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Noise Assessment, New-build apartments above restaurant, 457 Bradford Road, Batley, WF17 8LB

Noise Impact Assessment

For:
KMS Consultants & Associates Ltd

16th July 2025

Ref: NIA-12125-25-12397-vA Bradford Road, Batley
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Contents

1 Introduction

1.1 Overview

Environmental Noise Solutions Ltd (ENS) has been commissioned by KMS Consultants & Associates Ltd to undertake a noise survey and assessment (retrospective) for a proposed residential development at 457 Bradford Road, Batley, WF17 8LB (hereafter referred to as 'the site').

Planning permission (ref: 2018/62/90459/E) for the development was granted by Kirklees Council in April 2018 subject to conditions. Condition 9 and 10 relate to the control of noise as follows:

> *9. An Acoustic Report to specify how occupiers of the proposed residential flats shall be protected from noise from the proposed restaurant, road traffic noise from Bradford Road and noise from Batley Bus Station and other nearby noise sources shall be submitted to and approved in writing by the Local Planning Authority before works to commence the superstructure of the building commence. The report shall:*
> *(i) Determine the existing noise climate*
> *(ii) Predict the noise climate in gardens (daytime), bedrooms (night-time) and other habitable rooms of the development*
> *(iii) Detail the proposed attenuation/design necessary to protect the amenity of the occupants of the new residences (including ventilation if required).*
> *Thereafter the development shall be undertaken in accordance with the approved report and the approved mitigation measures shall be implemented prior to occupation of the apartments and thereafter retained.*
> *Reason: To protect future occupants of the residential development from elevated levels of noise from the proposed restaurant, road traffic from Bradford Road, noise from Batley Bus Station and other nearby noise sources and to accord with Policies D2 and EP4 of the Kirklees Unitary Development Plan and Chapter 11 of the National Planning Policy Framework.*
>
> *10. A ventilation scheme to show how habitable rooms of the apartments hereby approved shall be ventilated without the need to open windows shall be submitted to and approved in writing by the Local Planning Authority before works to commence the superstructure of the building commence. Thereafter all works which form part of the approved scheme shall be completed prior to occupation of the apartments and be retained and maintained in accordance with the manufacturer's instructions.*
> *Reason: To protect future occupants of the residential development from elevated levels of noise from the proposed restaurant, road traffic from Bradford Road, noise from Batley Bus Station and other nearby noise sources and to accord with Policies D2 and EP4 of the Kirklees Unitary Development Plan and Chapter 11 of the National Planning Policy Framework.*

The objectives of the noise impact assessment were therefore to:

- Determine current external noise levels at the site
- Assess the potential impact of the external noise climate and restaurant on the proposed residential development with reference to Condition 9 and 10 of Planning Permission ref: 2018/62/90459E
- Provide recommendations for a scheme of sound attenuation works, as necessary, to protect future occupants of the proposed residential development from a loss of amenity due to noise

This report details the methodology and results of the assessment and provides recommendations for the building envelope (fenestration and ventilation). It has been prepared to support an application to discharge Planning Conditions 9 and 10 of Planning Permission ref: 2018/62/90459/E.

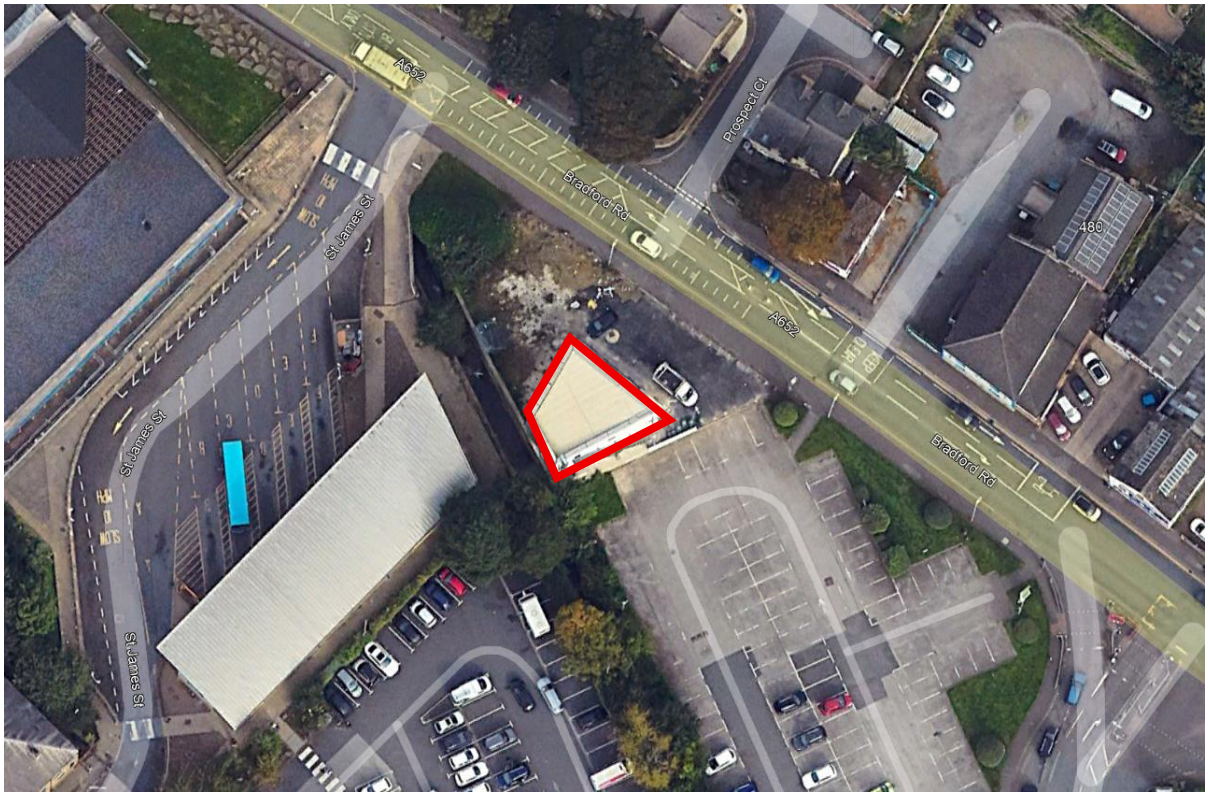
The report has been prepared for KMS Consultants & Associates Ltd for the sole purpose described above and no extended duty of care to any third party is implied or offered. Third parties referring to the report should consult KMS Consultants & Associates Ltd and ENS as to the extent to which the findings may be appropriate for their use.

A glossary of acoustic terms used in the main body of the text is contained in Appendix 1.

1.2 Site Description

The site is located at 457 Bradford Road, Batley, WF17 8LB, in an urban setting within the town of Batley, as shown (highlighted in red) in Figure 1.1.

Figure 1.1: Location of Proposed Development



The ambient noise climate at the site is controlled by road traffic on Bradford Road and the surrounding road network. Low-level, intermittent noise was observed by the survey engineer emanating from Batley Bus Station, located to the rear of the site, this was noted not to be significant.

The development consists of a restaurant at ground and first floor, with 2 no. Airbnb apartments at second floor, along with associated car parking facilities.

2 Policy Context and Assessment Guidance

2.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF)[1] was updated in February 2025 and sets out the Government's planning policies for England and how these are expected to be applied.

Where issues of noise impact are concerned the NPPF provides brief guidance in paragraph 187 where it states that planning policies and decisions should contribute to and enhance the natural and local environment by:

'preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of…..noise pollution'.

Paragraph 198 advises that:

'Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should…..mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life'.

With regard to extant community noise sources and the potential to affect proposed new developments, Paragraph 200 states that:

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

The NPPF also refers to the 2010 DEFRA publication, the Noise Policy Statement for England (NPSE) which reinforces and supplements the NPPF.

1 National Planning Policy Framework. Ministry of Housing, Communities and Local Government (2021)

2.2 Noise Policy Statement for England

The Noise Policy Statement for England[2] (NPSE) sets out the long-term vision of promoting good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development. This long-term vision is supported by the following aims:

- Avoid significant adverse impacts on health and quality of life
- Mitigate and minimise adverse impacts on health and quality of life
- Where possible, contribute to the improvement of health and quality of life

The NPSE describes the following levels at which noise impacts may be identified:

- NOEL – No Observed Effect Level. This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise
- LOAEL – Lowest Observed Adverse Effect Level. This is the level above which adverse effects on health and quality of life can be detected
- SOAEL – Significant Observed Adverse Effect Level. This is the level above which significant adverse effects on health and quality of life occur

According to the explanatory notes in the statement, where a noise level falls between the lowest observable adverse effect level (LOAEL) and a level which represents a significant observable adverse effect level (SOAEL):

'….all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life whilst also taking into consideration the guiding principles of sustainable development. This does not mean that such effects cannot occur.'

2.3 Planning Practice Guidance on Noise

Planning Practice Guidance[3] (PPG) is an online resource which provides additional guidance and elaboration on the NPPF. It advises that the Local Planning Authority should consider the acoustic environment in relation to:

- Whether or not a significant adverse effect is occurring or likely to occur
- Whether or not an adverse effect is occurring or likely to occur
- Whether or not a good standard of amenity can be achieved

In line with the Explanatory Note of the NPSE, the PPG references the LOAEL and SOAEL in relation to noise impact. It also provides examples of outcomes that could be expected for a given perception level of noise, plus actions that may be required to bring about a desired outcome. However, in line with the NPSE, no objective noise levels are provided for LOAEL or SOAEL.

The PPG also provides general advice on the typical options available for mitigating noise, suggesting that Local Plans may include noise standards applicable to proposed developments within the Local Authority's administrative boundary, although it states that:

'Care should be taken, however, to avoid these being implemented as fixed thresholds as specific circumstances may justify some variation being allowed'.

The subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation. The following guidance documents provide some meaningful context.

2 Government Department for Environment, Food and Rural Affairs. Noise Policy Statement for England. March 2010.
3 Planning Practice Guidance on Noise: http://planningguidance.planningportal.gov.uk/blog/guidance/noise/

2.4 ProPG Planning and Noise: New Residential Development

ProPG Planning and Noise: New Residential Development (ProPG)[4] was published in 2017 by the Association of Noise Consultants, Institute of Acoustics and the Chartered Institute of Environmental Health.

Stage 2: Element 2 of ProPG sets indoor ambient noise levels for residential dwellings based on the guidance contained in British Standard 8233:2014 'Guidance on Sound Insulation and Noise Reduction for Buildings' (BS 8233), see Table 2.1.

Table 2.1: Indoor Ambient Noise Levels in Dwellings

Activity	Location	Indoor Ambient Noise Levels	
Resting	Living Room	35 dB $L_{Aeq\ (0700\text{-}2300)}$	-
Dining	Dining Room/Area	40 dB $L_{Aeq\ (0700\text{-}2300)}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq\ (0700\text{-}2300)}$	30 dB $L_{Aeq\ (2300\text{-}0700)}$ 45 dB $L_{AFmax\ (2300\text{-}0700)}$

Note 4 to the above table states:

'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.'

Note 5 to the above table states:

'Where it is not possible to meet internal target levels with windows open, internal noise levels can be assessed with windows closed, however any façade openings used to provide whole dwelling ventilation (e.g. trickle ventilators) should be assessed in the "open" position and, in this scenario, the internal L_{Aeq} target levels should not normally be exceeded, subject to the further advice in Note 7'.

This is consistent with the guidance contained within the PPG, which states that:

'... consideration should also be given to whether adverse internal effects can be completely removed by closing windows and, in the case of new residential development, if the proposed mitigation relies on windows being kept closed most of the time. In both cases a suitable alternative means of ventilation is likely to be necessary. Further information on ventilation can be found in the Building Regulations'.

On the basis of the above, the following criteria (with windows closed and an alternative means of ventilation provided) are considered appropriate for the proposed development and considered to represent good resting and sleeping conditions:

- ≤ 35 dB $L_{Aeq\ (0700\text{-}2300)}$ in habitable rooms during the daytime
- ≤ 30 dB $L_{Aeq\ (2300\text{-}0700)}$ in bedrooms during the night-time
- 45 dB L_{AFMax} not regularly exceeded in bedrooms during the night-time

4 'ProPG Planning and Noise: New Residential Development (ProPG)', 2017. Association of Noise Consultants (ANC), Institute of Acoustics (IOA) and the Chartered Institute of Environmental Health (CIEH)

3 Noise Survey

3.1 Overview

In order to determine the noise levels at the site, noise monitoring was carried out on Thursday 19th June through to Friday 2025.

The following monitoring locations were adopted:

- MP1 was located externally 1m from the north-eastern façade
- MP2 was located externally 1m from the south-western facade

Noise measurements were undertaken using NTi XL3 and Brüel & Kjaer 2250 Type 1 integrating sound level meters. Each meter was connected to a windshield covered microphone positioned at the locations detailed above. The measurement system calibration was verified immediately before and after the survey period using a Brüel & Kjaer Type 4231 calibrator. No drift in calibration levels greater than 0.5 dB was noted.

Measurements consisted of A–weighted broadband parameters including L_{Aeq}, L_{A10} L_{A90}, and L_{AFmax} together with linear octave band data.

The noted weather conditions during the survey were dry with wind speeds < 5 m/s. Weather conditions were therefore considered appropriate for noise monitoring.

3.2 Summary

The ambient noise environment in the vicinity of the development was controlled by road traffic on Bradford Road, and distant road traffic on the surrounding road network.

Table 3.1 contains a summary of the measurement data for each measurement session, rounded to the nearest decibel. As noise measurements were made at 1 metre from the existing building façade, a –3 decibel façade enhancement correction has been applied to the measured levels in order to establish the free field level.

Table 3.1: Summary of Noise Measurement Data

Position	Date	Time	L_{Aeq} (dB)	L_{A90} (dB)	L_{A10} (dB)	L_{AFMax} (dB)	Comment
MP1	19/06/2025	1200-2300	63	57	66	-	Vehicles along Bradford Road and the surrounding road network
	19-20/06/2025	2300-0700	59	38	64	74	
	20/06/2025	0700-1000	63	57	66	-	
MP2	19/06/2025	1215-2300	57	55	60	-	
	19-20/06/2025	2300-0700	53	45	58	70	
	20/06/2025	0700-1240	57	52	60	-	
*11th *highest maximum noise level event during the night-time*							

3.3 Analysis

The noise environment at the site was controlled by road traffic Bradford Road and the surrounding road network. It should be noted that no significant noise from Batley Bus Station was noted throughout the course of the survey. Consultation with Arriva confirms the last departure from the station at 2305. Asda supermarket is situated circa 80 metres to the south, with occasional, faint noise from vehicles using the car park being perceptible at the development site.

Daytime and night-time ambient noise levels at MP1 were circa **63 dB $L_{Aeq\ (0700\text{-}2300)}$** and **59 dB $L_{Aeq\ (2300\text{-}0700)}$** respectively, with an 11th highest maximum noise level of up to **74 dB L_{AFMax}** during the night-time.

Daytime and night-time ambient noise levels at MP2 were circa **57 dB $L_{Aeq\ (0700\text{-}2300)}$** and **53 dB $L_{Aeq\ (2300\text{-}0700)}$** respectively, with an 11th highest maximum noise level of up to **70 dB L_{AFMax}** during the night-time.

4 Noise Assessment

4.1 Design Noise Levels

Design noise levels for apartments fronting onto Bradford Road are as follows:

- **≤ 63 dB $L_{Aeq\ (0700\text{-}2300)}$** during the daytime
- **≤ 59 dB $L_{Aeq\ (2300\text{-}0700)}$** during the night-time
- **≤ 74 dB L_{AFMax}** during the night-time

Design noise levels for apartments fronting to the rear are as follows:

- **≤ 57 dB $L_{Aeq\ (0700\text{-}2300)}$** during the daytime
- **≤ 53 dB $L_{Aeq\ (2300\text{-}0700)}$** during the night-time
- **≤ 70 dB L_{AFMax}** during the night-time

4.2 Scheme of Sound Attenuation

In order to calculate the sound insulation requirements for habitable rooms at the development the Building Research Establishment (BRE) building envelope insulation calculation spreadsheet was used. This spreadsheet is based on the calculation methodology advocated in BS 8233. The spreadsheet allows input of external noise levels, room dimensions and reverberation time together with parameters for the various elements of the building envelope and calculates the internal noise level based on external noise level metric (L_{Aeq} and L_{AFMax} in this case).

(See Appendix 3 for glazing mark-up).

Habitable rooms facing Bradford Road should be fitted with standard thermal glazing rated at least **28 dB R_w+C_{tr}**, (such as 6 mm glass / 16-20 mm cavity / 4 mm glass) in conjunction with acoustic trickle vents rated at least **37 dB $D_{n,e,w}+C_{tr}$** per 5000 mm² EA (vent open) such as the Greenwood 5000 EAW AC1 (2 no. vents per bedroom and 3 no. vents per living/kitchen)

Apartments fronting to the rear can also be fitted with standard thermal double glazing rated at least **28 dB R_w+C_{tr}**, (such as 6 mm glass / 16-20 mm cavity / 4 mm glass) in conjunction with standard trickle vents.

Appendix 4 contains selected BRE calculation spreadsheets.

The following points should be noted:

- The glazing recommendations apply to the window within a sealed unit. It is the responsibility of the window supplier to ensure that the window frame does not compromise the performance of the glazing.
- When selecting a glazing system to satisfy the requirements outlined above, it is important to ensure that the $R_w + C_{tr}$ value is achieved (rather than simply the R_w value). Published R_w values tend to be higher than corresponding $R_w + C_{tr}$ values; therefore, incorrect selection could result in an overestimation of sound reduction performance which in turn could result in higher internal noise levels.

4.3 Ground and First Floor Restaurant

The separating floor between the second-floor apartments and first floor restaurant is understood to be of concrete construction with independent ceiling below.

The airborne sound insulation of the existing separating floor is 59 dB $D_{nT,w}$, which is relatively high. In layman's terms, this means that (in the speech frequency range of 400 to 2500 hertz) the noise level in the overlying dwelling flats will be circa 59 dB lower than in the restaurant.

Therefore, in order to exceed the daytime criterium of ≤ 35 dB LAeq, T in the apartment, the internal reverberant noise level within the restaurant would have to exceed circa 94 dB LAeq, T.

Such levels are significantly above those that could be conceivable in such a space. For context, 80 dB LAeq is the level at which hearing protection should be made available in an industrial workplace.

It is therefore considered that the separating floor readily meets the internal noise level requirements.

5 Summary and Conclusions

A noise impact assessment has been undertaken for the proposed residential development 457 Bradford Road, Batley, WF17 8LB.

Daytime and night-time ambient noise levels across the site are characterised by road traffic on Bradford Road, and surrounding road network. No significant noise was noted from Batley Bus Station during the course of the survey.

A scheme of mitigation has been developed to protect the proposed residential development from the ambient noise climate.

Appendix 1 – Abbreviations and Definitions

Sound Pressure Level (L_p)
The basic unit of sound measurement is the sound pressure level. As the pressures to which the human ear responds can range from 20 μPa to 200 Pa, a linear measurement of sound levels would involve many orders of magnitude. Consequently, the pressures are converted to a logarithmic scale and expressed in decibels (dB) as follows:

$L_p = 20 \log_{10}(p/p_o)$

Where L_p = sound pressure level in dB; p = rms sound pressure in Pa; and p_o = reference sound pressure (20 μPa).

A-weighting
A frequency filtering system in a sound level meter, which approximates under defined conditions the frequency response of the human ear. The A-weighted sound pressure level, expressed in dB(A), has been shown to correlate well with subjective response to noise.

Equivalent continuous A-weighted sound pressure level, $L_{Aeq, T}$
The value of the A-weighted sound pressure level in decibels of continuous steady sound that within a specified time interval, T, has the same mean-square sound pressure as a sound that varies with time. $L_{Aeq, 16h}$ (07:00 to 23:00 hours) and $L_{Aeq, 8h}$ (23:00 to 07:00 hours) are used to qualify daytime and night time noise levels.

$L_{A10, T}$
The A-weighted sound pressure level in decibels exceeded for 10% of the measurement period, T. $L_{A10, 18h}$ is the arithmetic mean of the 18 hourly values from 06:00 to 24:00 hours.

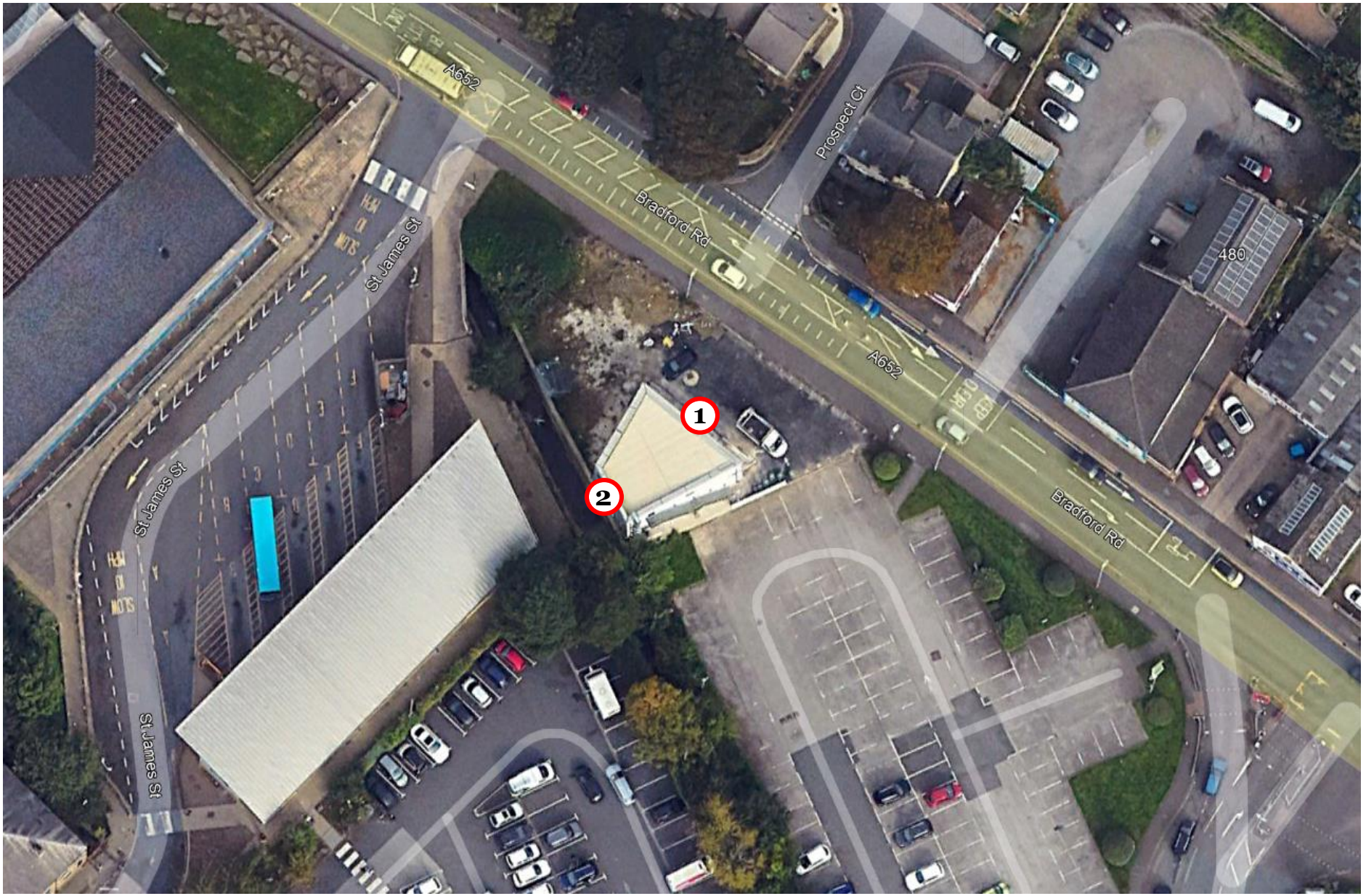
$L_{A90, T}$
The A-weighted sound pressure level of the residual noise in decibels exceeded 90% of a given time interval, T. L_{A90} is typically taken as representative of background noise.

$L_{AF\ max}$
The maximum A-weighted noise level recorded during the measurement period. The subscript 'F' denotes fast time weighting, slow time weighting 'S' is also used.

Single Event Level / Sound Exposure Level (SEL or L_{AE})
The energy produced by a discrete noise event averaged over one second, regardless of the event duration. This allows for comparison between different noise events which occur over different lengths of time.

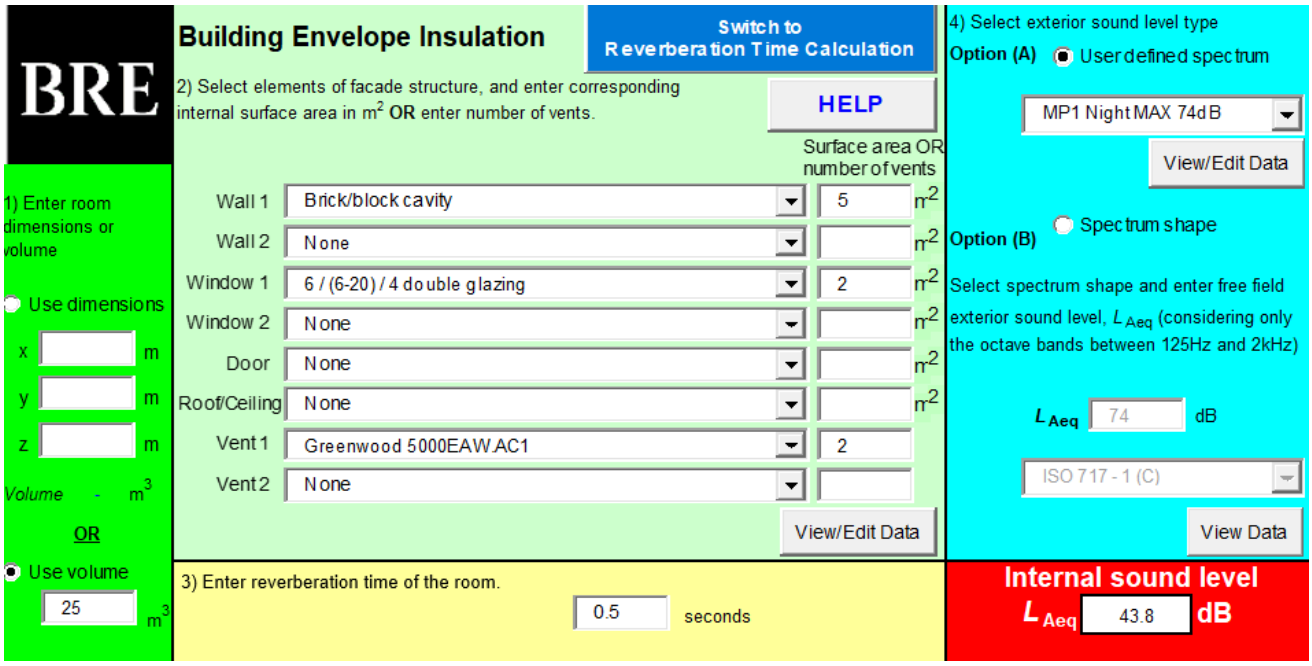
Weighted Sound Reduction Index (R_W)
Single number quantity which characterises the airborne sound insulation properties of a material or building element over a defined range of frequencies (R_W is used to characterise the insulation of a material or product that has been measured in a laboratory).

Appendix 2 – Noise Measurement Positions

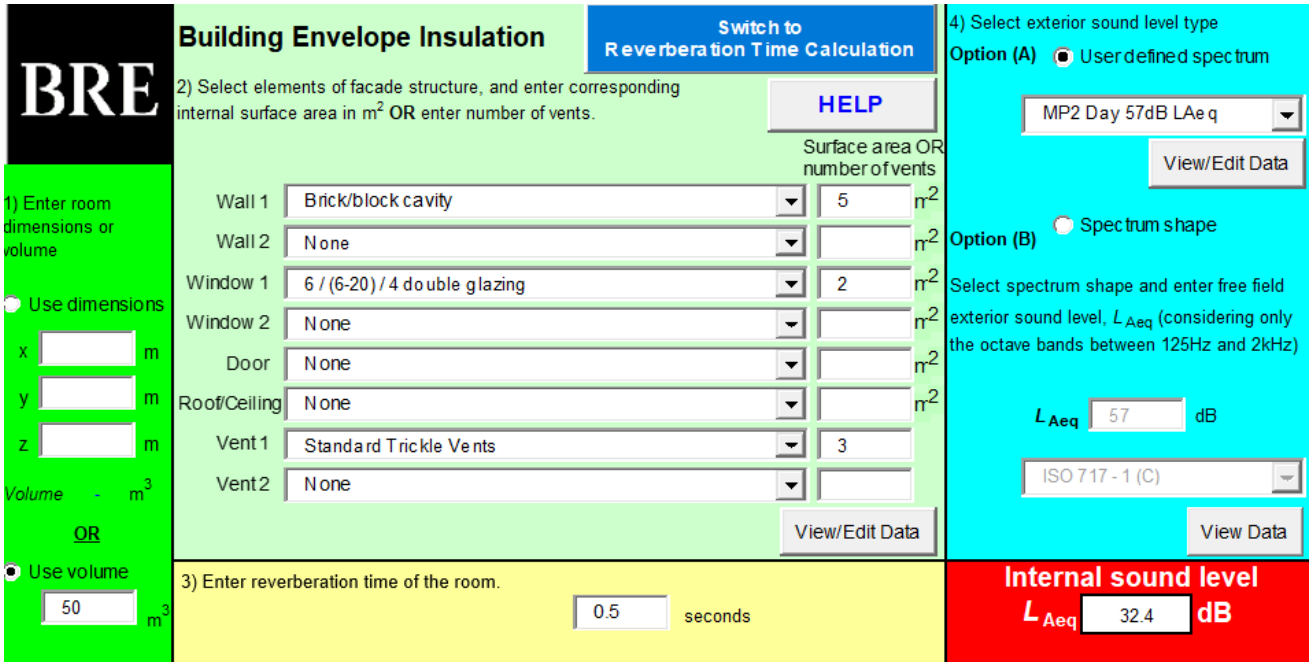


Appendix 3 – BRE Calculation Sheets

Bedroom Fronting Bradford Road (MP1) – Night-time Maximum Noise Level



Living/kitchen Fronting to the Rear (MP2) – Daytime Ambient Noise Level



Appendix 4 – Glazing and Ventilation Mark-Up