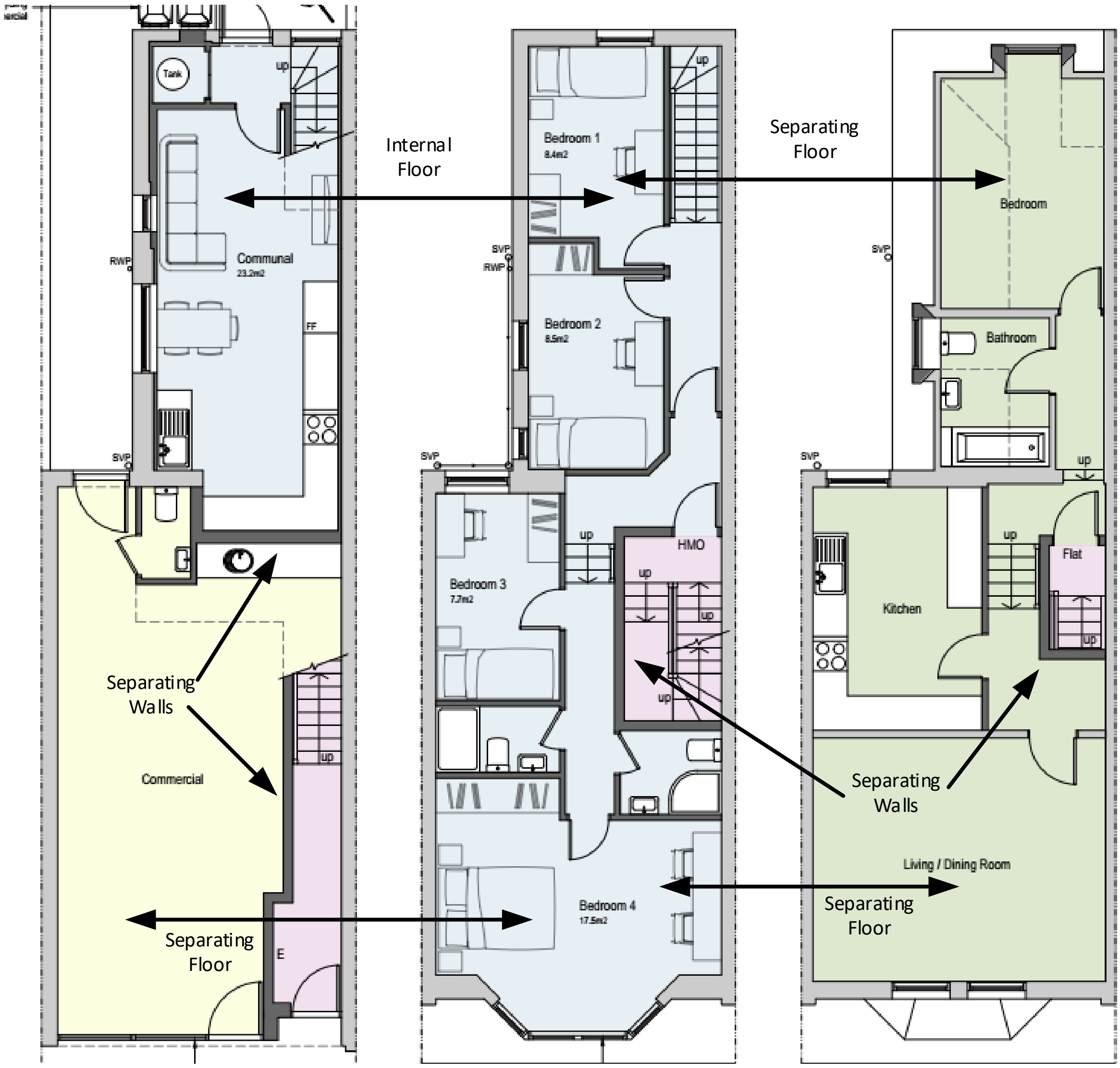


Figure 1: Layout

2.2 Draft Planning Conditions

Details of the draft planning conditions are included in the Planning Report from Adur and Worthing's Environmental Health department:

Environmental Health:

The new development will need to be protected from traffic noise and commercial noise below. The DEFRA noise maps show high facade noise levels and what was one a living room overlooking the road is now becoming bedrooms. I would recommend the following conditions be attached to any planning permission.

• The sound insulation of the floor/ceiling between the ground floor commercial unit and first floor residential shall achieve a minimum airborne sound insulation value of 50dB (DnTw + Ctr dB). Before the residential unit is occupied a test shall be undertaken to demonstrate compliance with this level

• Construction work shall not commence until a scheme for protecting the proposed noise sensitive development from external noise has been submitted to and approved by the local planning authority All works, which form part of the scheme, shall be completed before any part of the noise sensitive development is occupied. The scheme shall have regard to the principles contained within the ProPG: Planning & Noise – New Residential Development, 2017 and achieve the indoor ambient noise levels for dwellings specified in BS8233:2014. The scheme should be of good acoustic design, include full details of glazing, ventilation and a strategy to prevent overheating. The noise level of any ventilation units when in use should not exceed the levels specified in BS8233:2014 and

all duct work should be fitted on anti-vibration mounts. 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.

Figure 2: Draft Planning Conditions

2.3 Sound Insulation Criteria

Approved Document E of the Building Regulations (2003 Edition) specifies minimum performance values of Weighted Standardised Level Difference (DnT,w + Ctr) for airborne noise transmission through party floors and walls and Weighted Standardised Sound Pressure Level (L'nT,w) for impact sound transmission through a floor. In this case as the commercial areas are not over any residential areas there are no criteria for impact sound insulation

It should be noted that with airborne sound insulation it is the level difference that is being measured between rooms and the higher the result the better the insulation.

A summary of the acoustic requirements, relating to the planning condition, are as follows:

Requirements of:	**Element**	**Airborne Sound Insulation** **(DnT,w + Ctr)**	**Impact Sound Insulation** **(LnT,w)**
Commercial/Dwelling	**Floor**	**≥50dB**	**N/A**

Figure 3: Building Regulations Noise Criteria

There would also be criteria to achieve with regard to wall/floors between the separate HMO/1 Bed Flat. These are not applicable to the draft condition however they are discussed in a separate building regulations design review report

2.4 Indoor Sound Level Criteria

2.4.1 BS8233 Noise Criteria

Table 5 of BS8233 provides the following guideline values:

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 4: BS8233 Criteria

2.4.2 ProPG Noise Criteria

It should be noted that the draft condition wording does not ask for the ProPG criteria to be achieved (the request is to "have regard to the principles" of the guidance document). For completeness the L_{Amax} criteria have also been used in the assessment (in absence of L_{Amax} criteria in BS8233)

ACTIVITY	LOCATION	07:00 – 23:00 HRS	23:00 – 07:00 HRS
Resting	Living room	35 dB $L_{Aeq,16 hr}$	-
Dining	Dining room/area	40 dB $L_{Aeq,16 hr}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16 hr}$	30 dB $L_{Aeq,8 hr}$ 45 dB $L_{Amax,F}$ (Note 4)

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

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

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

NOTE 4 Regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of SEL or $L_{Amax,F}$, depending on the character and number of events per night. Sporadic noise events could require separate values. In most circumstances in noise-sensitive rooms at night (e.g. bedrooms) good acoustic design can be used so that individual noise events do not normally exceed 45dB $L_{Amax,F}$ more than 10 times a night. However, where it is not reasonably practicable to achieve this guideline then the judgement of acceptability will depend not only on the maximum noise levels but also on factors such as the source, number, distribution, predictability and regularity of noise events (see Appendix A).

Figure 5: ProPG Criteria

2.1 Approved Document O - Part O – Overheating 2022

For new build properties the new Approved Document O of the Building Regulations details ways of reducing the risk of overheating. It should be noted that this conversion project would be outside of the ADO Scope.

For past projects the Local Authority have expressed concern over the risk of overheating and the problems that may occur if cooling is required via an open window that is subject to undesirable external sound levels. As such an "overheating condition" acoustic assessment has also been completed for the proposed dwellings. To help with the assessment criteria for the overheating condition (at times when cooling is required) have been adopted based on the criteria in Approved Document O

The noise criteria details from the document have been copied below:

Noise

3.2 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).

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

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

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

It should be noted that the development is in a moderate risk location.

2.2 ANC/IOA Guide to Demonstrating Compliance with the Noise Requirements of Approved Document O

The document states the following:

4.1.6 Based on research and typical assumptions (see note below Table 1 and Appendix A), the resulting outside-to-inside level difference for window openings necessary to satisfy the simplified method of AD-O are expected to be approximately 5 dB for 'high' risk locations and 10 dB for 'medium' risk locations.

4.1.7 With reference to paragraph 3.3 of AD-O, this implies the following limiting external free-field levels above which external noise precludes the use of the simplified method, and dynamic thermal modelling should be used to demonstrate compliance.

Table 1 External Noise Levels Above Which the Simplified Method Cannot Be Used

Parameter	High Risk Location	Moderate Risk Location
$L_{Aeq,8h}$, averaged over 8 hours (between 11pm and 7am)	45 dB	50 dB
L_{AFmax}, more than 10 times a night (between 11pm and 7am)	60 dB	65 dB

Note: Several assumptions have been used to determine the outside-to-inside level difference. These are: 2.4m bedroom height, 0.5s bedroom RT, simple hole in the façade of area sufficient to provide the required Equivalent Area, no sound transmission other than via the opening. Calculation according to Equation G.1 of BS 8233:2014 [Ref. 7].

Figure 6: ANC/IOA ADO External Noise Criteria

The guide also includes an equation for calculating the maximum equivalent area for each bedroom window (equation shown uses the required level difference for the ADO criteria to be achieved):

5.2 Removing Excess Heat Via an Open Window

5.2.1 Contrary to the wording in paragraph 2.6 of AD-O, the FAQs[6] (#14) confirms that windows may be assessed as partially open at night.

5.2.2 Where noise and air quality are not a constraint, the primary approach to remove excess heat should be via an open window. From the established external noise exposure at each bedroom window, the outside to inside level difference should be calculated, and then the target Equivalent Area should be predicted using the following equations (depending on whether the required level difference is free-field or façade):

Equation 2[8]

$$EA\ based\ on\ freefield\ level\ difference = V \times 10^{\left(\frac{-(D_{nT}+8)}{10}\right)}$$

V is the room volume (m³)

EA is the Equivalent Area of the open window (m²)

Figure 7: ADO Noise Guide EA Equation

2.3 ANC AVOG

The ANC/IOA also created the AVOG document that has the following table showing the façade sound reduction for various scenarios:

Table B-2 Potential level differences associated with different ventilation Systems from ADF

Ventilation System from ADF	Cont. equiv. (L_{Aeq}) or events (L_{AFmax})	Level Difference, external free field level – internal reverberant level, dB	
		Typical windows and vent	Higher acoustic performance windows and vent
1, 2	L_{Aeq}	21	31
	L_{AFmax}	22	35
3 (with trickle vent)	L_{Aeq}	23	33
	L_{AFmax}	24	38
4 (no trickle vent)	L_{Aeq}	27	38
	L_{AFmax}	31	45

Figure 8: AVOG Guide Table

The AVOG document also states that, with a partially open window, the internal sound level will be approximately 13dB lower than the external free-field sound level (as opposed to the 10dB sound reduction for a wide open window as detailed in the ANC ADO guide).

3 Sound Survey Baseline Conditions & Results

3.1 Details

A sound level survey was carried out between 29/10 and 04/11/2025 to assess the existing sound levels affecting the proposed development.

- Surveys carried out by:
  - Scott Castle BSc (Hons) CEnvH, MCIEH PGDip: Acoustics MIOA
  - Josh Robinson

- Weather conditions:
  - Variable mostly dry
  - Generally windspeeds less than 5m/s except for Fri-Sun where there were fairly high speed wind gusts.

The façade level survey results for both positions have been reduced by 3dB to express the results as free-field levels. All noise levels in this report will be free-field noise levels unless stated otherwise. All measurements were completed using the "fast" time weighting.

3.2 Unattended Noise Survey Locations

- Position LT1 (Front façade fixed to scaffolding)
- Position LT2 (Rear façade fixed to scaffolding)

The survey locations can be seen in the appendix of the report.

3.3 Unattended Noise Survey Results Summary

The survey data has been used to calculate the 16hr day time and the 8hr night time period noise levels as well as the 11th highest night time $L_{Amax,1min}$ event (Using the 11th highest value, to calculate the sound reduction required to achieve 45dB, will result in no more than 10 events over 45dBA as required by ProPG).

The averages ignored weekday daytime sound levels at the rear of the property as these were affected by the strip out works. Weather also affected the rear position on Saturday night as the level was 14dB higher than the average of all other nights (see graphs in appendix.).

The front façade levels appeared less affected by construction noise and weather due to the high transport sound levels. For the best weather day (Thursday) the sound level in the day was 66dBA which was the overall average. The Sunday when the site was closed was 65dBA (the 1dB lower level would be expected due to less traffic etc.)

A summary of the results can be seen below (full results can be found in the appendix of the report):

Day	Freefield dBA		
	$L_{Aeq,day/night}$		11th L_{Amax}
	Day	Night	
LT1 - Teaching and North Block			
Wed-Tue	66	61	77
LT2 - Southern Block			
Wed-Tue	50	42	61

Figure 9: LT Survey Results

4 Assessments

4.1 BS8233/ProPG Noise Assessments – Normal Conditions

Based on BS8233/WHO the maximum internal/external noise level for each area is as follows:

- Bedrooms ≤35/30dBA Day/Night (Inside)
- Bedrooms ≤10 events, per night, over L_{Amax} 45dB (Inside)
- Lounges ≤35dBA Day (Inside)

4.1.1 Distance Corrections

For the front façade sound survey the microphone was outside the 1st floor. For the 2nd floor (further from the road) a 1dB decrease in sound level was applied. Conservative estimations of barrier attenuation were also applied (1dB for 1st floor balcony windows as shown in the elevation drawing in the appendix).

For the rear sound survey no corrections were applied as noise sources (generally extract plant flues) were more evenly distributed around the survey position).

4.1.2 Required Sound Reduction

In order for the BS8233 and WHO criteria to be achieved the building envelope will have to achieve the following levels of sound insulation (SRI). For the LAmax SRI the sound reduction is based on achieving an average of no more than 10 events over 45dBA per night (ProPG criteria). The required sound reduction levels are detailed in the table below:

Floor	Facade	Room	Ext level dBA Day/Night/max	Required Sound Reduction		
				07:00-23:00	23:00-07:00	$L_{Amax-night}$
1	Front	Bedroom	65/60/76	30	30	31
2	Front	Lounge	65/-/-	30	-	-
1/2	Rear	Bedroom	50/42/61	15	12	16
G	Rear	Lounge	50/-/-	15	-	-

Figure 10: Required Sound Reduction Normal Condition

4.2 ADO Noise Assessments – Overheating Conditions

To achieve the adopted overheating criteria (ADO) the sound reduction required will be 10dB lower than as detailed in the table in the previous section. The sound reduction was greatest to achieve the L_{Amax} criteria hence the simplified table below. The required sound reduction therefore would be as detailed below

Floor	Facade	Room	SRI $L_{Amax-night}$
1	Front	Bedroom	21
All	Rear	Bedrooms	6

Figure 11: Required Sound Reduction Overheating Condition

As shown above the sound reduction required for the front façade bedroom is higher than the attenuation (10dB) provided by a wide open window. At the rear the ADO criteria will be achieved with wide open windows

5 Mitigation Measures – Normal Condition

5.1 Glazing & Ventilation

Calculations were completed to show the required performance of glazing and room ventilators (the latter being not being required if an MVHR system is installed). The calculations were completed using a proprietary programme Insul that follows the methodology within BS12354 (details in appendix):

Scenario	Floor	Target	Glazing R_w+C_{tr}	Vent $D_{n,e,w}$	SRI
Trickle	1st	31dB	33 dB	1x40 dB	31
Trickle	2nd	30 dB	33 dB	2x36 dB or 1x40 dB	30

Figure 12: Glazing and Ventilator Performance

At the rear of the property the SRI required is only 16dB at worst. For these windows basic double glazing and basic trickle vents would be acceptable to use.

The glazing example used in the calculations was LandVac,s Enhanced Glazing which achieves R_w+C_{tr} = 33dB. The overall thickness is only 8.3mm due to the vacuum sealed airgap between the two glass layers. The data sheet states that it is an ideal solution for heritage projects and buildings in conservation areas and it eliminates the double reflection issue associated with standard double glazing.

Achieving the 33dB (R_w+C_{tr}) sound insulation level may be harder to achieve with traditional Slimline double glazing options.

The trickle vents used in the calculations where (Other vents of an equal or greater performance would also be acceptable to use):

- Titon V75/C75 - 40dB – 5000EA
- Titon V25/C75 - 36dB – 2500EA

5.2 Whole House ADF Ventilation

A ventilation strategy will have to be developed at the detailed design stage that achieves the ADF ventilation rates. Irrespective of the noise climate the whole house ventilation system will not rely on open windows to provide the correct ventilation levels. Based on the AVOG table a strategy with trickle vents would be possible in terms of acoustics. However, as the building is in a conservation area a ducted system may be required (with inlets/outlets on a façade that are not deemed aesthetically important).

6 Mitigation Measures – Overheating Condition

At this stage a full overheating assessment has not been completed. To achieve the adopted overheating criteria (ADO) the sound reduction required requires that front façade windows are not fully open. The equation from the ANC ADO guide has been used to predict the allowable equivalent area for each bedroom window:

Bedroom	DnT	EA m2
1st	21	0.057
Rear	6	Wide Open

Figure 13: ADO EA

The final the overheating strategy could include the EAs detailed above. If additional cooling is required it is likely to be mitigated with Low G glazing (to reduce thermal gains) and/or additional mechanical cooling from the MEV/dMEV fan or MVHR fan.

7 Sound Insulation Design Review

If recommendations in this section are followed to a good standard of workmanship the separating walls/floors should achieve the sound insulation criteria detailed in the draft condition.

The advice has been provided in good faith to help with the development's sound insulation but no responsibility can be taken for the structural integrity of the design or for any specific levels of sound insulation achieved. The details in the report, which have been generated in terms of acoustic issues. The details should also be checked by the building control officer and other consultants (Structural engineer, fire safety consultant etc.)

7.1 Separating Floor: Commercial – HMO

As ceiling heights are sufficient the best option for party floors is for a metal furring (MF) grid ceiling system to be installed. British Gypsum's "Casoline" system would be suitable although others are available.

The chosen ceiling system will have to be installed on anti-vibration hangars to improve the sound insulation performance of the ceiling. The void should be at least 150mm. The proposed detail can be shown below.

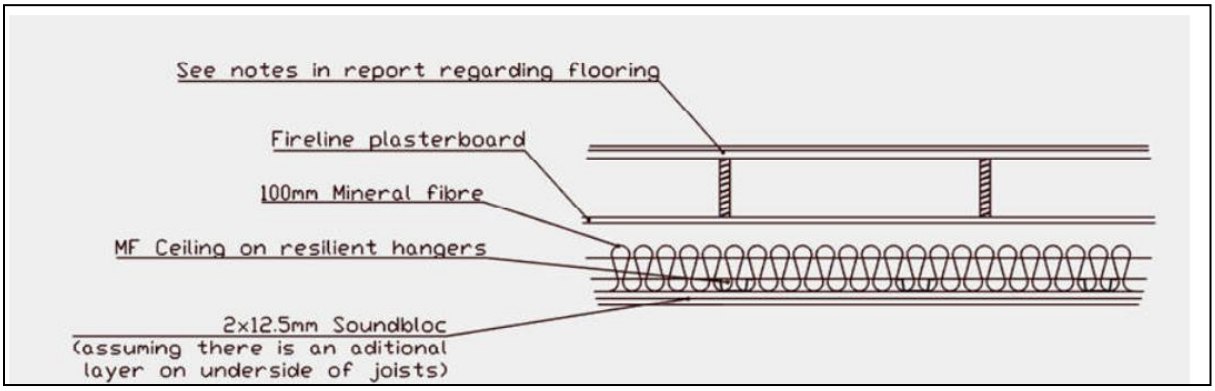


Figure 14: MF Ceiling Separating Floor

The 15mm Fireline is strongly recommended in this case due to the commercial unit on the ground floor (possible planning condition may ask for improved sound insulation).

It is understood that more than 100mm of insulation may be required for thermal reasons. A mineral wool roll or Rockwool slab would be acceptable (density between 12-50Kg/m^3). The insulation could be in the floor joist void or the MF ceiling Void.

7.1.1 Overfloor

For the floors with commercial areas below no impact sound tests are required. Therefore the easiest option would be to make good the existing floorboards and overlay a layer of Plywood (or an underfloor heating system).

7.1.2 Workmanship

Ideally there should be as few service penetration in the 2x12.5mm Soundbloc commercial ceiling as possible (surface mount/hung lighting etc.)

7.2 Walls Between Shop/HMO

7.2.1 Double Independent Frame (best option)

Ideally a double frame wall should be installed between the commercial unit and the HMO A ensuite (if the existing section of wall is solid brick and thicker than 200mm no linings would be required for the masonry part of the wall)

- 2x12.5mm or 2x15mm Soundbloc
- Timber/metal frame
- 10mm Min Void (no connection between frames)
- Timber/metal frame
- 50mm Mineral fibre or Rockwool
- 2x12.5mm or 2x15mm Soundbloc

7.2.2 Staggered Stud Wall

If a thinner wall is required a timber frame staggered stud will also achieve the Doc E requirements. The specification of the staggered stud wall could be as follows:

- 2x12.5mm or 2x15mm Soundbloc
- Staggered timber stud frames:
- 125mm head/sole plate
- 70/90mm framing (separate frames on either side of wall)
- 50mm Acoustic insulation woven between the staggered frames
- 2x12.5mm or 2x15mm Soundbloc

The layout of the framing has been shown below (insulation not shown for clarity):

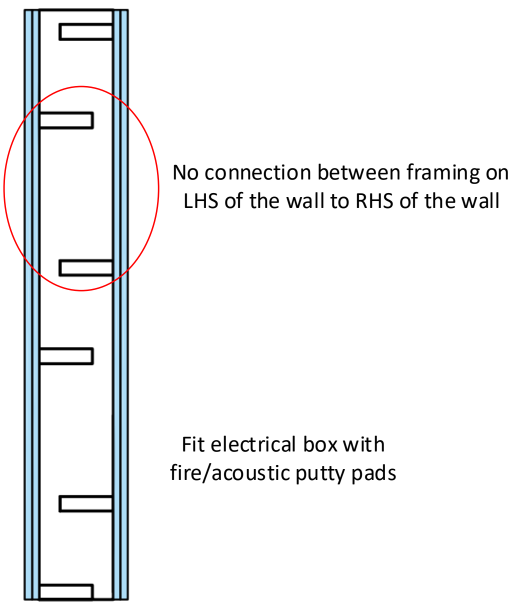


Figure 15: Staggered Stud Detail

7.2.3 Details and Workmanship

The walls should be built up to the board fixed to the underside of the joists above or up to the joists before the joists are over boarded. New MF ceilings should be built after the wall lining has been completed.

Boards should be staggered and for large services a plasterboard pattress detail should be completed. For smaller services Fire/Acoustic putty pads would be acceptable

If the suspended timber floor is retained the party wall should interrupt the void between the floor and the ground:

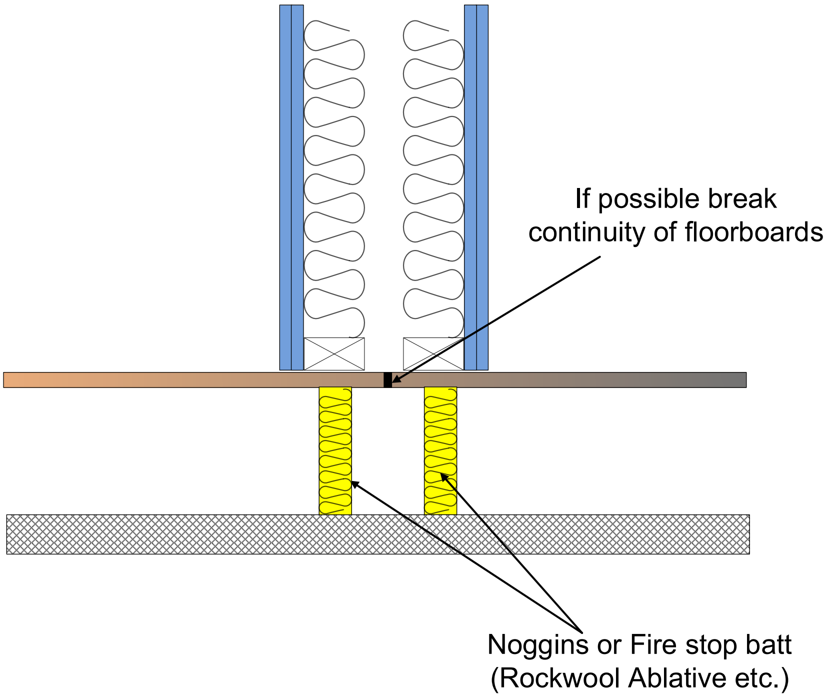


Figure 16: Underfloor Detail

If a new block and beam floor is required the wall should interrupt any floating screed layers as shown in the generic detail below:

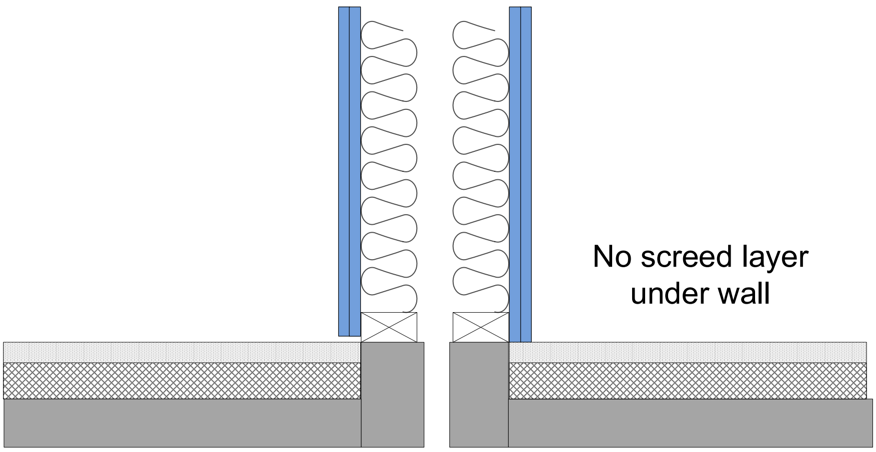


Figure 17: Block and Beam Floor

8 Appendix

Figure 18: Survey Plan

		Laeq 16/8Hr		11th Lamax	
Day	**Date**	**Day**	**Night**	**1 min**	**2min**
Wed	29/10		60.0	75.6	75.6
Thu	30/10	66.0	61.1	76.9	76.7
Fri	31/10	67.2	61.5	77.2	76.7
Sat	01/11	65.8	60.9	76.4	76.4
Sun	02/11	65.4	60.2	77.2	77.2
Mon	03/11	65.9	60.0	76.5	76.5
AVERAGE:		66	61	77	77

		Laeq 16/8Hr		11th Lamax	
Day	**Date**	**Day**	**Night**	**1 min**	**2min**
Wed	29/10		39.3	58.7	56.6
Thu	30/10		48.6	71.0	71.0
Fri	31/10		48.0	66.8	66.8
Sat	01/11	50.2			
Sun	02/11	48.8	36.2	56.9	56.1
Mon	03/11		38.6	53.1	52.8
AVERAGE:		50	42	61	61

Figure 19: Lt1 and LT2 Survey Data

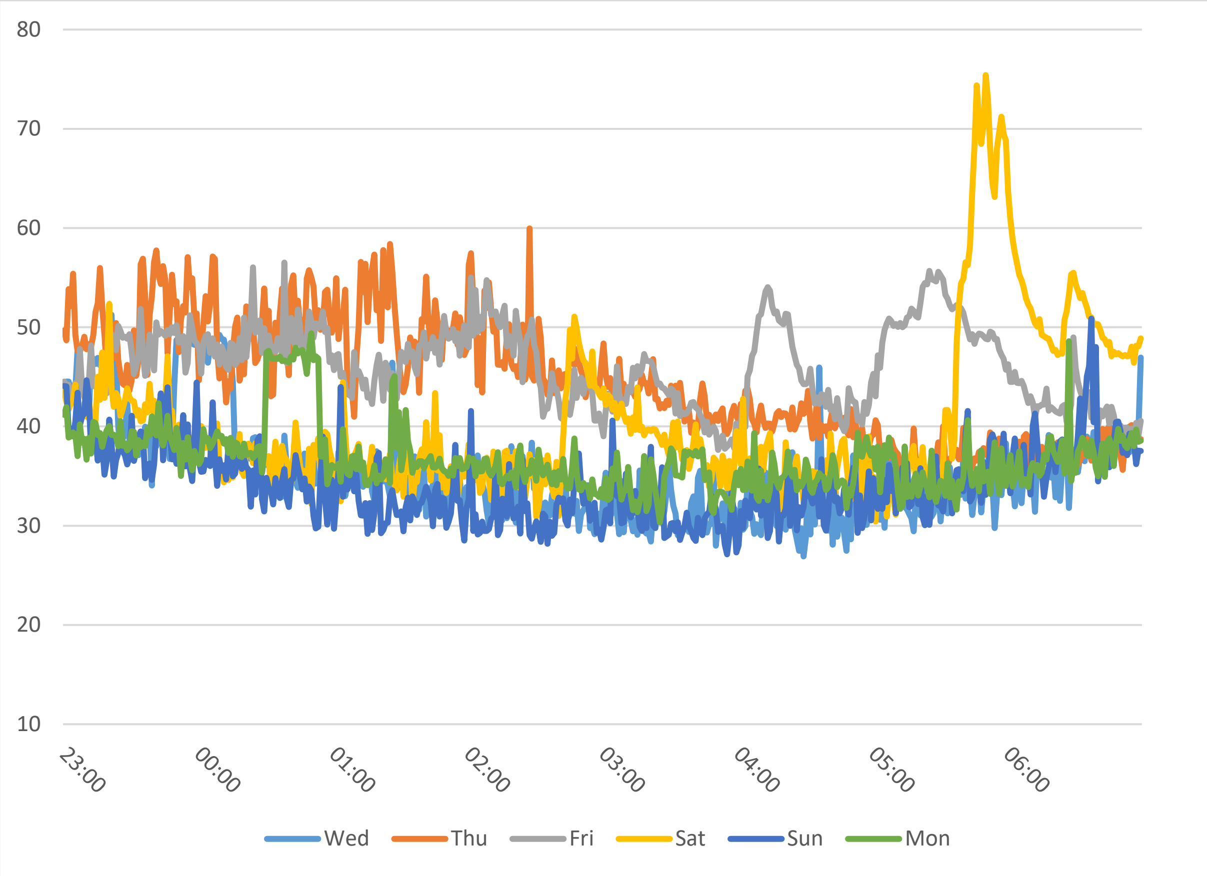


Figure 20: LT2 Night time Graph

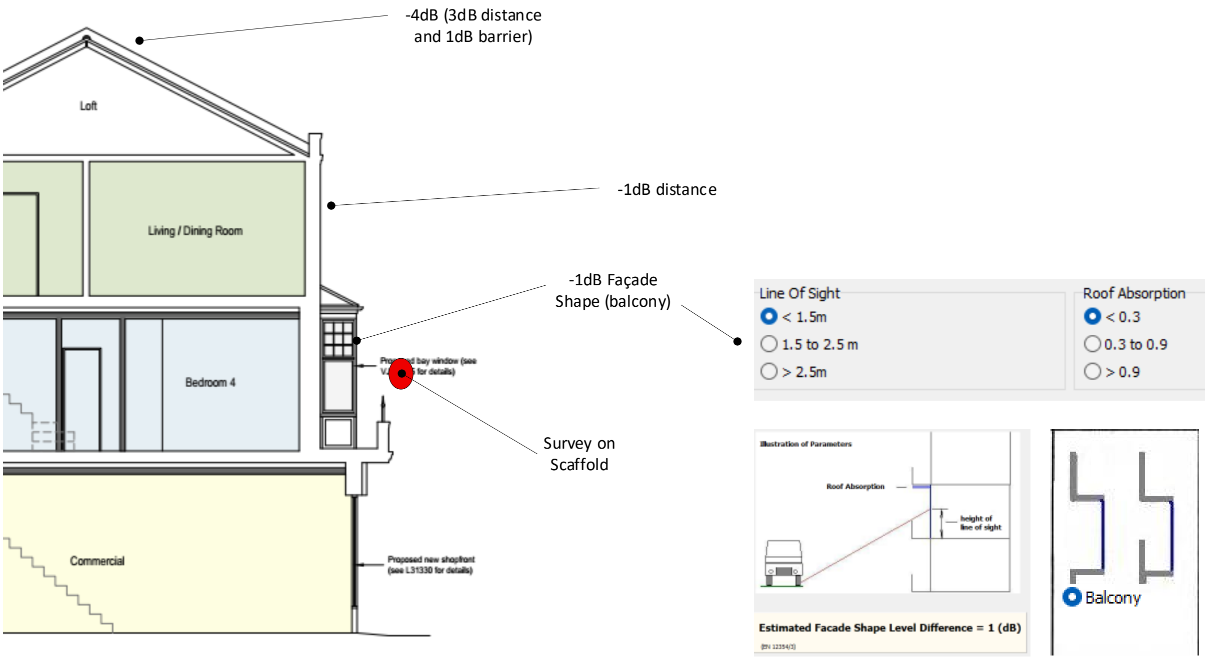


Figure 21: Corrections

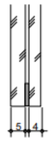
	Octave Band Centre Frequency (Hz)							Overall dBA
Source	63	125	250	500	1k	2k	4k	
Incident sound level (freefield)	0	62	58	56	56	53	48	60
Path								
Element 1 ,Window Rw+Ctr 33 STL	-16	-23	-28	-35	-39	-33	-33	
Facade Shape Level diff.	1	1	1	1	1	1	1	
Area (+10Log A) [5.0 m2]	7	7	7	7	7	7	7	
Element sound level contribution	-19	37	29	19	15	18	13	26
Element 2 ,1xvent 40dB STL	0	-38	-35	-32	-40	-46	-60	
Facade Shape Level diff.	0	0	0	0	0	0	0	
Area (+10Log A) [20 m2]	13	13	13	13	13	13	13	
Element sound level contribution	4.4	28	28	28	20	11	-7.9	27
Receiver								
Room volume (-10Log V) [45 m3]	-17	-17	-17	-17	-17	-17	-17	
Reveberation time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
RT (+10Log T)	-3	-3	-3	-3	-3	-3	-3	
Equation Constant	11	11	11	11	11	11	11	
Room sound level	4.4	37	31	29	21	18	12	29

	Octave Band Centre Frequency (Hz)							Overall dBA
Source	63	125	250	500	1k	2k	4k	
Incident sound level (freefield)	0	62	58	56	56	53	48	60
Path								
Element 1 ,Window Rw+Ctr 33 STL	-16	-23	-28	-35	-39	-33	-33	
Facade Shape Level diff.	0	0	0	0	0	0	0	
Area (+10Log A) [3.0 m2]	5	5	5	5	5	5	5	
Element sound level contribution	-21	34	26	16	12	15	10	23
Element 2 ,2xvent 36dB STL	0	-38	-38	-34	-32	-42	-49	
Facade Shape Level diff.	0	0	0	0	0	0	0	
Area (+10Log A) [20 m2]	13	13	13	13	13	13	13	
Element sound level contribution	3.5	27	24	25	27	14	2.2	29
Receiver								
Room volume (-10Log V) [55 m3]	-17	-17	-17	-17	-17	-17	-17	
Reveberation time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
RT (+10Log T)	-3	-3	-3	-3	-3	-3	-3	
Equation Constant	11	11	11	11	11	11	11	
Room sound level	3.5	35	28	26	27	17	11	30

Floor	Window	Floor A	Vol	RT
1st	5	18	45	0.5
2nd	3	22	55	0.5

Product	Insulating glass unit
Designation	Tempered vacuum insulated glass
External Dimensions (W x H)	1,000 mm × 1,000 mm
Construction	5 Tempered Low-E Glass/0.3 Vacuum/4 Tempered Glass
Gas filling	Vacuum
Area related mass	21.9 kg/m²
Special features	-/-

Representation



Weighted sound reduction index R_w
Spectrum adaptation terms C and C_{tr}

$R_w\ (C;\ C_{tr}) = 36\ (-2;-3)$ dB

ift Rosenheim
01.08.2016

Instructions for use

This test report serves to demonstrate the airborne sound insulation of a building component.

Validity

The data and results given relate solely to the tested and described specimen.

Testing the sound insulation does not allow any statement to be made on further characteristics of the present construction regarding performance and quality.

Notes on publication

Figure 22: SRI Calculations

9 References

[i] *British Standard BS8233 (2014) "Guidance on sound insulation and noise reduction for buildings"*

[ii] *ProPG: Planning & Noise (Professional Practice Guidance on Planning & Noise) 2017*

[iii] *Approved Document E - Resistance to the passage of sound (2003 Edition incorporating 2004, 2010, 2013 and 2015 amendments)*

[iv] *Approved Document O (ADO) – Overheating 2022*

[v] *ANC/IOA Guide to Demonstrating Compliance with the Noise Requirements of Approved Document O (2024)*

[vi] *ANC Acoustics, Ventilation and Overheating Residential Design (AVOG) 2020*

[vii] *ISO9613 (1996) Attenuation of sound during propagation outdoors*