

Report No. 0617.1 rev 0
May 2026

**PROPOSED CONVERSION TO RESIDENCES AT GROUND FLOOR,
34-36 WARMINSTER ROAD, WESTBURY, BA13 3PE**

NOISE ASSESSMENT



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On behalf of:
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1.0 SUMMARY

- 1.1 A noise assessment has been carried out of the proposed change of use from commercial, business & service uses to residential at the ground floor of 34-36 Warminster Road, Westbury, BA13 3PE.
- 1.2 The assessment is required to respond to the Public Protection Officer's comments on the application for Prior Approval change of use to Wiltshire Council. The comments refer to potential noise impact from road traffic and the adjacent take-away premises.
- 1.3 The site is single-aspect with all glazing to habitable rooms on the front (south-east) elevation overlooking Warminster Road.
- 1.4 A comprehensive noise survey has been undertaken, including long-term measurements outside the front elevation and further survey work in and around the take-away premises during the peak Saturday evening trading period.
- 1.5 The survey has been assessed to recommend:
 - Upgrade to façade glazing specifications;
 - Upgrade to the proposed party wall between the take-away premises and proposed residences.
- 1.6 An assessment of potential impact from mechanical services plant noise has also been undertaken. Plant items are remote and well-screened to proposed residential windows and the background sound level is relatively high due to road traffic noise. Plant noise is therefore predicted to be of 'low impact'. No specific noise control measures are required to existing plant.
- 1.7 The above recommendations would ensure that the desirable noise level in proposed habitable rooms will be achieved as recommended by BS8233. This will therefore meet Wiltshire Council planning policy.
- 1.8 It is therefore recommended that permission for change of use may be granted and conditioned as required.

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2.0 INTRODUCTION

- 2.1 DKN Acoustics Ltd has been instructed by Mr Alan Wong to carry out a noise assessment of the proposed change of use from commercial, business & service uses to residential at the ground floor of 34-36 Warminster Road, Westbury, BA13 3PE.
- 2.2 At time of writing, the Class MA planning application for change of use is under consideration by Wiltshire Council. The noise assessment is required to respond to the Public Protection Officer's comments as follows:

Thank you for consulting the Environmental Control & Protection Team with regard to this Prior Approval application. The proposal has been considered regarding contaminated land and noise impacts, and I have the following comments.

Contaminated Land

Following a review of the submitted information and the Council's GIS mapping system, there are no known contaminated land constraints affecting the site. On this basis, no objections are raised in relation to contaminated land, and no further assessment is considered necessary.

Noise

The proposed development involves the conversion of an existing restaurant seating area to two residential flats, located directly adjacent to an operational takeaway and fronting a road. This proposal has the potential to introduce noise sensitive receptors in close proximity to established noise sources, including customer activity, food preparation, kitchen extraction equipment, delivery and waste activities associated with the takeaway, as well as road traffic noise from a busy highway.

In light of the above concerns, I request an acoustic assessment to be carried out which will assess the potential impact upon future occupants of the proposed development. The acoustic report shall be prepared by a suitably qualified and competent acoustic specialist and shall be undertaken in accordance with all relevant British Standards and guidance, including the council's own technical guidance which may be found on our website via the following link: www.wiltshire.gov.uk/env-protection-developer-advice Where relevant, proposed mitigation measures to achieve compliance must be provided.

Once I have assessed the required report I will then be able to give you my recommendations. Alternatively, based on the current information submitted I am concerned there will be a detrimental impact on future residents and would have to raise an objection.

- 2.3 The assessment has included:
- Review of site drawings;
 - Site inspection;

- Extended day and night noise survey outside front elevation;
- Additional attended noise measurements in and around the site, including during peak hours of adjacent take-away premises;
- Assessment of measured noise levels and noise exposure of proposed residences;
- Recommendations for appropriate outline noise control measures as necessary to meet accepted noise standards for residential amenity.

2.4 Noise levels referred to in the text of this report have been rounded to the nearest whole decibel (dB), as fractions of dBs are imperceptible. **A glossary and description of the relevant noise units and noise characteristics is provided in Appendix I.**

2.5 The survey and assessment has been carried out by Duncan Newhall, who is a Member of the Institute of Acoustics (IOA) and holder of the IOA Diploma in Acoustics and Noise Control. DKN Acoustics Ltd is an independent acoustic consultancy.

3.0 SITE DESCRIPTION

- 3.1 The site drawings and photos are shown in Figures 1-3.

Application site

- 3.2 The application site comprises the ground floor area of 34-36 Warminster Road. This is the former restaurant area, which is now closed and vacant. The proposed development is for its conversion to form 2 no. residential flats. Windows of the flats would all be on the front elevation overlooking Warminster Road. This is a busy road with a 30mph speed limit.
- 3.3 Existing glazing appears to be standard double glazing, likely to be of 4/12/4mm specification. The existing separating wall to the adjacent takeaway is not confirmed, but appears to be a 240mm thick brick/masonry wall. There may be some areas of studwork/plasterboard infill but this was unable to be confirmed. The mirrored wall area behind the bar area of the former restaurant is a recessed area which may be a lightweight plasterboard or timber construction behind. The take-away side of the separating wall is either tiled or fixed with food hygiene standard wipeable panels.

Adjacent take-away

- 3.4 The adjoining area to the south is formed by the New Champion Chinese Take-Away & Fish Bar, which is single storey. The take-away is currently linked to the application site, being the former restaurant associated with the premises. Upon development, all current door openings would be fully sealed to enable full separation by the party wall between the take-away and proposed residences.
- 3.5 The take-away (customer area, kitchen and food preparation area) would adjoin the proposed party wall with Flat 1. The customer area would adjoin its living room but kitchen/food preparation area would be adjacent to less noise sensitive areas of the shower room and a cupboard.
- 3.6 The trading hours are:

- Tuesday to Thursday: 5pm-10.30 pm

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- Friday to Saturday: 4.30pm-10.30pm
- Sunday: 5pm-10pm.

- 3.7 The trading hours are therefore restricted to daytime hours only (i.e. no use during night-time hours of 11pm-7am).
- 3.8 The take-away has mechanical services plant, including refrigeration/condensing units to rear and kitchen supply and extract on the flat roof to the south/side. As such, all plant is distant from and very well screened to the front elevation of the building, where residential windows would be located.
- 3.9 The first floor above the proposed flats is residential in use.

4.0 NOISE SURVEYS

- 4.1 Noise surveys included extended unattended measurements at a fixed location and attended measurements at various other locations. Noise levels were recorded in terms of the overall A-weighted noise levels, including octave band frequency analysis.

Extended survey – Location 1

- 4.2 A noise survey was carried out from Wednesday 29 April to Saturday 2 May 2026. This enabled noise levels to be measured over a typical weekday and the peak Friday and Saturday evening take-away trade.
- 4.3 The measurement location was outside the front elevation overlooking Warminster Road. For security reasons, the position was at first floor level outside the existing flat. This location was representative of the most exposed proposed residential window at ground floor level. The measurement position is shown in Figures 1-3.
- 4.4 Individual 15-minute measurements were recorded continuously over the survey.
- 4.5 The overall A-weighted noise levels measured at Location 1 over the full 16-hour day and 8-hour night are summarised in Table 1 below. The measured levels are shown in full in Appendix II.

Table 1: Location 1 – Outside front elevation, dB (not free-field, figures rounded)

Date/time	Period	Noise level				Comments
		L _{Aeq}	L _{Amax}	L _{A10}	L _{A90}	
Wed 29 Apr 14:30-23:00 hrs	Part day	71	90 (range 82-105)	74	65	Part day – data excluded
Wed 29 Apr/Thu 30 Apr 23:00-07:00 hrs	Night	66	85 (range 75-91)	66	41	Used in assessment – highest recorded
Thu 30 Apr 07:00-23:00 hrs	Day	72	94 (range 73-104)	73	64	
Thu 30 Apr/Fri 1 May 23:00-07:00 hrs	Night	66	84 (range 72-89)	65	43	
Fri 1 May 07:00-23:00 hrs	Day	72	95 (range 82-110)	74	64	Used in assessment – highest recorded
Fri 1 May/Sat 2 May 23:00-07:00 hrs	Night	65	86 (range 78-92)	67	41	
Sat 2 May 07:00-19:45 hrs	Part day	73	98 (range 79-111)	74	63	Part day & some rain – data excluded

Note: Measured levels were not in free-field conditions. Typically, levels will be 3 dB lower than shown in free-field conditions.

- 4.6 During the visits to set and collect equipment, road traffic noise was the clearly dominant noise source affecting the measured levels at Location 1. There was no perceptible noise from mechanical services plant on the front elevation.
- 4.7 For the full periods, the measured L_{Aeq} noise level was **72 dB (day)** and **65-66 dB (night)**. The free-field noise levels will typically be 3 dB lower than this.
- 4.8 At night, the mean L_{Amax} noise level was 84-86 dB, with individual measurements ranging from 72-92 dB L_{Amax}. The highest L_{Amax} noise levels recorded during the survey are expected to be from emergency vehicle sirens.

Attended survey – various locations

- 4.9 Further noise levels were measured at various locations in and around the adjacent take-away premises. This included the busy evening peak trading time on Saturday 2 May.

- 4.10 The main measurements were of the noise level generated at source in the customer area, kitchen and food preparation area.
- 4.11 A summary of the mean measured noise levels is shown below in Table 2. The full measurements are shown in Appendix II.

Table 2: Various locations (dB, figures rounded)

Location	Noise level				Comments
	L _{Aeq}	L _{Amax}	L _{A10}	L _{A90}	
Behind counter	65	83	67	62	Staff & customers, fryer, road traffic through open windows
In customer area	68	84	70	60	Staff & customers, fryer, road traffic through open windows
In kitchen	74	88	78	69	Staff & cooking noise
In food preparation area	67	80	71	61	Generally due to noise from adjoining kitchen
Plant area – in car park to side approx. 4m lateral distance from wall	55	58	56	54	During lull in road traffic (road traffic noise dominant here)

- 4.12 There were 3 no. counter staff and approximately 6 no. kitchen staff. Customer numbers ranged from around 4-13 during the measurements. This is understood to represent typical peak trading numbers.
- 4.13 There was no amplified music playing in the front or back-of-house areas. The customer area had a TV screen playing at a low volume that was barely audible.
- 4.14 The main noise sources in the customer area were staff and customer voices, including telephone orders and order calling. However, noise ingress from road traffic through the open windows was the dominant continuous noise source. The measured levels shown are therefore not those entirely generated at source, which would be lower than shown.
- 4.15 In the kitchen, the main noise source was from cooking and the kitchen hood extract system.
- 4.16 Generally, the noise level in the customer and kitchen areas was not subjectively excessive and consistent with the busy trading period.

- 4.17 Externally, plant noise was audible to the rear and less so to the side. Outside the front elevation (where windows of proposed residences would be), plant noise was not audible at all. There is significant noise attenuation of the plant from distance and intervening acoustic screening, plus the noise climate at that location was completely dominated by constant road traffic noise.

Noise measurement equipment

- 4.18 The measurements were undertaken using the following equipment.

Table 3: Noise measurement equipment

Equipment	Serial no.	Equipment	Serial no.
RION NL-52 Type 1 sound level meter	00809384	RION NA-28 Type 1 sound level meter	00991176
Pre-amplifier model NH-25	09677	Pre-amplifier model NH-23	81217
Microphone model UC-59	17841	Microphone model UC-59	01421
Windshield	n/a	Windshield	n/a
Microphone extension cable	n/a	Tripod	n/a
Calibrator model NC-74 to 94.0dB	34794362		

- 4.19 The sound level meters are fully calibrated with up-to-date calibration certificates, copies of which will be provided on request.
- 4.20 The calibration of the meters was checked before and after the survey, using calibrator model NC-74 (serial no. 34794362) with no significant variation in level noted. A windshield was fitted over the microphones.

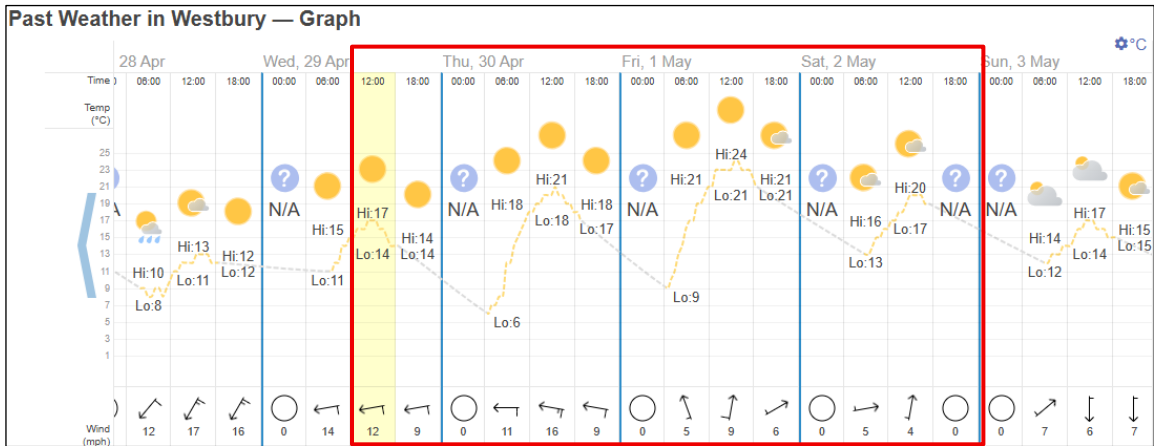
Weather conditions

- 4.21 Weather conditions were predominantly dry and calm throughout with clear skies. There was a period of rain approximately from around 3pm-5pm on Saturday 3 May. This period is not included in the assessment. Daytime temperatures were up to 24°C and down to 6°C at night. The wind speed was generally below 5 m/s. These were good weather conditions for the noise

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survey. A summary of the recorded weather data is shown below (source: www.timeanddate.com/weather/@2634482/historic).



5.0 ACOUSTIC CRITERIA

BS 8233: 2014

- 5.1 Appropriate guidance on acoustic design goals for residential development is set out in British Standard 8233: 2014 '*Guidance on sound insulation and noise reduction for buildings*'. The desirable L_{Aeq} criteria for dwellings recommended by BS8233: 2014 in Table 4 of the document are summarised in Table 4 below.

Table 4: Table 4 of BS 8233: 2014 for desirable indoor ambient noise levels for dwellings

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

Note 1: Table 4 provides recommended levels for overall noise in the design of a building. These are the sum of structure-borne and airborne noise sources. Groundborne noise is assessed separately and is not included as part of these targets, as human response to groundborne noise varies with many factors such as level, character, timing, occupant expectation and sensitivity.

Note 2: The levels shown in Table 4 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 levels recommended in Table 4.

Note 3: These 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.

Note 5: If relying on closed windows to meet the guide values, there needs to be an appropriate alternative ventilation that does not compromise the facade insulation or the resulting noise level. If applicable, any room should have adequate ventilation (e.g. trickle ventilators should be open) during assessment.

Note 6; Attention is drawn to the Building Regulations [30, 31, 32]

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.

- 5.2 Note 7 states that the levels shown in the Table may be 5 dB higher and reasonable internal conditions would still be achieved.

BS4142: 2014+A1: 2019

- 5.3 BS4142: 2014+A1:2019 '*Methods for rating and assessing industrial and commercial sound*' describes a method for rating and assessing sound of an industrial and/or commercial nature

and to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident.

- 5.4 BS4142 compares the noise rating level of the noise source being assessed with the L_{A90} background noise level outside the relevant noise-sensitive receptor. The rating level at the assessment location includes noise 'character correction(s)' applied where appropriate for any tonal, impulsive, intermittent or any other sound characteristic of the noise source under assessment.
- 5.5 The proposed site would only operate during daytime hours. The relevant assessment period of BS4142 is therefore over one hour.
- 5.6 To assess impact it states that:
- Typically, the greater the difference [*between rating level and background sound level*], the greater the magnitude of impact;
 - A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context;
 - A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context; and
 - The lower the rating level relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background noise level, this is an indication of the specific sound source having a low impact, depending on the context.
- 5.7 BS4142 states that this depends on the context. The context with the application site is that the site is in a busy area where road traffic noise is the main, dominant noise source.

6.0 NOISE ASSESSMENT & RECOMMENDATIONS

Road traffic noise

- 6.1 The measured levels at Location 1 have been assessed to predict the level of noise break-in to proposed residences.
- 6.2 The predictions are in line with the procedure described in Annex G.2 of BS8233: 2014. The calculations take into account the octave band frequency content of the external noise levels and the cumulative noise break-in through the various building facade elements.
- 6.3 The predictions assume that appropriate noise control measures are provided (as subsequently discussed). The summary predictions are shown below in Table 5. It shows 2 no. options for noise control measures, namely 1) retaining existing glazing with additional secondary glazing and 2) replacement uprated laminated double glazing.
- 6.4 A sample of the full predictions for Unit 2 is shown in Appendix III. For report brevity, not all predictions are shown but will be supplied on request.

Table 5: Noise break-in predictions to most exposed habitable rooms, L_{Aeq} dB

Location	Period	Predicted internal noise level	BS8233 recommended level	Meets BS8233 recommendation ?	Comments/options
Unit 1 Living room	Day	32 Option 1 34 Option 2	35	Yes	<u>Option 1</u> <u>Glazing:</u> Existing 4/12/4mm double glazing plus 4mm secondary glazing with minimum cavity of 100mm <u>Door:</u> Existing 4/12/4mm door double glazing plus additional lobby door of minimum 6mm glazing with minimum gap of 150mm between the two doors <u>Option 2</u> <u>Glazing & door:</u> Replacement glazing 10mm/16mm/8.8mm Pilkington Optiphon laminated glazing
Unit 1 bedroom	Day	34 Option 1 35 Option 2	35	Yes	<u>Option 1</u> <u>Glazing:</u> Existing 4/12/4mm double glazing plus 4mm secondary glazing with minimum cavity of 100mm <u>Option 2</u> <u>Glazing:</u> Replacement glazing 10mm/16mm/8.8mm Pilkington Optiphon laminated glazing
	Night	28 Option 1 29 Option 2	30	Yes	
Unit 2 Living room	Day	32 Option 1 33 Option 2	35	Yes	<u>Option 1</u> <u>Glazing:</u> Existing 4/12/4mm double glazing plus 6mm secondary glazing with minimum cavity of 100mm <u>Option 2</u> <u>Glazing:</u> Replacement glazing 10mm/20mm/8.8mm Pilkington Optiphon laminated glazing
Unit 2 bedroom	Day	35 Option 1 35 Option 2	35	Yes	<u>Option 1</u> <u>Glazing:</u> Existing 4/12/4mm double glazing plus 6mm secondary glazing with minimum cavity of 100mm <u>Option 2</u> <u>Glazing:</u> Replacement glazing 10mm/20mm/8.8mm Pilkington Optiphon laminated glazing
	Night	29 Option 1 29 Option 2	30	Yes	

Note: Glazing specification signified by glazing/cavity/glazing, e.g. 4/12/4mm glazing means 4mm glazing/12mm cavity/4mm glazing.

- 6.5 It is assumed that the options for the entrance door to Unit 1 could be accommodated in practice. The existing door has a sizeable recess and a lobby door may be possible as shown in Option 1. However, Option 2 here may be more appropriate to allow the door to be more easily used for day-to-day access.
- 6.6 Note that the larger percentage glazed area to Unit 2 bedroom would require a higher specification of glazing than other habitable rooms.
- 6.7 **The predictions show that the BS8233 recommended noise level would be met in all cases.**
- 6.8 In addition to the options for noise control measures shown in Table 5, the following measures should also be observed:

- Remove the through-glazing ventilation fan currently present in glazing that would serve the bedroom of Unit 2.
- Ensure that all glazing and the door is well-sealed with no gaps when closed and that there are no holes or gaps at the perimeter. This may require the use of neoprene perimeter seals throughout and threshold seals/brushes at the base of the door.

Party wall with take-away premises

- 6.9 The sound insulation performance of the existing party wall has been modelled using the software prediction tool 'INSUL'. Options for the construction of the required infill/upgrade sections of the party wall (formed by existing door openings) have also been modelled. The results appear in Appendix IV.
- 6.10 The predicted level of theoretical noise transfer from the take-away premises across the modelled constructions has been predicted. This is shown in Table 6.

Table 6: Predicted noise level transfer – party wall, L_{Aeq} dB

Noise level in source room	LAeq	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Comments
Mean Leq noise level	65.3	68.2	65.9	67.9	61.6	59.4	56.0	54.2	51.7	Behind counter
Mean Leq noise level	67.6	68.3	64.9	64.0	65.3	62.6	59.5	55.8	52.9	In customer area
Mean Leq noise level	74.4	68.9	66.5	68.3	70.3	69.5	66.1	66.1	63.2	In kitchen
Mean Leq noise level	67.2	57.1	59.5	60.3	62.5	61.9	58.8	59.8	57.4	In food preparation area
Sound Reduction Index, R (dB) - INSUL		63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	
Existing wall		43	45	41	47	55	62	67	67	8kHZ performance extrapolated from 4 KHz
Proposed infill - plasterboard: Option 1		27	46	61	74	82	73	82	82	8kHZ performance extrapolated from 4 KHz
Proposed infill - masonry: Option 2		26	45	48	51	61	71	81	81	8kHZ performance extrapolated from 4 KHz
Level of noise transfer (dB) through:	LAeq	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Comments
Existing wall	19.5	25.2	20.9	26.9	14.6	4.4	-6	-12.8	-15.3	From behind counter
Proposed infill - plasterboard: Option 1	15.4	41.2	19.9	6.9	-12.4	-22.6	-17	-27.8	-30.3	From behind counter
Proposed infill - masonry: Option 2	18.0	42.2	20.9	19.9	10.6	-1.6	-15	-26.8	-29.3	From behind counter
	LAeq	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Comments
Existing wall	18.1	25.3	19.9	23	18.3	-55	-2.5	-11.2	-14.1	From customer area
Proposed infill - plasterboard: Option 1	15.4	41.3	18.9	3	-8.7	-82	-13.5	-26.2	-29.1	From customer area
Proposed infill - masonry: Option 2	17.9	42.3	19.9	16	14.3	-61	-11.5	-25.2	-28.1	From customer area
	LAeq	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Comments
Existing wall	22.7	25.9	21.5	27.3	23.3	-55	4.1	-0.9	-3.8	From kitchen
Proposed infill - plasterboard: Option 1	16.1	41.9	20.5	7.3	-3.7	-82	-6.9	-15.9	-18.8	From kitchen
Proposed infill - masonry: Option 2	20.3	42.9	21.5	20.3	19.3	-61	-4.9	-14.9	-17.8	From kitchen
	LAeq	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Comments
Existing wall	14.8	14.1	14.5	19.3	15.5	-55	-3.2	-7.2	-9.6	From food preparation area
Proposed infill - plasterboard: Option 1	5.1	30.1	13.5	-0.7	-11.5	-82	-14.2	-22.2	-24.6	From food preparation area
Proposed infill - masonry: Option 2	11.1	31.1	14.5	12.3	11.5	-61	-12.2	-21.2	-23.6	From food preparation area

- 6.11 The predicted level of noise transfer across the existing party wall ranges from 15-23 dB L_{Aeq} . Considering the infill Options 1 and 2, the predicted level of noise transfer is 5-16 dB L_{Aeq} and 11-20 dB L_{Aeq} respectively.
- 6.12 This provides confidence that the cumulative noise level in the adjacent Unit 1 residence from noise transfer across the party wall would be significantly better than the BS8233 recommended level of 35 dB L_{Aeq} during the day. This is even when taking account of any reduction in performance from noise flanking pathways not included in the INSUL predictions. It is further noted that the living room would abut the customer area only. The trade kitchen and food preparation area would be adjacent to more noise-tolerant shower room and cupboard of Unit 1, where a higher received noise level would be acceptable.
- 6.13 The predicted level of noise transfer therefore comfortably meets the BS8233 recommended levels.
- 6.14 The options for infill areas to achieve the predicted sound insulation shown above are summarised below. Each construction would provide a wall thickness of 240mm, so are expected to have a consistent depth with the existing wall:
- Option 1 (plasterboard)
- 2 no. layers of 15mm SoundBloc plasterboard each on an independent timber stud (i.e. studwork completely separate from each other). Minimum cavity of 180mm including a 75mm layer of Rockwool (minimum density of 40 kg/m³).
- Option 2 (masonry)
- Two layers of 100mm concrete blockwork, each with a plaster skim or 10mm plasterboard finish. To include a cavity of minimum depth of 20mm with butterfly ties or similar.
- 6.15 All infill areas should be fully sealed with and include no holes or gaps with the existing construction. Services penetrations should be avoided and any electrical sockets should not be recessed or chased to maintain the acoustic integrity.
- 6.16 It is recommended that opening-up works are undertaken to establish the existing wall construction. There may be areas where the existing party wall is not the assumed masonry specification, but instead more lightweight plasterboard or timber panelling. Where such areas are found, these should be removed and re-instated with a specification matching the existing masonry construction or option 1 or 2 shown above.

- 6.17 Care should be taken with any existing exposed services and penetrations on the party wall, as are present in the food preparation area (see below). Exposed services should be lagged with 25mm unfaced mineral wool and boxed in using two layers of 12.5mm plasterboard, ensuring no contact with the services.



Mechanical plant

- 6.18 Noise from mechanical services plant serving the take-away was not audible at all outside the front elevation where residential windows would be located. Plant items are at some distance and around the other side of the building, so are very well acoustically-screened to this location.
- 6.19 Road traffic noise is the main and dominant noise source at the proposed residences. There was some difficulty in measuring plant noise in isolation because of this. The above façade recommendations to protect against road traffic noise intrusion will therefore be more than adequate to also mitigate any mechanical services noise.
- 6.20 For completeness, an indicative BS4142 noise impact assessment has nonetheless been undertaken. To provide a robust and worst-case assessment, this considers the lowest background sound level measured during the survey at Location 1 at 23:00 hours (i.e. after trading hours). The assessment is shown in Table 7 below:

Table 7: BS54142 assessment – mechanical services plant, dB

Detail	dB	Comments
L _{Aeq} plant noise level in side car park	65.9	During lull in road traffic - worst-case assumption level is due to plant noise only
Approximate distance from plant (m)	4	Measured to side in car park
Approx slant distance to closest residential window (m)	10	
Distance attenuation	-8.0	Assumes point source attenuation & hemi-spherical propagation
Acoustic screening attenuation	-15	Assumed from intervening building; completely screened to proposed residence
L _{Aeq} plant noise level outside closest residential window	42.9	
<u>Acoustic feature correction</u>		
Tonality	0	Not tonal
Impulsivity	0	Not impulsive
Other sound characteristics	0	No other sound characteristics
Intermittency	0	Not intermittent
On-time correction	0	Plant operating over 1 hour assessment period
Plant noise rating level	42.9	
LA90 background sound level	46.3	Lowest LA90 background measured at 23:00 hours (after trading ceased)
Difference	-3.4	Indicates low impact

- 6.21 The BS4142 assessment shows that the noise rating level is 3 dB below the lowest background sound level during the late evening (most noise-sensitive time). At other times of the day, the result will be lower still, as more intensive road traffic increases the background sound level further. This tallies with subjective witnessing of any plant noise (or lack of) outside the front elevation.
- 6.22 The worst-case assessment indicates a '**low impact**', depending on the context. The context here is that the site is in a busy area with fairly constant road traffic noise. Noise from mechanical services plant is not therefore expected to give rise to an adverse impact to future residents.
- 6.23 There is no requirement for specific noise control measures to the existing plant installation.

Conclusions

- 6.24 The assessment has shown that appropriate conditions for residential amenity would be provided by adopting the recommended noise control measures shown.

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6.25 **It is recommended that permission for change of use may be granted and conditioned accordingly if required.**

Appendix I – Noise & vibration units and indices

Sound pressure level and the decibel (dB)

A sound wave is a small fluctuation of atmospheric pressure. The human ear responds to these variations in pressure, producing the sensation of hearing. The ear can detect a very wide range of pressure variations. In order to cope with this wide range of pressure variations, a logarithmic scale is used to convert the values into manageable numbers. Although it might seem unusual to use a logarithmic scale to measure a physical phenomenon, it has been found that human hearing also responds to sound in an approximately logarithmic fashion. The dB (decibel) is the logarithmic unit used to describe sound (or noise) levels. The usual range of sound pressure levels is from 0 dB (threshold of hearing) to 120 dB (threshold of pain).

An increase in noise level of 10 dB(A) is roughly perceived as a doubling of the sound source. A 3 dB(A) change in noise level is generally the minimum perceptible difference.

Frequency and Hertz (Hz)

As well as the loudness of a sound, the frequency content of a sound is also very important. Frequency is a measure of the rate of fluctuation of a sound wave. The unit used is cycles per second, or Hertz (Hz). Sometimes large frequency values are written as kiloHertz (kHz), where 1 kHz = 1000 Hz. Young people with normal hearing can hear frequencies in the range 20 Hz to 20,000 Hz. However, the upper frequency limit gradually reduces as a person gets older.

Glossary of Terms

When a noise level is constant and does not fluctuate over time, it can be described adequately by measuring the dB(A) level. However, when the noise level varies with time, the measured dB(A) level will vary as well. In this case it is therefore not possible to represent the noise climate with a simple dB(A) value. In order to describe noise where the level is continuously varying, a number of other indices, including statistical parameters, are used. The indices used in this report are described below.

L_{Aeq} The A-weighted 'equivalent continuous noise level' which is an average of the total sound energy measured over a specified time period. In other words, L_{Aeq} is the level of a continuous noise which has the same total (A-weighted) energy as the real fluctuating noise, measured over the same time period. It is increasingly being used as the preferred parameter for all forms of environmental noise.

L_{Amax} The maximum A-weighted noise level that was recorded during the monitoring period.

L_{A10} The A-weighted noise level exceeded for 10% of the time period. L_{A10} is commonly used as a descriptor of road traffic noise.

L_{A90} The A-weighted noise level exceeded for 90% of the time period. L_{A90} is used as a measure of background noise.

SEL or L_{AE} Sound exposure level which is the level of sound of 1 second duration, that has the same sound energy as the actual noise event considered.

R_w Weighted sound reduction index. Single number quantity which characterises the airborne sound insulating properties of a material or building element over a range of frequencies as measured in a laboratory.

D_{nT,w} Weighted standardised level difference. Single number quantity that characterises the airborne sound insulation between rooms. This can only be tested and determined *in situ*.

L'_{nT,w} Weighted standardised impact sound pressure level. Single number quantity used to characterise the impact sound insulation of floors over a range of frequencies. This can only be tested and determined *in situ*.

C_{tr} Correction term applied against the sound insulation single-number values to provide a weighting against low frequency performance.

A-weighting

The human ear responds differently to different frequencies of sound. A-weighting is the method of adjusting measured sound pressure levels to take into account human hearing and our uneven frequency response. For example, an A-weighted Leq noise level of 95 dB can be written as either Leq of 95 dB(A) or LAeq of 95 dB.

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Appendix II – Noise survey results

Table A1: Location 1 – outside front elevation, dB

Start Time	LAeq	LAmaz	LA10	LA90	Start Time	LAeq	LAmaz	LA10	LA90	Start Time	LAeq	LAmaz	LA10	LA90
29/04/2026 14:31	71.2	89.7	73.6	65.3	30/04/2026 02:31	56.4	76.1	58.7	32.8	30/04/2026 14:31	71.4	86.5	73.8	65.7
29/04/2026 14:46	75.1	100.3	74.2	65.5	30/04/2026 02:46	60.8	82.6	60.9	32.4	30/04/2026 14:46	72.1	89.0	74.8	66.1
29/04/2026 15:01	71.0	85.9	73.9	65.7	30/04/2026 03:01	61.9	84.4	60.7	34.7	30/04/2026 15:01	72.6	94.1	75.2	65.8
29/04/2026 15:16	73.5	98.6	74.4	64.9	30/04/2026 03:16	63.1	82.0	63.1	34.2	30/04/2026 15:16	71.4	84.7	73.9	66.3
29/04/2026 15:31	71.0	82.4	73.8	64.1	30/04/2026 03:31	59.6	75.5	60.8	33.5	30/04/2026 15:31	74.6	101.3	75.1	67.3
29/04/2026 15:46	71.2	84.0	73.8	66.6	30/04/2026 03:46	62.0	85.6	62.2	34.2	30/04/2026 15:46	71.2	86.1	73.4	66.1
29/04/2026 16:01	70.7	88.6	73.3	65.1	30/04/2026 04:01	62.9	83.4	64.7	38.2	30/04/2026 16:01	70.7	96.1	72.7	66.5
29/04/2026 16:16	70.8	86.5	73.2	66.2	30/04/2026 04:16	63.9	82.7	66.1	35.3	30/04/2026 16:16	71.3	86.6	73.7	66.9
29/04/2026 16:31	72.4	93.9	74.7	66.9	30/04/2026 04:31	65.6	87.3	68.1	36.9	30/04/2026 16:31	75.0	104.0	73.9	67.0
29/04/2026 16:46	71.2	88.5	73.8	66.9	30/04/2026 04:46	64.2	78.6	69.2	42.4	30/04/2026 16:46	76.6	101.5	75.1	66.5
29/04/2026 17:01	70.5	87.5	72.8	66.3	30/04/2026 05:01	66.4	83.7	70.7	46.2	30/04/2026 17:01	70.4	83.3	72.7	66.3
29/04/2026 17:16	72.4	92.0	74.2	66.7	30/04/2026 05:16	68.6	86.6	72.8	45.9	30/04/2026 17:16	70.8	85.9	73.0	66.1
29/04/2026 17:31	79.1	103.1	74.3	66.2	30/04/2026 05:31	69.8	86.2	73.6	56.2	30/04/2026 17:31	72.3	96.1	74.6	66.3
29/04/2026 17:46	71.2	85.8	73.3	66.0	30/04/2026 05:46	71.3	90.0	74.0	54.9	30/04/2026 17:46	71.1	84.6	73.5	66.3
29/04/2026 18:01	71.9	89.8	73.8	66.3	30/04/2026 06:01	70.6	86.1	74.4	56.2	30/04/2026 18:01	72.2	97.3	73.5	65.4
29/04/2026 18:16	71.3	87.9	73.5	66.6	30/04/2026 06:16	72.0	91.2	75.4	57.7	30/04/2026 18:16	69.9	84.6	72.6	64.9
29/04/2026 18:31	71.4	90.3	73.8	65.4	30/04/2026 06:31	72.1	90.5	75.1	62.1	30/04/2026 18:31	72.7	91.2	74.4	64.6
29/04/2026 18:46	70.7	85.9	73.4	64.0	30/04/2026 06:46	73.5	89.2	76.6	65.3	30/04/2026 18:46	71.1	85.6	73.7	65.0
29/04/2026 19:01	70.9	89.0	73.0	64.3	30/04/2026 07:01	73.9	93.9	75.7	67.0	30/04/2026 19:01	69.8	87.0	72.3	63.0
29/04/2026 19:16	73.0	104.8	72.9	63.3	30/04/2026 07:16	74.5	94.8	76.4	67.7	30/04/2026 19:16	68.9	90.0	71.2	61.3
29/04/2026 19:31	69.1	84.5	72.0	60.9	30/04/2026 07:31	73.0	85.8	75.7	68.3	30/04/2026 19:31	68.0	84.8	71.1	60.5
29/04/2026 19:46	69.2	84.6	72.3	61.5	30/04/2026 07:46	72.2	86.7	74.9	67.6	30/04/2026 19:46	69.2	91.0	70.4	59.7
29/04/2026 20:01	69.1	84.6	72.4	59.7	30/04/2026 08:01	72.7	89.7	75.1	66.1	30/04/2026 20:01	74.7	100.6	70.8	60.9
29/04/2026 20:16	68.8	85.2	72.1	60.4	30/04/2026 08:16	71.3	84.9	73.8	66.0	30/04/2026 20:16	67.7	83.4	70.5	61.0
29/04/2026 20:31	68.0	85.5	71.4	57.9	30/04/2026 08:31	73.3	96.4	74.4	65.1	30/04/2026 20:31	69.9	93.0	71.6	61.0
29/04/2026 20:46	69.0	87.7	71.7	57.8	30/04/2026 08:46	72.1	87.3	75.0	65.9	30/04/2026 20:46	67.6	88.5	70.6	53.5
29/04/2026 21:01	68.6	83.4	72.2	57.3	30/04/2026 09:01	72.2	92.9	74.4	66.3	30/04/2026 21:01	63.6	80.9	67.1	52.4
29/04/2026 21:16	68.7	82.2	72.3	56.8	30/04/2026 09:16	71.9	86.5	74.7	66.8	30/04/2026 21:16	66.3	88.0	68.6	52.5
29/04/2026 21:31	68.7	83.4	72.5	56.5	30/04/2026 09:31	74.2	101.7	75.0	65.7	30/04/2026 21:31	66.7	87.0	68.7	53.1
29/04/2026 21:46	67.1	87.5	70.9	52.5	30/04/2026 09:46	71.3	84.1	73.9	65.5	30/04/2026 21:46	65.3	85.6	68.1	53.6
29/04/2026 22:01	69.5	92.9	71.4	56.8	30/04/2026 10:01	75.4	102.1	75.2	66.6	30/04/2026 22:01	66.8	83.3	70.1	53.3
29/04/2026 22:16	67.4	84.8	71.1	52.3	30/04/2026 10:16	73.0	97.8	74.2	66.4	30/04/2026 22:16	64.1	87.9	65.7	52.2
29/04/2026 22:31	66.8	82.7	70.8	47.1	30/04/2026 10:31	71.3	86.6	74.2	66.3	30/04/2026 22:31	66.0	84.5	68.7	51.5
29/04/2026 22:46	64.5	83.1	68.6	41.6	30/04/2026 10:46	72.0	83.7	75.2	66.0	30/04/2026 22:46	59.0	73.1	62.1	52.1
29/04/2026 23:01	65.4	82.7	69.7	46.3	30/04/2026 11:01	71.5	90.9	74.0	64.8	30/04/2026 23:01	65.7	83.0	69.9	52.9
29/04/2026 23:16	61.8	77.2	66.8	41.1	30/04/2026 11:16	71.9	91.9	74.5	65.9	30/04/2026 23:16	64.3	79.3	67.5	53.2
29/04/2026 23:31	64.8	89.4	67.8	41.2	30/04/2026 11:31	72.1	87.3	74.9	65.9	30/04/2026 23:31	60.8	82.5	64.3	41.2
29/04/2026 23:46	63.5	79.8	68.2	42.0	30/04/2026 11:46	73.4	90.0	75.8	66.9	30/04/2026 23:46	57.4	79.3	57.6	38.2
30/04/2026 00:01	59.9	79.9	62.5	40.7	30/04/2026 12:01	71.8	88.8	74.4	65.3	01/05/2026 00:01	61.4	83.8	61.4	38.9
30/04/2026 00:16	62.9	87.6	65.2	37.4	30/04/2026 12:16	73.7	91.8	76.2	67.0	01/05/2026 00:16	57.1	76.7	59.5	41.8
30/04/2026 00:31	57.5	74.5	60.5	35.0	30/04/2026 12:31	72.3	93.8	74.8	66.4	01/05/2026 00:31	58.7	80.8	60.6	41.1
30/04/2026 00:46	60.7	78.4	63.2	34.1	30/04/2026 12:46	72.7	93.2	74.8	66.4	01/05/2026 00:46	61.3	80.6	62.7	41.1
30/04/2026 01:01	62.1	82.2	64.4	35.3	30/04/2026 13:01	72.0	91.2	74.5	64.7	01/05/2026 01:01	61.5	85.4	63.7	37.3
30/04/2026 01:16	57.0	75.5	58.1	36.9	30/04/2026 13:16	72.7	89.9	75.1	66.2	01/05/2026 01:16	53.7	72.4	52.5	34.9
30/04/2026 01:31	61.0	79.4	60.5	33.7	30/04/2026 13:31	72.0	86.5	74.9	66.0	01/05/2026 01:31	62.6	85.7	61.5	36.3
30/04/2026 01:46	60.2	81.8	58.6	33.0	30/04/2026 13:46	72.0	88.7	74.7	66.4	01/05/2026 01:46	57.2	74.9	58.1	35.5
30/04/2026 02:01	60.8	80.4	60.9	32.0	30/04/2026 14:01	71.7	87.9	74.5	65.7	01/05/2026 02:01	63.1	85.4	56.3	36.1
30/04/2026 02:16	60.8	80.2	62.0	35.5	30/04/2026 14:16	72.9	93.2	74.6	66.7	01/05/2026 02:16	57.9	81.0	51.7	35.6

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Start Time	LAeq	LAmx	LA10	LA90	Start Time	LAeq	LAmx	LA10	LA90	Start Time	LAeq	LAmx	LA10	LA90
01/05/2026 02:31	56.6	76.8	53.4	31.8	01/05/2026 14:31	73.0	93.2	74.8	66.8	02/05/2026 02:31	62.1	81.7	65.0	37.6
01/05/2026 02:46	63.1	86.8	65.8	36.9	01/05/2026 14:46	71.8	88.7	74.5	66.4	02/05/2026 02:46	62.5	80.8	64.6	35.9
01/05/2026 03:01	61.8	86.6	60.5	36.5	01/05/2026 15:01	73.1	98.0	74.1	66.3	02/05/2026 03:01	60.8	81.4	60.9	33.3
01/05/2026 03:16	60.0	84.3	58.7	39.0	01/05/2026 15:16	72.3	84.3	74.9	67.5	02/05/2026 03:16	62.2	81.9	59.4	33.5
01/05/2026 03:31	62.5	86.0	64.8	40.5	01/05/2026 15:31	72.7	89.6	74.5	66.7	02/05/2026 03:31	64.3	85.5	65.7	34.5
01/05/2026 03:46	63.7	86.6	63.8	35.8	01/05/2026 15:46	71.1	88.3	73.4	66.4	02/05/2026 03:46	60.8	81.3	61.7	32.2
01/05/2026 04:01	61.8	81.3	62.9	34.0	01/05/2026 16:01	70.7	82.4	73.0	66.8	02/05/2026 04:01	64.2	86.0	63.5	33.3
01/05/2026 04:16	64.1	84.7	67.9	41.2	01/05/2026 16:16	71.8	89.2	74.0	67.1	02/05/2026 04:16	61.4	80.8	64.1	41.0
01/05/2026 04:31	65.2	84.6	68.3	38.2	01/05/2026 16:31	71.8	86.9	73.8	67.3	02/05/2026 04:31	62.4	80.8	65.0	36.9
01/05/2026 04:46	63.9	84.3	67.6	43.0	01/05/2026 16:46	71.0	84.9	73.2	65.6	02/05/2026 04:46	63.9	80.4	68.8	45.5
01/05/2026 05:01	66.4	83.6	70.7	42.9	01/05/2026 17:01	71.8	90.6	73.4	65.9	02/05/2026 05:01	65.2	87.2	68.4	44.3
01/05/2026 05:16	68.0	86.6	71.9	45.2	01/05/2026 17:16	70.8	87.2	73.4	65.8	02/05/2026 05:16	67.6	88.4	69.8	47.7
01/05/2026 05:31	67.4	82.8	71.6	48.8	01/05/2026 17:31	71.2	85.1	73.6	65.4	02/05/2026 05:31	67.4	90.9	70.6	46.3
01/05/2026 05:46	70.3	88.7	74.0	49.2	01/05/2026 17:46	70.7	89.6	72.7	65.3	02/05/2026 05:46	67.0	84.6	70.9	43.8
01/05/2026 06:01	71.0	85.1	75.0	57.1	01/05/2026 18:01	70.7	87.8	73.1	65.8	02/05/2026 06:01	68.3	88.2	71.0	47.2
01/05/2026 06:16	71.0	86.9	74.1	59.8	01/05/2026 18:16	72.5	96.5	74.0	66.4	02/05/2026 06:16	66.7	81.0	71.3	48.6
01/05/2026 06:31	72.3	87.1	75.7	61.9	01/05/2026 18:31	71.2	84.6	73.8	65.1	02/05/2026 06:31	68.9	88.4	72.4	50.2
01/05/2026 06:46	72.0	86.1	75.1	63.6	01/05/2026 18:46	70.5	83.7	73.1	64.6	02/05/2026 06:46	67.8	86.2	71.8	49.2
01/05/2026 07:01	73.0	86.2	76.2	65.5	01/05/2026 19:01	71.1	92.1	73.8	64.9	02/05/2026 07:01	68.3	85.4	72.6	50.3
01/05/2026 07:16	72.8	92.4	75.2	67.0	01/05/2026 19:16	73.9	101.7	74.1	65.0	02/05/2026 07:16	74.5	101.6	73.5	54.8
01/05/2026 07:31	73.2	91.3	75.2	66.4	01/05/2026 19:31	71.4	87.4	73.9	63.2	02/05/2026 07:31	69.9	87.1	73.2	58.4
01/05/2026 07:46	72.7	88.7	75.3	67.2	01/05/2026 19:46	70.6	83.7	73.4	63.6	02/05/2026 07:46	71.6	93.8	73.8	58.3
01/05/2026 08:01	74.1	99.1	75.4	67.2	01/05/2026 20:01	69.5	86.9	72.6	61.5	02/05/2026 08:01	70.5	86.3	73.7	59.4
01/05/2026 08:16	72.2	87.0	74.7	67.1	01/05/2026 20:16	69.0	87.7	72.1	61.7	02/05/2026 08:16	71.6	89.0	74.4	62.3
01/05/2026 08:31	72.3	87.6	74.9	66.3	01/05/2026 20:31	69.0	90.0	71.7	58.9	02/05/2026 08:31	69.9	84.9	73.1	62.2
01/05/2026 08:46	72.7	87.2	75.1	66.8	01/05/2026 20:46	68.1	83.3	71.4	56.8	02/05/2026 08:46	69.8	83.1	72.6	63.9
01/05/2026 09:01	72.5	84.3	75.4	66.5	01/05/2026 21:01	71.3	95.9	72.6	58.9	02/05/2026 09:01	70.9	91.4	72.8	62.9
01/05/2026 09:16	72.8	88.4	75.7	66.8	01/05/2026 21:16	70.7	88.3	72.9	56.8	02/05/2026 09:16	70.4	85.7	73.2	64.5
01/05/2026 09:31	73.3	93.0	75.5	67.4	01/05/2026 21:31	69.9	92.3	72.8	55.3	02/05/2026 09:31	71.3	84.0	74.1	64.8
01/05/2026 09:46	72.0	90.3	74.4	65.0	01/05/2026 21:46	68.5	88.7	71.7	54.7	02/05/2026 09:46	71.5	85.2	73.7	66.1
01/05/2026 10:01	72.0	87.1	74.4	66.0	01/05/2026 22:01	67.9	81.6	71.9	53.1	02/05/2026 10:01	71.7	84.0	74.1	66.9
01/05/2026 10:16	73.0	93.2	74.8	65.8	01/05/2026 22:16	68.9	89.4	71.5	48.7	02/05/2026 10:16	72.1	93.2	73.2	66.3
01/05/2026 10:31	73.1	91.9	75.8	67.1	01/05/2026 22:31	67.8	86.3	71.6	48.9	02/05/2026 10:31	71.2	84.7	73.9	65.5
01/05/2026 10:46	72.5	91.2	74.6	66.4	01/05/2026 22:46	69.1	93.7	72.0	48.1	02/05/2026 10:46	71.3	85.2	73.6	66.3
01/05/2026 11:01	71.7	86.1	74.0	66.4	01/05/2026 23:01	65.7	78.7	70.5	47.8	02/05/2026 11:01	71.8	98.9	73.4	66.3
01/05/2026 11:16	72.3	87.3	75.5	66.6	01/05/2026 23:16	65.5	81.6	70.1	45.3	02/05/2026 11:16	72.0	92.7	74.0	65.9
01/05/2026 11:31	71.9	87.8	74.7	66.2	01/05/2026 23:31	66.4	91.7	69.6	41.9	02/05/2026 11:31	72.3	93.4	73.9	66.8
01/05/2026 11:46	72.9	94.7	74.6	66.2	01/05/2026 23:46	65.0	78.8	69.9	43.2	02/05/2026 11:46	73.0	95.6	74.2	65.8
01/05/2026 12:01	72.2	93.2	75.0	64.9	02/05/2026 00:01	66.9	84.0	70.9	45.0	02/05/2026 12:01	71.8	85.0	74.1	67.1
01/05/2026 12:16	71.6	85.8	74.2	65.8	02/05/2026 00:16	66.1	81.8	70.0	43.0	02/05/2026 12:16	71.6	85.9	73.7	66.1
01/05/2026 12:31	71.3	83.6	73.8	65.8	02/05/2026 00:31	66.1	90.4	68.4	43.3	02/05/2026 12:31	70.4	86.3	72.9	65.1
01/05/2026 12:46	72.3	90.5	74.6	66.8	02/05/2026 00:46	64.1	81.7	66.4	37.2	02/05/2026 12:46	70.5	85.4	73.0	65.3
01/05/2026 13:01	71.5	88.2	73.7	66.3	02/05/2026 01:01	65.1	90.0	66.3	33.1	02/05/2026 13:01	71.0	92.7	72.7	64.8
01/05/2026 13:16	72.4	86.8	75.2	66.4	02/05/2026 01:16	59.2	81.2	58.5	32.6	02/05/2026 13:16	79.5	108.3	74.1	65.9
01/05/2026 13:31	71.8	86.7	74.6	66.4	02/05/2026 01:31	62.0	77.8	66.2	39.7	02/05/2026 13:31	70.6	84.9	73.3	65.0
01/05/2026 13:46	72.6	90.9	75.4	66.4	02/05/2026 01:46	64.2	85.6	67.0	38.4	02/05/2026 13:46	71.2	90.4	73.2	65.5
01/05/2026 14:01	82.2	109.6	75.2	66.3	02/05/2026 02:01	61.4	84.7	61.8	33.7	02/05/2026 14:01	70.6	90.3	72.8	65.1
01/05/2026 14:16	72.9	90.0	75.0	67.6	02/05/2026 02:16	61.8	85.4	64.1	34.3	02/05/2026 14:16	70.4	89.5	72.7	65.9

Client:
Mr Alan Wong

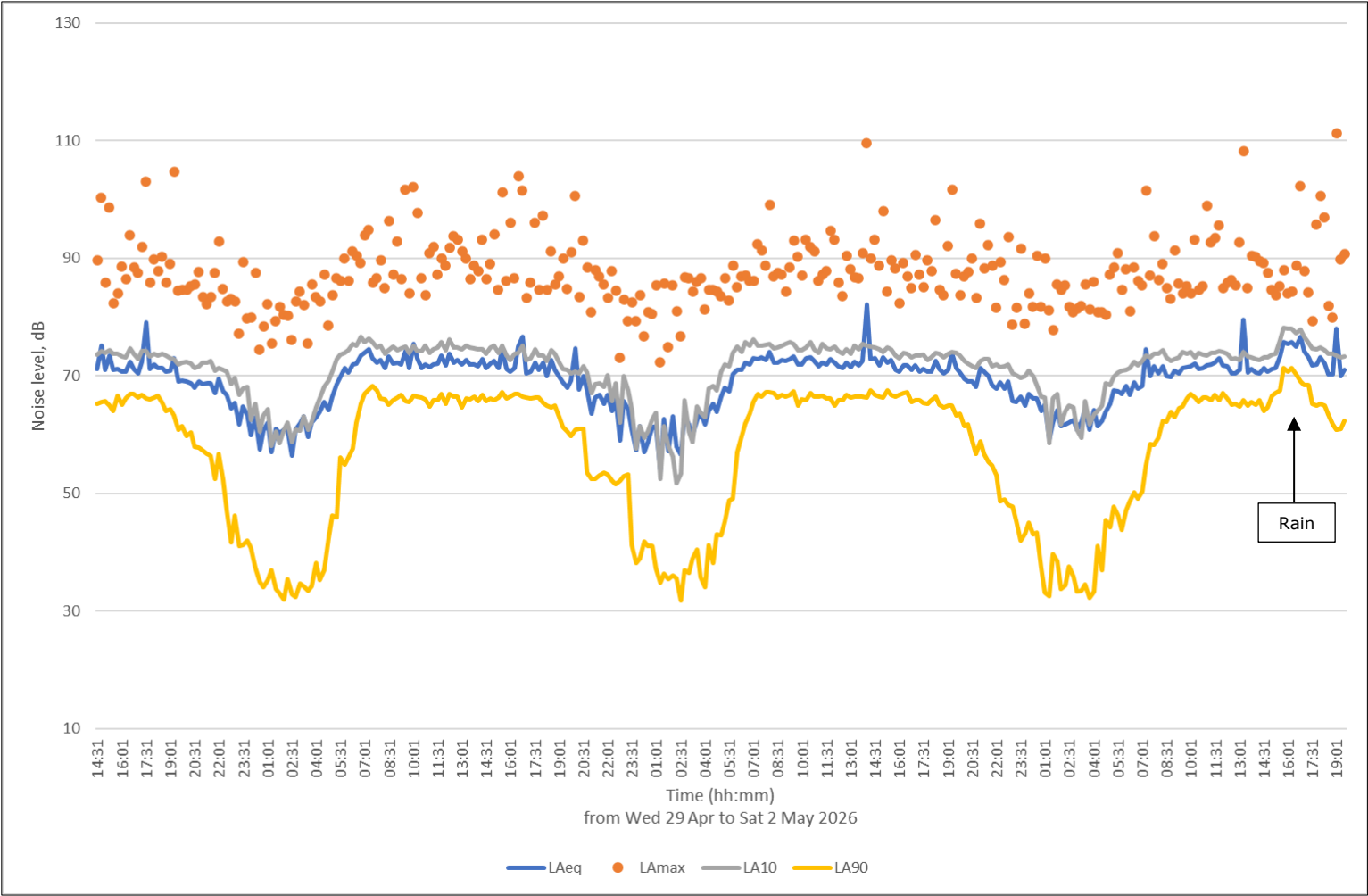
Site address:
34-36 Warminster Road, Westbury, BA13 3PE

Start Time	LAeq	LAmx	LA10	LA90
02/05/2026 14:31	71.4	89.2	73.2	64.0
02/05/2026 14:46	70.7	87.5	73.2	64.7
02/05/2026 15:01	71.2	84.6	73.6	66.6
02/05/2026 15:16	71.3	83.7	73.8	67.1
02/05/2026 15:31	73.3	85.3	76.1	67.6
02/05/2026 15:46	75.8	88.0	78.2	71.3
02/05/2026 16:01	75.5	84.1	78.0	70.7
02/05/2026 16:16	75.7	84.3	78.1	71.3
02/05/2026 16:31	75.0	88.7	77.2	70.3
02/05/2026 16:46	76.6	102.3	77.9	69.1
02/05/2026 17:01	74.3	87.8	76.7	68.5
02/05/2026 17:16	73.1	84.2	75.6	68.4
02/05/2026 17:31	71.8	79.4	74.7	65.3
02/05/2026 17:46	72.0	95.7	74.5	64.9
02/05/2026 18:01	73.1	100.6	74.8	65.2
02/05/2026 18:16	72.1	96.9	74.4	64.9
02/05/2026 18:31	70.3	81.9	73.7	63.4
02/05/2026 18:46	70.3	79.9	73.8	61.7
02/05/2026 19:01	78.0	111.3	73.5	60.8
02/05/2026 19:16	70.0	89.8	73.1	61.0
02/05/2026 19:31	71.1	90.8	73.3	62.3

Client:
Mr Alan Wong

Site address:
34-36 Warminster Road, Westbury, BA13 3PE

Chart A1: Location 1 – outside front elevation, dB



Client:
Mr Alan Wong

Site address:
34-36 Warminster Road, Westbury, BA13 3PE

Table A2: Various locations – manual survey, dB

Start Time	M-Time	LAeq	LAmx	LA10	LA90	Comments
02/05/2026 17:20	00d 00:05:00	63.6	81.3	65.1	61.3	Behind counter
02/05/2026 17:25	00d 00:05:00	66.2	84.5	67.4	61.7	Behind counter
02/05/2026 17:30	00d 00:05:00	65.5	84.0	66.8	61.7	Behind counter
02/05/2026 18:57	00d 00:05:00	65.6	79.1	68.3	61.6	Behind counter
	Mean	65.3	82.7	66.9	61.6	Behind counter
02/05/2026 18:22	00d 00:05:00	68.0	87.2	71.1	61.6	In customer area
02/05/2026 18:27	00d 00:05:00	67.4	80.7	70.4	61.9	In customer area
02/05/2026 18:32	00d 00:05:00	70.5	86.0	74.2	61.8	In customer area
02/05/2026 18:37	00d 00:05:00	66.0	82.1	69.0	58.8	In customer area
02/05/2026 19:35	00d 00:05:00	62.0	80.2	64.0	56.4	In customer area
	Mean	67.6	84.2	69.7	60.1	
02/05/2026 18:05	00d 00:05:00	67.2	80.2	70.5	60.7	In food preparation area
02/05/2026 17:43	00d 00:05:00	73.3	88.4	76.5	67.7	In kitchen
02/05/2026 17:54	00d 00:05:00	74.8	87.6	77.7	70.1	In kitchen
02/05/2026 18:00	00d 00:05:00	74.6	87.3	78.2	68.1	In kitchen
02/05/2026 18:45	00d 00:05:00	74.7	88.9	78.0	68.7	In kitchen
	Mean	74.4	88.1	77.6	68.7	In kitchen
29/04/2026 14:52	00d 00:15:00	52.4	72.3	54.7	44.3	Outside rear door
02/05/2026 18:50	00d 00:05:00	54.1	67.3	57.3	49.3	Outside rear door
02/05/2026 19:31	00d 00:00:08	54.9	57.9	55.8	54.1	Plant in side car park yard approx 4m lateral distance from side wall

Client:
Mr Alan Wong

Site address:
34-36 Warminster Road, Westbury, BA13 3PE

Appendix III – Noise break-in calculations for Unit 2

BS8233 Calculation of Noise Breakin
Includes 3 dB redundancy
V2007.WRM

Project Number: 0617.1: 34-36 Warminster Rd, Westbury
Description: Unit 2, Living Room
Floor: Ground
Period: Day
Consultant: Duncan Newhall

Term	Term Description	Value
S _f	Facade area (incl. window) (m ²)	7.8
S _w	Area of the windows (m ²)	1.9
S _c	Area of the ceiling (m ²)	0.0
S _{ew}	Area of the external wall (m ²)	5.9
S	Area of facade and roof	7.8
x	Room Dimension x	8.5
y	Room Dimension y	2.5
z	Room Dimension z	2.7
K	Facade correction	-3.0
r	Distance to window / vent (m)	1.20

SRI of ceiling/roof not present in calculation

Term	Value
L _{Amax}	-51.5
L _{Aeq}	32.1

Rev = 28.7

Octave Band Centre Frequency

63	125	250	500	1000	2000	4000	8000
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

RT [Receiving Room RT]

Term	Term Description	Value
L _{max}	Free-field L _{max} outside room	Enter the Octave Band L _{max} Data
L _{max}	Free-field L _{max} outside room	Enter the Octave Band L _{max} Data

D_{fa} Insulation of the trickle vent Ignore Trickle Vent 130 130 130 130 130 130 130 130 Draw = 130+

R_{wa} SRI of the window 4mm pane + 100mm air + 4:12:4 (Outside to Inside) 22 27 37 44 54 52 52 52 0

R_{ew} SRI of the external wall 260mm brick, 56mm cavity, outer faces 12mm plaster 28 34 34 40 56 73 76 78 0

R_{ro} SRI of roof/ceiling BS8233 Example 100 28 34 40 56 73 76 78 0

A Equivalent Absorption Area 0.161 f / RT 18 18 18 18 18 18 18 18 10 x log (4/R_e) -7 -7 -7 -7 -7 -7 -7 -7 Room radius (m) 0.61 0.61 0.61 0.61 0.61 0.61 0.61 0.61

L_{eq} - Reverberant

Term	Term Description	Octave Band Centre Frequency	A	NR
		63 125 250 500 1000 2000 4000 8000		
L _{eq,2}	Trickle Vent	-52 -55 -58 -62 -64 -71 -78	-57.2	####
	Glazing	40 41 28 16 8 7 0 -7	27.7	####
	Wall	48 39 35 26 10 -9 -20 -28	30.0	####
	Ceiling	-100 -100 -100 -100 -100 -100 -100 -100	-	-
	Total	52 43 36 26 12 7 0 -7	32.1	####

L_{max} - Direct 1.2 (m)

Term	Term Description	Octave Band Centre Frequency	A	NR
		63 125 250 500 1000 2000 4000 8000		
L _{eq,2}	Trickle Vent	-136 -136 -136 -136 -136 -136 -136 -136	####	####
	Glazing	-35 -40 -50 -57 -66 -65 -65 -65	-51.5	####
	Total	-35 -40 -50 -57 -66 -65 -65 -65	-51.5	####

L_{eq} - Direct 1.2 (m)

Term	Term Description	Octave Band Centre Frequency	A	NR
		63 125 250 500 1000 2000 4000 8000		
L _{eq,2}	Trickle Vent	-57 -61 -64 -68 -70 -77 -84	-63.1	####
	Glazing	43 35 22 10 2 1 -6 -13	21.8	####
	Total	43 35 22 11 2 1 -6 -13	21.8	####

L_{eq} - Direct + Reverberant 1.2 (m)

Term	Term Description	Octave Band Centre Frequency	A	NR
		63 125 250 500 1000 2000 4000 8000		
L _{eq,2}	Trickle Vent	-51 -54 -57 -61 -61 -63 -70 -77	-56.3	####
	Glazing	50 42 29 17 9 8 1 -6	28.7	####
	Total	50 42 29 17 9 8 1 -6	29	####

Unit 2 Living Room – DAY (Option 1)

BS8233 Calculation of Noise Breakin
Includes 3 dB redundancy
V2007.WRM

Project Number: 0617.1: 34-36 Warminster Rd, Westbury
Description: Unit 2, Living Room
Floor: Ground
Period: Day
Consultant: Duncan Newhall

Term	Term Description	Value
S _f	Facade area (incl. window) (m ²)	7.8
S _w	Area of the windows (m ²)	1.9
S _c	Area of the ceiling (m ²)	0.0
S _{ew}	Area of the external wall (m ²)	5.9
S	Area of facade and roof	7.8
x	Room Dimension x	8.5
y	Room Dimension y	2.5
z	Room Dimension z	2.7
K	Facade correction	-3.0
r	Distance to window / vent (m)	1.20

SRI of ceiling/roof not present in calculation

Term	Value
L _{Amax}	-48.9
L _{Aeq}	32.6

Rev = 30.0

Octave Band Centre Frequency

63	125	250	500	1000	2000	4000	8000
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

RT [Receiving Room RT]

Term	Term Description	Value
L _{max}	Free-field L _{max} outside room	Enter the Octave Band L _{max} Data
L _{max}	Free-field L _{max} outside room	Enter the Octave Band L _{max} Data

D_{fa} Insulation of the trickle vent Ignore Trickle Vent 130 130 130 130 130 130 130 130 Draw = 130+

R_{wa} SRI of the window 10mm/16mm argon/8.8mm Pilkington Optiphon laminated 23 28 31 42 45 50 58 58 Rev (C, D) = 44 (J, L) = 45

R_{ew} SRI of the external wall 260mm brick, 56mm cavity, outer faces 12mm plaster 28 34 34 40 56 73 76 78 0

R_{ro} SRI of roof/ceiling BS8233 Example 100 28 34 40 56 73 76 78 0

A Equivalent Absorption Area 0.161 f / RT 18 18 18 18 18 18 18 18 10 x log (4/R_e) -7 -7 -7 -7 -7 -7 -7 -7 Room radius (m) 0.61 0.61 0.61 0.61 0.61 0.61 0.61 0.61

L_{eq} - Reverberant

Term	Term Description	Octave Band Centre Frequency	A	NR
		63 125 250 500 1000 2000 4000 8000		
L _{eq,2}	Trickle Vent	-52 -55 -58 -62 -64 -71 -78	-57.2	####
	Glazing	48 40 34 19 16 9 -5 -13	29.1	####
	Wall	48 39 35 26 10 -9 -20 -28	30.0	####
	Ceiling	-100 -100 -100 -100 -100 -100 -100 -100	-	-
	Total	51 42 38 27 17 9 -6 -13	32.6	####

L_{max} - Direct 1.2 (m)

Term	Term Description	Octave Band Centre Frequency	A	NR
		63 125 250 500 1000 2000 4000 8000		
L _{eq,2}	Trickle Vent	-136 -136 -136 -136 -136 -136 -136 -136	####	####
	Glazing	-36 -41 -44 -55 -58 -63 -71 -71	-48.9	####
	Total	-36 -41 -44 -55 -58 -63 -71 -71	-48.9	####

L_{eq} - Direct 1.2 (m)

Term	Term Description	Octave Band Centre Frequency	A	NR
		63 125 250 500 1000 2000 4000 8000		
L _{eq,2}	Trickle Vent	-57 -61 -64 -68 -70 -77 -84	-63.1	####
	Glazing	42 34 28 13 10 3 -12 -19	23.1	####
	Total	42 34 28 13 10 3 -12 -19	23.1	####

L_{eq} - Direct + Reverberant 1.2 (m)

Term	Term Description	Octave Band Centre Frequency	A	NR
		63 125 250 500 1000 2000 4000 8000		
L _{eq,2}	Trickle Vent	-51 -54 -57 -61 -61 -63 -70 -77	-56.3	####
	Glazing	49 41 35 20 17 10 -5 -12	30.0	####
	Total	49 41 35 20 17 10 -5 -12	30	####

Unit 2 Living Room – Day (Option 2)

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Report 0617.1 rev 0

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Client:
Mr Alan Wong

Site address:
34-36 Warminster Road, Westbury, BA13 3PE

BS8233 Calculation of Noise Breakin

V2007.WRM

Includes 3 dB redundancy

Project Number: 0617.1: 34-36 Warminster Rd, Westbury

Description: Unit 2, Bedroom

Floor: Ground

Period: Day

Consultant: Duncan Newhall

Term	Term Description	Value
S _f	Facade area (incl. window) (m ²)	12.1
S _w	Area of the window (m ²)	4.1
S _c	Area of the ceiling (m ²)	0.0
S _{ew}	Area of the external wall (m ²)	8.0
S	Area of facade and roof	12.1
x	Room Dimension x	3.5
y	Room Dimension y	4.5
z	Room Dimension z	2.7
K	Facade correction	-3.0
r	Distance to window / vent (m)	1.20

SRI of ceiling/roof not present in calculation

L _{Amax}	-50.0
Rev	31.6
L _{Aeq}	34.9

Octave Band Centre Frequency									
63	125	250	500	1000	2000	4000	8000		
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		

Octave Band Centre Frequency									
63	125	250	500	1000	2000	4000	8000	A	NR
7									

L _{max}	Free-field L _{max} outside room	Enter the Octave Band L _{max} Data							
L _{eq,RT}	Free-field L _{eq} outside room	Enter the Octave Band L _{eq} Data	78.1	74.6	71.4	67.6	67.9	65.7	58.4

D _{0,8}	Insulation of the trickle vent	Ignore Trickle Vent	130	130	130	130	130	130	130	Drow = 130+
R _w	SRI of the window	6mm pane +100mm air + 4:12:4 (Outside to inside)	24	29	38	45	54	57	57	0
R _{ew}	SRI of the external wall	280mm brick, 56mm cavity, outer faces 12mm plaster	28	34	34	40	56	73	76	0
R _c	SRI of roof/ceiling	BS8233 Example	100	28	31	40	45	49	100	0
A	Equivalent Absorption Area	0.161 m ²	14	14	14	14	14	14	14	
		10 x log (4R _c)	-5	-5	-5	-5	-5	-5	-5	
		Room radius (m)	0.52	0.52	0.52	0.52	0.52	0.52	0.52	

L_{eq} - Reverberant

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-50	-54	-57	-61	-60	-63	-70	-77	-55.9	####		
	Glazing	52	44	31	20	12	6	-1	8	30.9	####		
	Wall	51	41	38	28	13	-7	-17	-26	32.7	####		
	Ceiling	-100	-100	-100	-100	-100	-100	-100	-100	-	-		
	Total	55	46	39	29	15	7	-1	-7	34.9	####		

L_{max} - Direct

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-136	-136	-136	-136	-136	-136	-136	-136	####	####		
	Glazing	-33	-38	-48	-55	-63	-67	-67	-67	-49.9	####		
	Total	-33	-38	-48	-55	-63	-67	-67	-67	-50.0	####		

L_{eq} - Direct

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-57	-61	-64	-68	-68	-70	-77	-84	-63.1	####		
	Glazing	45	37	24	13	5	-1	-8	-15	23.7	####		
	Total	45	37	24	13	5	-1	-8	-15	23.6	####		

L_{eq} - Direct + Reverberant

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-50	-53	-56	-60	-60	-62	-69	-76	-55.2	####		
	Glazing	53	45	32	21	13	7	0	-7	31.6	####		
	Total	53	45	32	21	13	7	0	-7	32	####		

Unit 2 Bedroom – DAY (Option 1)

BS8233 Calculation of Noise Breakin

V2007.WRM

Includes 3 dB redundancy

Project Number: 0617.1: 34-36 Warminster Rd, Westbury

Description: Unit 2, Bedroom

Floor: Ground

Period: Day

Consultant: Duncan Newhall

Term	Term Description	Value
S _f	Facade area (incl. window) (m ²)	12.1
S _w	Area of the window (m ²)	4.1
S _c	Area of the ceiling (m ²)	0.0
S _{ew}	Area of the external wall (m ²)	8.0
S	Area of facade and roof	12.1
x	Room Dimension x	3.5
y	Room Dimension y	4.5
z	Room Dimension z	2.7
K	Facade correction	-3.0
r	Distance to window / vent (m)	1.20

SRI of ceiling/roof not present in calculation

L _{Amax}	-47.8
Rev	32.8
L _{Aeq}	35.4

Octave Band Centre Frequency									
63	125	250	500	1000	2000	4000	8000		
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		

Octave Band Centre Frequency									
63	125	250	500	1000	2000	4000	8000	A	NR
7									

L _{max}	Free-field L _{max} outside room	Enter the Octave Band L _{max} Data							
L _{eq,RT}	Free-field L _{eq} outside room	Enter the Octave Band L _{eq} Data	78.1	74.6	71.4	67.6	67.9	65.7	58.4

D _{0,8}	Insulation of the trickle vent	Ignore Trickle Vent	130	130	130	130	130	130	130	Drow = 130+
R _w	SRI of the window	10mm/20mm argon/8.8mm Pilkington Optiphon laminated	23	28	36	43	47	49	58	Rev (C, D) + 40 (-2, -6)
R _{ew}	SRI of the external wall	280mm brick, 56mm cavity, outer faces 12mm plaster	28	34	34	40	56	73	76	0
R _c	SRI of roof/ceiling	BS8233 Example	100	28	31	40	45	49	100	0
A	Equivalent Absorption Area	0.161 m ²	14	14	14	14	14	14	14	
		10 x log (4R _c)	-5	-5	-5	-5	-5	-5	-5	
		Room radius (m)	0.52	0.52	0.52	0.52	0.52	0.52	0.52	

L_{eq} - Reverberant

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-50	-54	-57	-61	-60	-63	-70	-77	-55.9	####		
	Glazing	53	44	33	22	19	14	-2	-8	32.1	####		
	Wall	51	41	38	28	13	-7	-17	-26	32.7	####		
	Ceiling	-100	-100	-100	-100	-100	-100	-100	-100	-	-		
	Total	55	46	39	29	15	7	-2	-8	35.4	####		

L_{max} - Direct

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-136	-136	-136	-136	-136	-136	-136	-136	####	####		
	Glazing	-32	-37	-45	-52	-56	-58	-67	-67	-47.7	####		
	Total	-33	-38	-46	-53	-57	-59	-68	-68	-47.8	####		

L_{eq} - Direct

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-57	-61	-64	-68	-68	-70	-77	-84	-63.1	####		
	Glazing	46	37	26	15	11	7	-9	-16	24.9	####		
	Total	46	37	26	15	11	7	-9	-16	24.8	####		

L_{eq} - Direct + Reverberant

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-50	-53	-56	-60	-60	-62	-69	-76	-55.2	####		
	Glazing	54	45	34	23	19	15	-1	-8	32.5	####		
	Total	54	45	34	23	19	15	-1	-8	33	####		

Unit 2 Bedroom – Day (Option 2)

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Site address:
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BS8233 Calculation of Noise Breakin

V2007.WRM

Includes 3 dB redundancy

Project Number: 0617.1: 34-36 Warminster Rd, Westbury

Description: Unit 2, Bedroom

Floor: Ground

Period: Night

Consultant: Duncan Newhall

Term	Term Description	Value
S _f	Facade area (incl. window) (m ²)	12.1
S _w	Area of the window (m ²)	4.1
S _c	Area of the ceiling (m ²)	0.0
S _{ew}	Area of the external wall (m ²)	8.0
S	Area of facade and roof	12.1
x	Room Dimension x	3.5
y	Room Dimension y	4.5
z	Room Dimension z	2.7
K	Facade correction	-3.0
r	Distance to window / vent (m)	1.20

SRI of ceiling/roof not present in calculation

L _{Amax}	39.6
Rev	24.7
L _{Aeq}	28.5

Rev = Dir

Octave Band Centre Frequency									
63	125	250	500	1000	2000	4000	8000		
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		

RT Receiving Room RT

Octave Band Centre Frequency									
63	125	250	500	1000	2000	4000	8000	A	NR
93.1	91.5	85.7	84.1	81.1	78.6	75.4	69	87	####
L _{max}	Free-field L _{max} outside room							Enter the Octave Band L _{max} Data	
L _{eq,RT}	Free-field L _{eq} outside room							Enter the Octave Band L _{eq} Data	
70.7	67.2	66	62	62.8	58.3	52	45	67	####

D _{0,8}	Insulation of the trickle vent	Ignore Trickle Vent	130	130	130	130	130	130	130	Draw = 130+
R _w	SRI of the window	6mm pane +100mm air + 4:12:4 (Outside to inside)	24	29	38	45	54	57	57	0
R _{ew}	SRI of the external wall	280mm brick, 56mm cavity, outer faces 12mm plaster	28	34	34	40	56	73	76	0
R _r	SRI of roof/ceiling	BS8233 Example	100	25	34	40	45	45	100	0
A	Equivalent Absorption Area	0.161 m ²	14	14	14	14	14	14	14	14
		10 x log (4R _e)	-5	-5	-5	-5	-5	-5	-5	-5
		Room radius (m)	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52

L_{eq} - Reverberant

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-58	-61	-62	-66	-66	-70	-76	-83	-61.8	####		
	Glazing	-45	-36	-25	-15	7	-1	-7	-14	-24.0	####		
	Wall	-43	-34	-33	-23	7	-14	-23	-32	-26.7	####		
	Ceiling	-100	-100	-100	-100	-100	-100	-100	-100	-	-		
	Total	47	38	33	23	10	-1	-7	-14	28.5	####		

L_{max} - Direct

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-42	-44	-50	-51	-54	-57	-60	-67	-48.7	####		
	Glazing	-60	-53	-38	-30	18	12	0	2	-39.6	####		
	Total	60	53	38	30	18	12	9	2	39.6	####		

L_{eq} - Direct

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-65	-68	-70	-74	-73	-77	-84	-91	-65.1	####		
	Glazing	-38	-29	-19	7	0	-8	-15	-22	-16.7	####		
	Total	38	28	18	7	0	-8	-15	-22	16.7	####		

L_{eq} - Direct + Reverberant

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-57	-60	-62	-66	-65	-69	-76	-83	-61.1	####		
	Glazing	-46	-37	-26	-15	8	0	-7	-14	-24.7	####		
	Total	46	37	26	15	8	0	-7	-14	26	####		

Unit 2 Living Room – NIGHT (Option 1)

BS8233 Calculation of Noise Breakin

V2007.WRM

Includes 3 dB redundancy

Project Number: 0617.1: 34-36 Warminster Rd, Westbury

Description: Unit 2, Bedroom

Floor: Ground

Period: Night

Consultant: Duncan Newhall

Term	Term Description	Value
S _f	Facade area (incl. window) (m ²)	12.1
S _w	Area of the window (m ²)	4.1
S _c	Area of the ceiling (m ²)	0.0
S _{ew}	Area of the external wall (m ²)	8.0
S	Area of facade and roof	12.1
x	Room Dimension x	3.5
y	Room Dimension y	4.5
z	Room Dimension z	2.7
K	Facade correction	-3.0
r	Distance to window / vent (m)	1.20

SRI of ceiling/roof not present in calculation

L _{Amax}	40.6
Rev	26.1
L _{Aeq}	29.1

Rev = Dir

Octave Band Centre Frequency									
63	125	250	500	1000	2000	4000	8000		
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		

RT Receiving Room RT

Octave Band Centre Frequency									
63	125	250	500	1000	2000	4000	8000	A	NR
93.1	91.5	85.7	84.1	81.1	78.6	75.4	69	87	####
L _{max}	Free-field L _{max} outside room							Enter the Octave Band L _{max} Data	
L _{eq,RT}	Free-field L _{eq} outside room							Enter the Octave Band L _{eq} Data	
70.7	67.2	66	62	62.8	58.3	52	45	67	####

D _{0,8}	Insulation of the trickle vent	Ignore Trickle Vent	130	130	130	130	130	130	130	Draw = 130+
R _w	SRI of the window	10mm/20mm argon/8.8mm Pilkington Optiphon laminated	23	28	36	43	47	49	58	Rev (C, D) + 40 (-2, -6)
R _{ew}	SRI of the external wall	280mm brick, 56mm cavity, outer faces 12mm plaster	28	34	34	40	56	73	76	0
R _r	SRI of roof/ceiling	BS8233 Example	100	25	34	40	45	45	100	0
A	Equivalent Absorption Area	0.161 m ²	14	14	14	14	14	14	14	14
		10 x log (4R _e)	-5	-5	-5	-5	-5	-5	-5	-5
		Room radius (m)	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52

L_{eq} - Reverberant

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-58	-61	-62	-66	-66	-70	-76	-83	-61.8	####		
	Glazing	-45	-37	-28	-17	14	7	-8	-15	-25.4	####		
	Wall	-43	-34	-33	-23	7	-14	-23	-32	-26.7	####		
	Ceiling	-100	-100	-100	-100	-100	-100	-100	-100	-	-		
	Total	48	39	34	24	15	7	-8	-15	29.1	####		

L_{max} - Direct

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-42	-44	-50	-51	-54	-57	-60	-67	-48.7	####		
	Glazing	-61	-54	-40	-32	-25	-20	8	2	-40.6	####		
	Total	61	54	40	32	25	20	8	2	40.6	####		

L_{eq} - Direct

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-65	-68	-70	-74	-73	-77	-84	-91	-65.1	####		
	Glazing	-38	-30	-21	10	6	0	-15	-22	-18.1	####		
	Total	38	30	21	10	6	0	-15	-22	18.1	####		

L_{eq} - Direct + Reverberant

Term		Octave Band Centre Frequency										A	NR
		63	125	250	500	1000	2000	4000	8000				
L _{eq,2}	Trickle Vent	-57	-60	-62	-66	-65	-69	-76	-83	-61.1	####		
	Glazing	-46	-38	-29	-18	14	8	-8	-15	-26.1	####		
	Total	46	38	29	18	14	8	-8	-15	26	####		

Unit 2 Living Room – NIGHT (Option 2)

DKN Acoustics Ltd

Email: duncannewhall@aol.com

Tel: 07952 058776

www.dknacoustics.co.uk

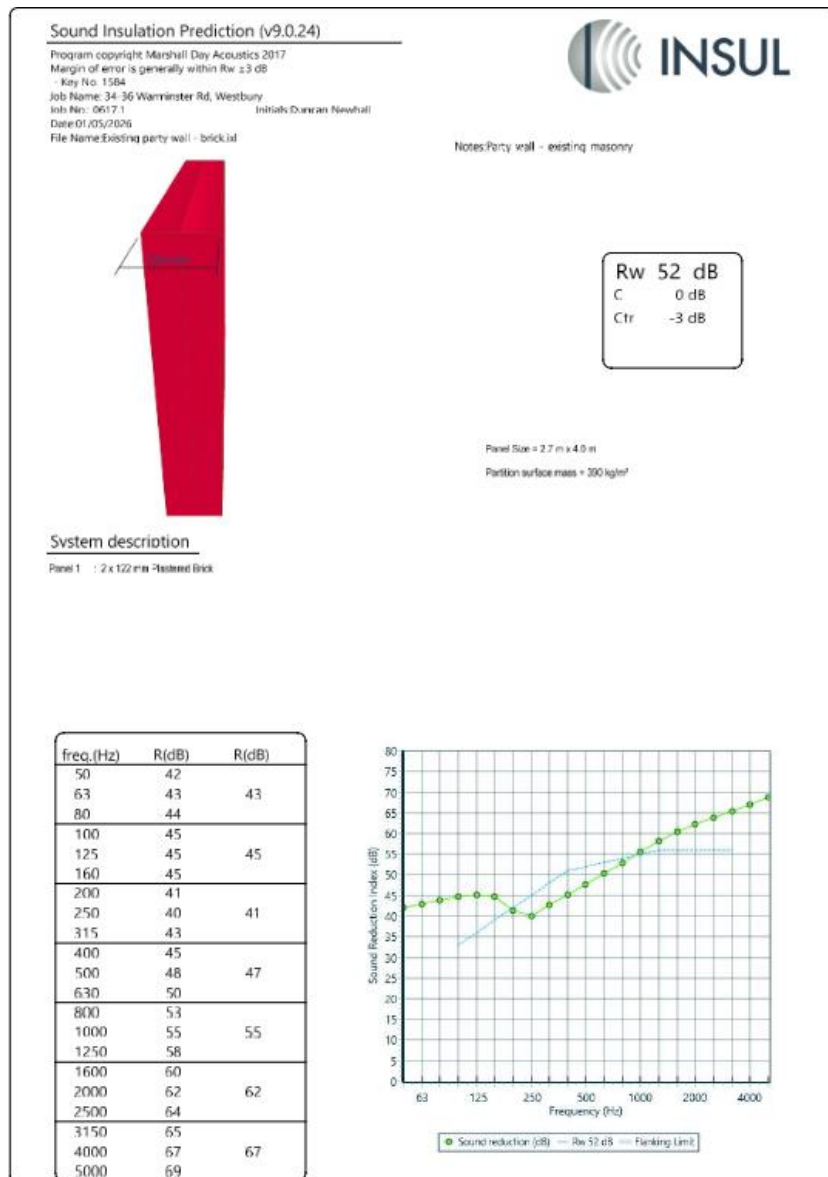
Report 0617.1 rev 0

Page 28 of 34

Client:
Mr Alan Wong

Site address:
34-36 Warminster Road, Westbury, BA13 3PE

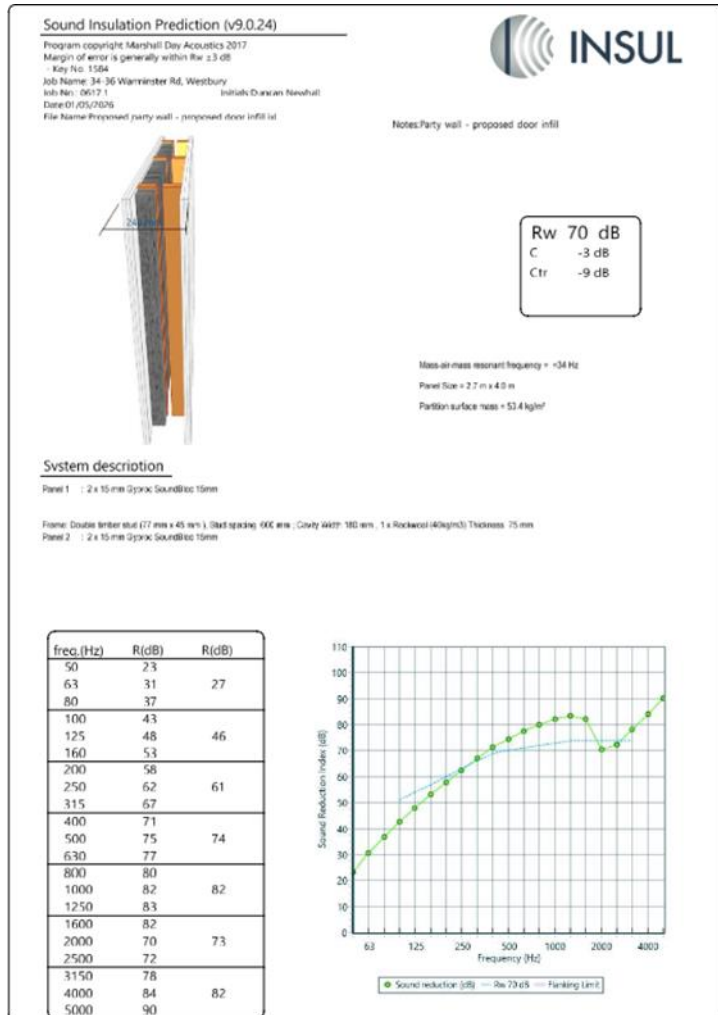
Appendix IV – Party wall – sound insulation INSUL predictions



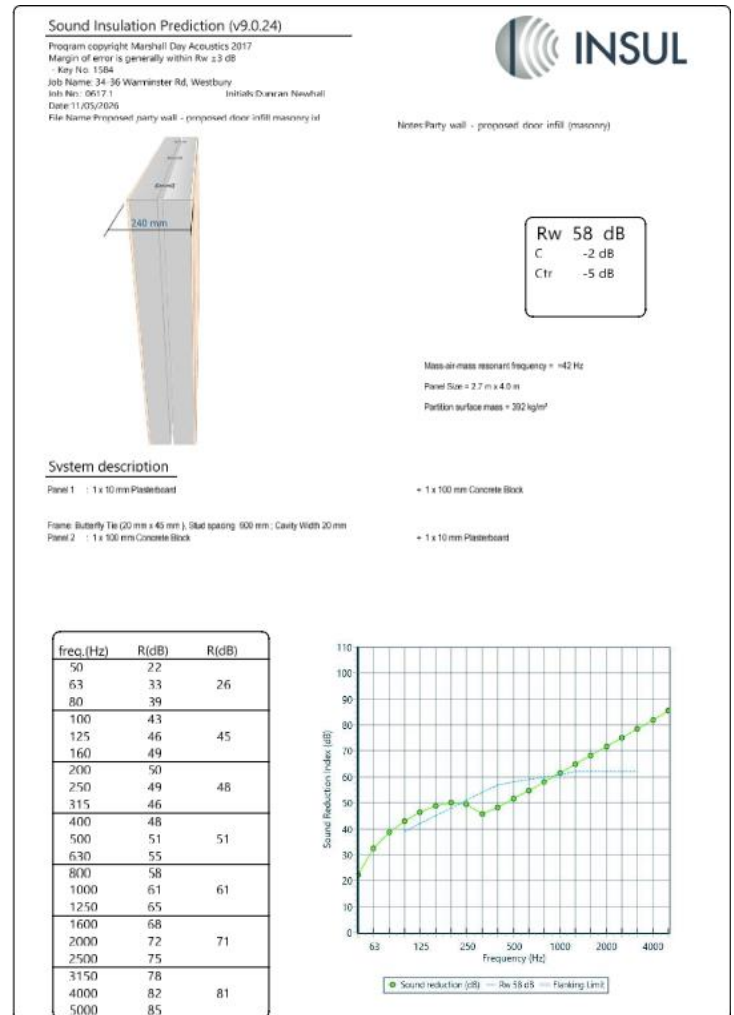
Existing party wall (assumed)

Client:
Mr Alan Wong

Site address:
34-36 Warminster Road, Westbury, BA13 3PE



Option 1: Proposed party wall (plasterboard)

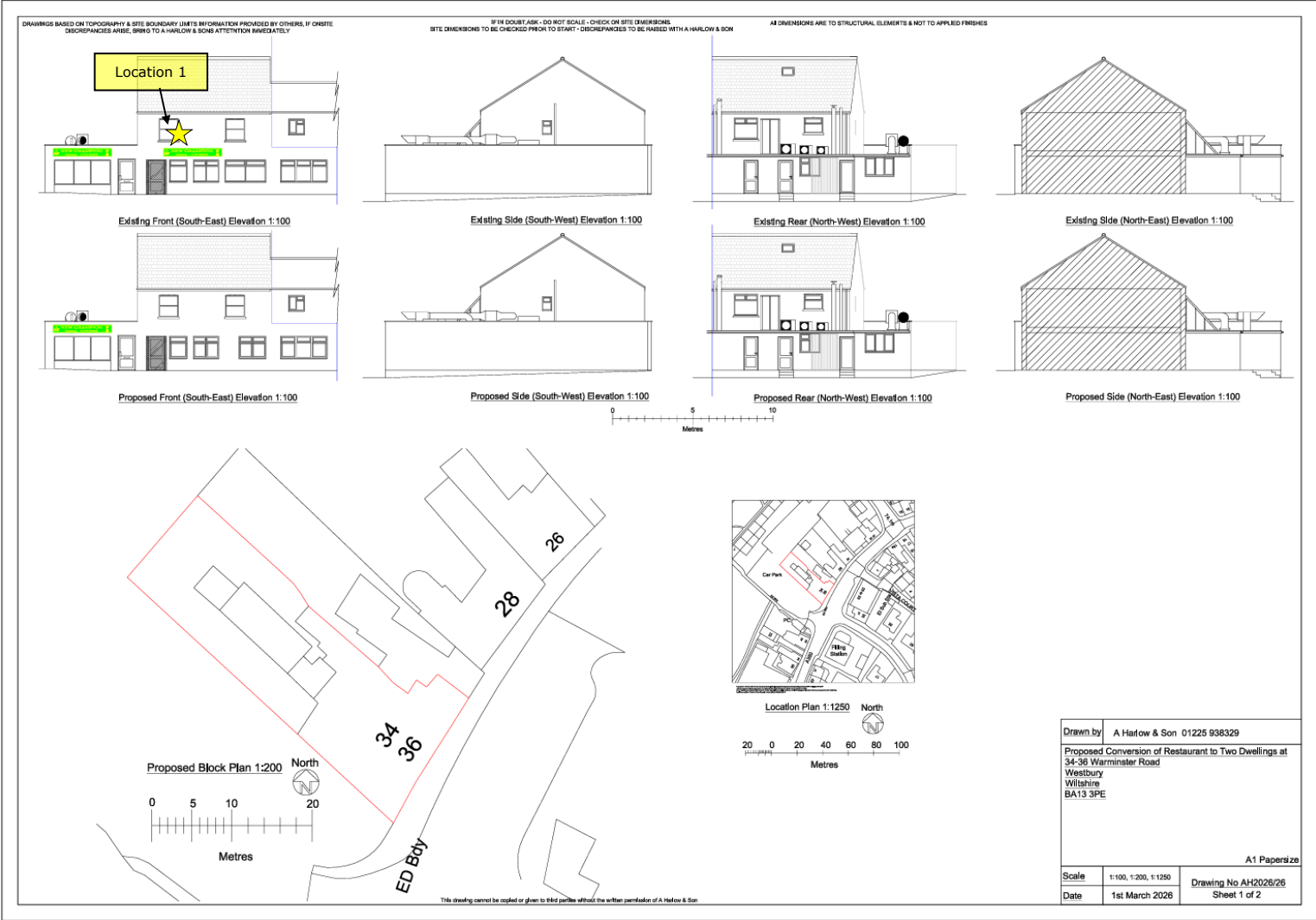


Option 2: Proposed party wall (masonry)

Client:
Mr Alan Wong

Site address:
34-36 Warminster Road, Westbury, BA13 3PE

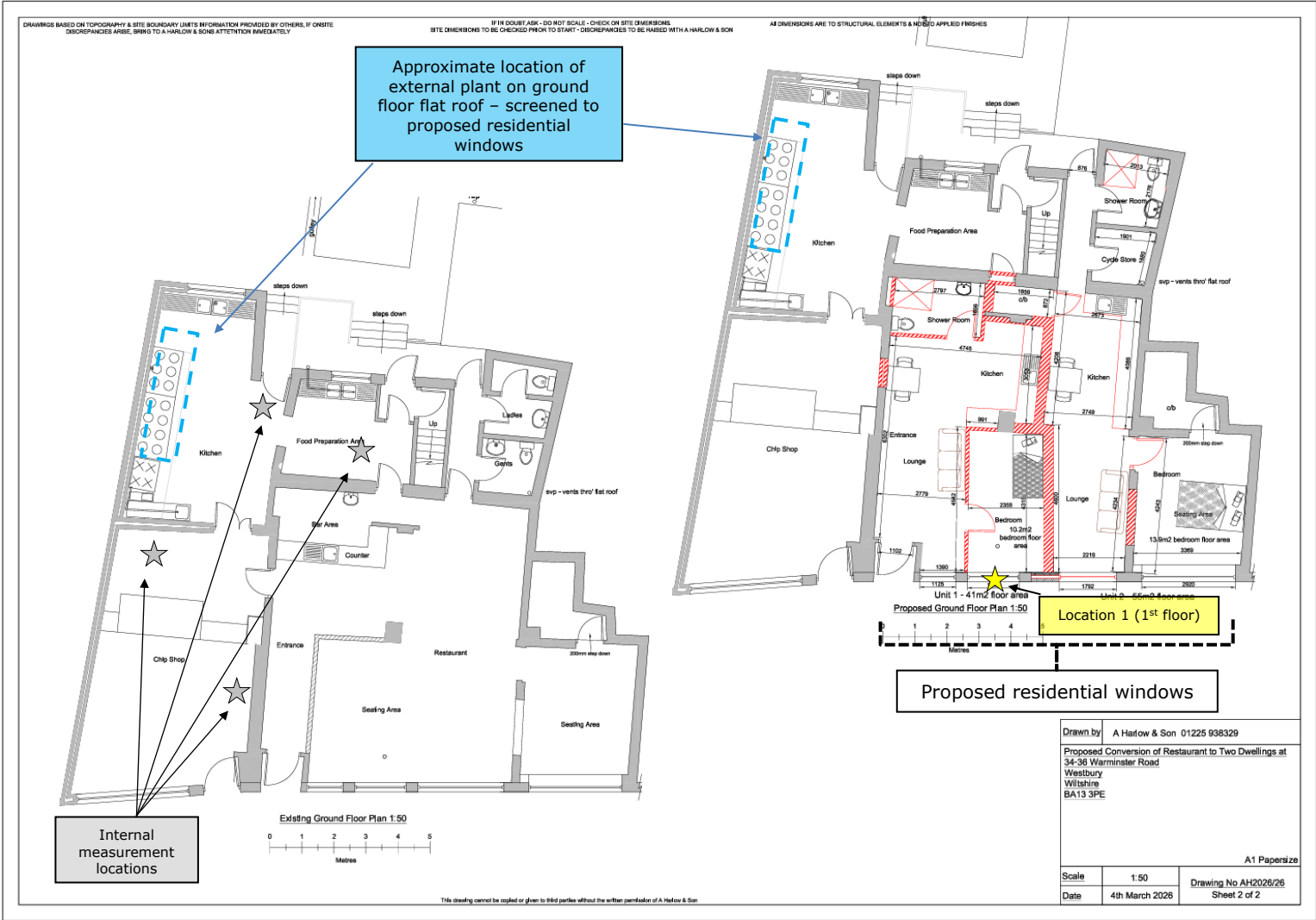
Figure 1 – Site location plan & elevations



Client:
Mr Alan Wong

Site address:
34-36 Warminster Road, Westbury, BA13 3PE

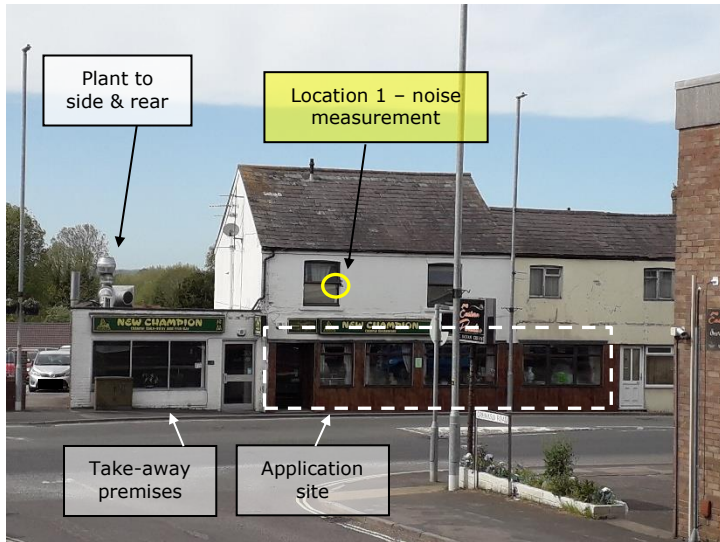
Figure 2 – Floor plans



Client:
Mr Alan Wong

Site address:
34-36 Warminster Road, Westbury, BA13 3PE

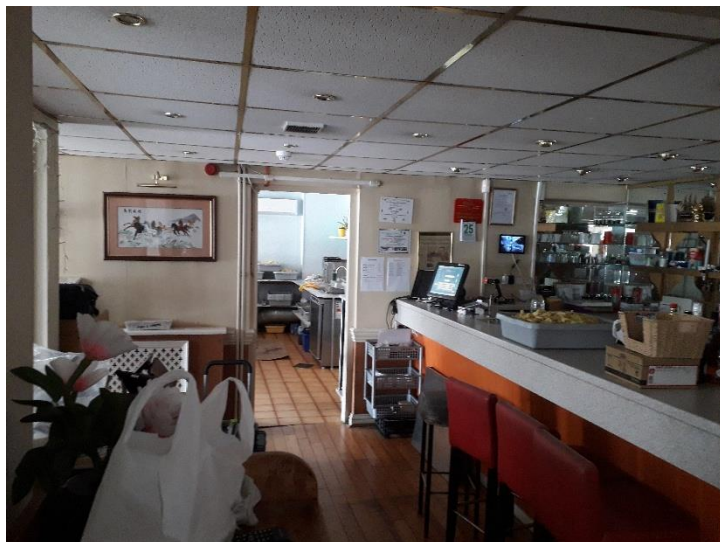
Figure 3 –Site photos



1. Front of site



2. Side (SW) of site



3. View to take-away customer area from application site



4. Application site – view to front elevation

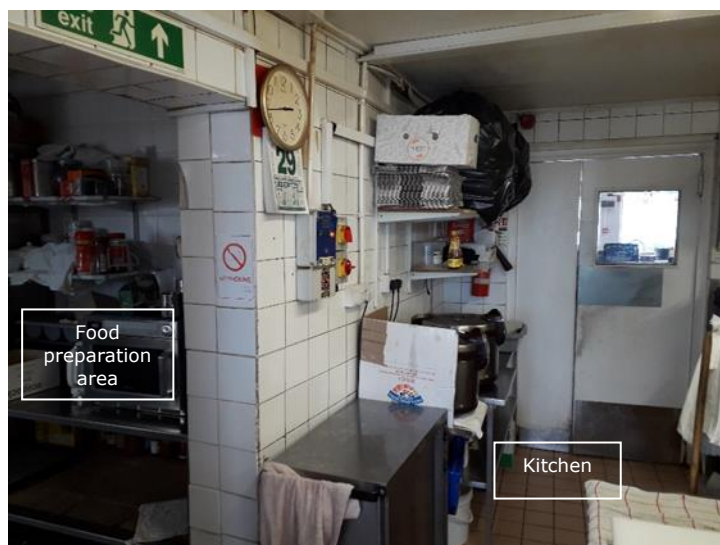
Client:
Mr Alan Wong

Site address:
34-36 Warminster Road, Westbury, BA13 3PE



Future party
wall to
application site

5. Take-away customer area



Food
preparation
area

Kitchen

6. Kitchen/food preparation area