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Proposed Residential Development Land to the South of Cemetery Road, Jump, Barnsley

Noise Impact Assessment

For: Barratt Homes

27th May 2026

Ref: NIA-12492-26-12777-v4 Cemetery Road, Jump

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Contents

1 Introduction

1.1 Overview

Environmental Noise Solutions Ltd (ENS) has been commissioned by Barratt Homes to undertake a noise impact assessment for the proposed residential development of land to the south of Cemetery Road, Jump, Barnsley (hereafter referred to as 'the site').

The objectives of the noise impact assessment were to:

- Determine external noise levels at the site
- Assess the potential impact of the external noise climate on the proposed residential development with reference to relevant guidelines
- 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 as appropriate. It has been prepared to accompany an application for full planning permission to be submitted to Barnsley Metropolitan Borough Council.

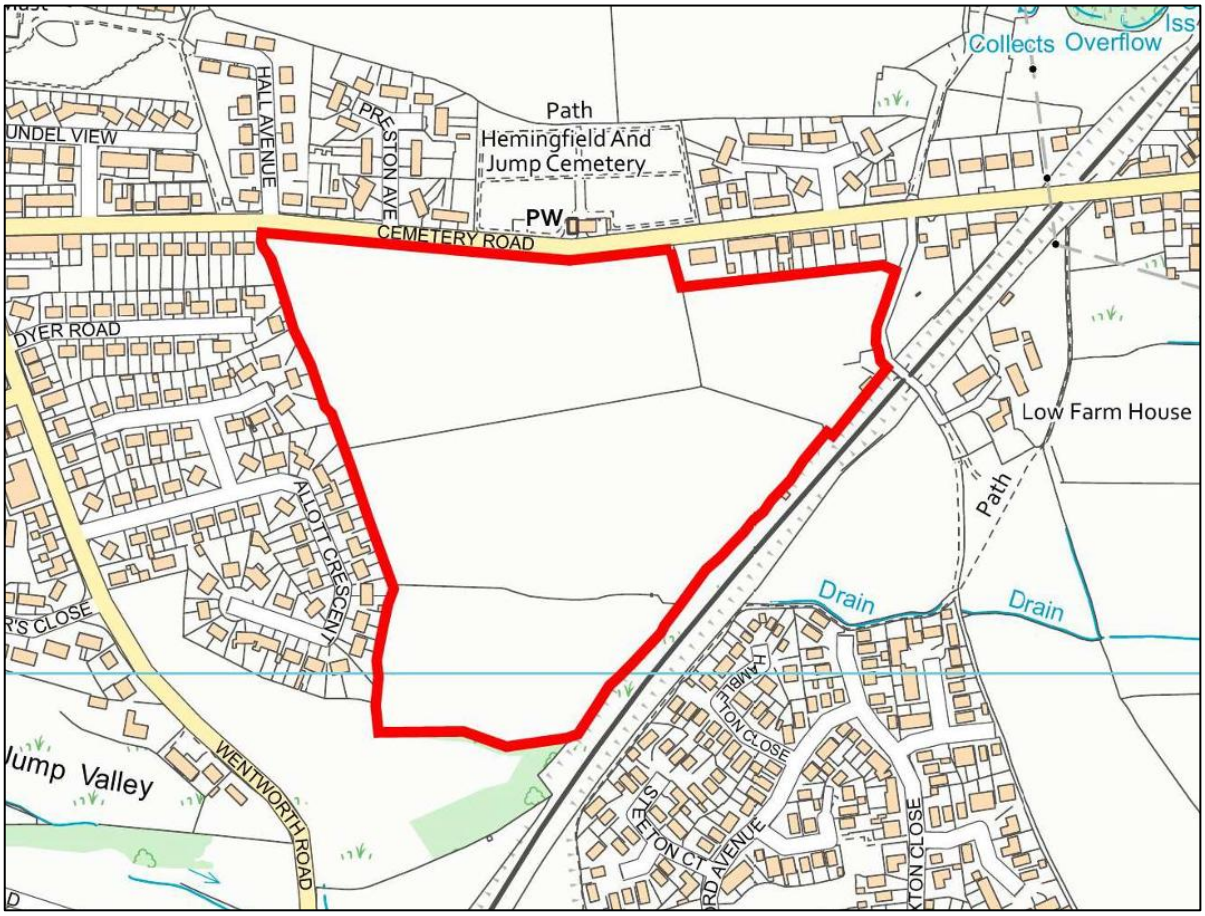
The report has been prepared for Barratt Homes for the sole purpose described above and no extended duty of care to any third party is implied or offered. Third parties referring to the report should consult Barratt Homes and ENS as to the extent to which the findings may be appropriate for their use.

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

1.2 Site Description and Development Proposals

The site is located in a predominantly residential area to the east of Jump, and lies between Cemetery Road and the Penistone and Hallam railway line. See Figure 1.1 for site location.

Figure 1.1: Location of Proposed Development



The noise environment at the site is generally dominated by noise from Cemetery Road to the north and the railway line to the south-east.

With respect to the railway line, the online resource 'Realtime Trains' indicates that the line typically has the following usage:

- 123 no. passenger trains and 1 no. freight between 0700 and 2300 hours
- 17 no. passenger trains between 2300 and 0700 hours. Freight trains do not regularly use the line during the night-time

Development proposals are for the site to be developed for residential use with associated landscaping and access roads.

Plots to the north of the site are set back at least 16 metres from Cemetery Road. Plots to the south of the site are set back at least 32 metres from the nearside railhead. The proposed site layout is illustrated in Figure 1.2 below.

Figure 1.2: Proposed Development Layout

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'.

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

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.'

1 National Planning Policy Framework. Ministry of Housing, Communities and Local Government (2021)
2 Government Department for Environment, Food and Rural Affairs. Noise Policy Statement for England. March 2010.

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.

2.4 ProPG Planning and Noise: New Residential Development

ProPG Planning and Noise: New Residential Development (ProPG) 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: Summary of Noise Measurement Data

Activity	Location	Indoor Ambient Noise Level Targets	
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.'

3 Planning Practice Guidance on Noise: http://planningguidance.planningportal.gov.uk/blog/guidance/noise/

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 during the night-time

With regard to external amenity, ProPG reflects the advice given in BS 8233 as follows:

'The acoustic environment of external amenity areas that are an intrinsic part of the overall design should always be assessed and noise levels should ideally not be above the range 50–55 dB $L_{Aeq,16hr}$.'

3 Noise Survey

3.1 Overview

In order to determine the level of external noise affecting the proposed development, noise monitoring was undertaken on Thursday 29th through to Friday 30th January 2026.

The adopted noise monitoring positions (shown in Appendix 2) were as follows:

- MP1 was located at the northern site boundary, set back 10 metres from Cemetery Road
- MP1A was located at the northern boundary, set back 20 metres from Cemetery Road
- MP2 was located at the southern boundary, set back 15 metres from the nearside railhead

Noise measurements were undertaken in free field conditions at 4 metres above ground level using NTi Audio XL3 and Bruel & Kjaer 2250 Type 1 integrating sound level meters. The meters were 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 Bruel & 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 surveys were dry with wind speeds < 5 m/s. Weather conditions were therefore considered appropriate for noise monitoring.

3.2 Summary

Table 3.1 presents a summary of the noise data for each measurement session, at each measurement position, rounded to the nearest decibel.

Night-time maximum noise levels are given as the 11th highest over the measurement period.

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	29/01/26	1124-2300	58	44	64	-	Road traffic on Cemetery Road dominant
	30/01/26	0700-1124	59	45	66	-	
	29-30/01/26	2300-0700	50	37	49	72	
MP1A	29/01/26	1241-1311	53	43	58	-	Road traffic on Cemetery Road dominant
MP2	29/01/26	1156-2300	58	40	51	-	Rail movements dominant
	30/01/26	0700-1156	58	48	57	-	
	29-30/01/26	2300-0700	52	34	47	77	

3.3 Analysis

Noise levels at the site were due to road and rail traffic, with no other significant noise sources noted.

Road Traffic Noise

Ambient noise levels at MP1 were measured at up to **58 dB $L_{Aeq\ (0700–2300)}$** and **50 dB $L_{Aeq\ (2300–0700)}$** respectively. Typical maximum noise levels due to vehicle passes are taken to be **72 dB L_{AFMax}** during the night-time at MP1.

Based on comparative measurements at MP1A, noise levels reduce by circa 5 dB per doubling of distance from Cemetery Road. On this basis, noise levels are taken as:

- **58 dB $L_{Aeq\ (0700–2300)}$, 50 dB $L_{Aeq\ (2300–0700)}$** and **72 dB L_{AFMax}** at 10 metres to Cemetery Road
- **53 dB $L_{Aeq\ (0700–2300)}$, 45 dB $L_{Aeq\ (2300–0700)}$** and **67 dB L_{AFMax}** at 20 metres to Cemetery Road

Railway Noise

Noise levels at MP2 were due to intermittent train passes on the Penistone and Hallam Line. In the absence of rail movements, noise levels towards the south of the site were relatively low, and were controlled by distant road traffic. As such, the noise mitigation requirements at plots adjacent to the railway are driven by L_{AFmax} levels associated with train passes.

Daytime and night-time noise levels at MP2 were measured at **58 dB $L_{Aeq\ (0700-2300)}$** and **52 dB $L_{Aeq\ (2300-0700)}$** respectively. Typical maximum noise levels were measured at **77 dB L_{AFMax}.**

Maximum noise events at various distances from the rail have been calculated based on point source propagation (i.e. [20 x log (15 / 30) = -6]). On this basis, noise levels are taken as:

- **77 dB L_{AFMax}** at 15 metres from the nearside railhead
- **71 dB L_{AFMax}** at 30 metres from the nearside railhead
- **65 dB L_{AFMax}** at 60 metres from the nearside railhead

Noise levels beyond the first row of plots will reduce further once the development is built out due to screening afforded by the plots themselves.

4 Noise Assessment

4.1 Design Noise Levels

The design noise levels are established in Section 3 and are summarised below.

Noise levels at the northern boundary of the site are as follows:

- **58 dB $L_{Aeq\ (0700–2300)}$, 50 dB $L_{Aeq\ (2300–0700)}$** and **72 dB L_{AFMax}** at 10 metres to Cemetery Road
- **53 dB $L_{Aeq\ (0700–2300)}$, 45 dB $L_{Aeq\ (2300–0700)}$** and **67 dB L_{AFMax}** at 20 metres to Cemetery Road

Noise levels at the southern site boundary are as follows:

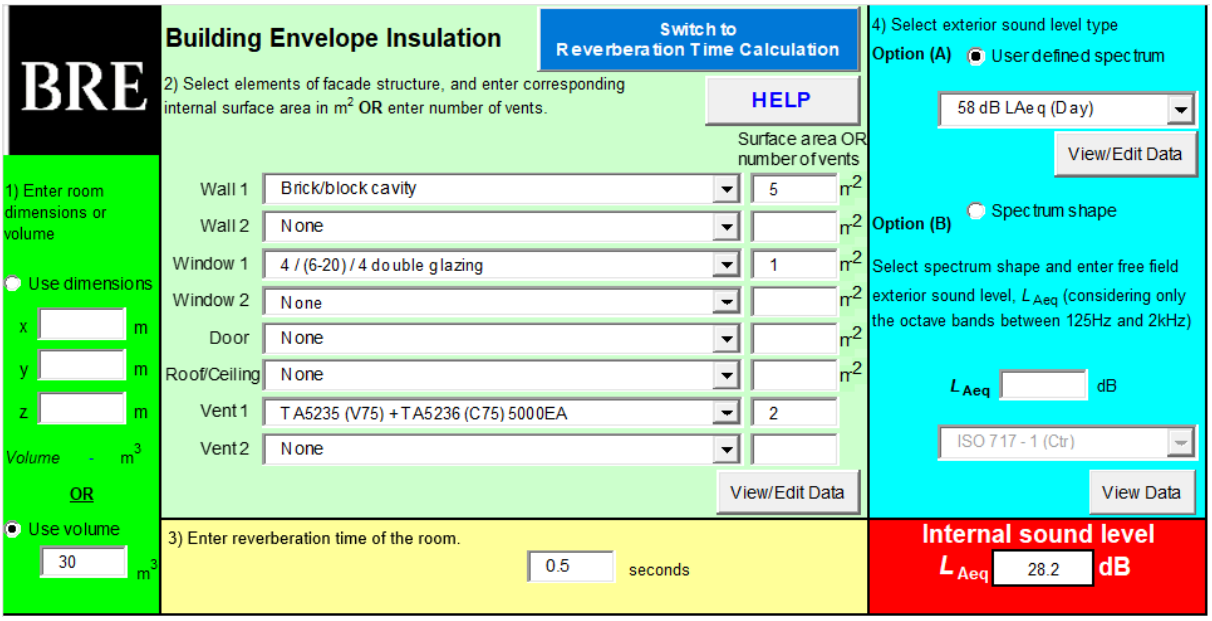
- **77 dB L_{AFMax}** at 15 metres from the nearside railhead
- **71 dB L_{AFMax}** at 30 metres from the nearside railhead
- **65 dB L_{AFMax}** at 60 metres from the nearside railhead

4.2 Scheme of Sound Attenuation

In order to calculate the sound insulation requirements of the building envelope for habitable rooms throughout 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, typical room dimensions and reverberation time together with parameters for the various elements of the building envelope and calculates the internal noise level in terms of the external noise level metric (L_{Aeq} and L_{AFMax} in this case).

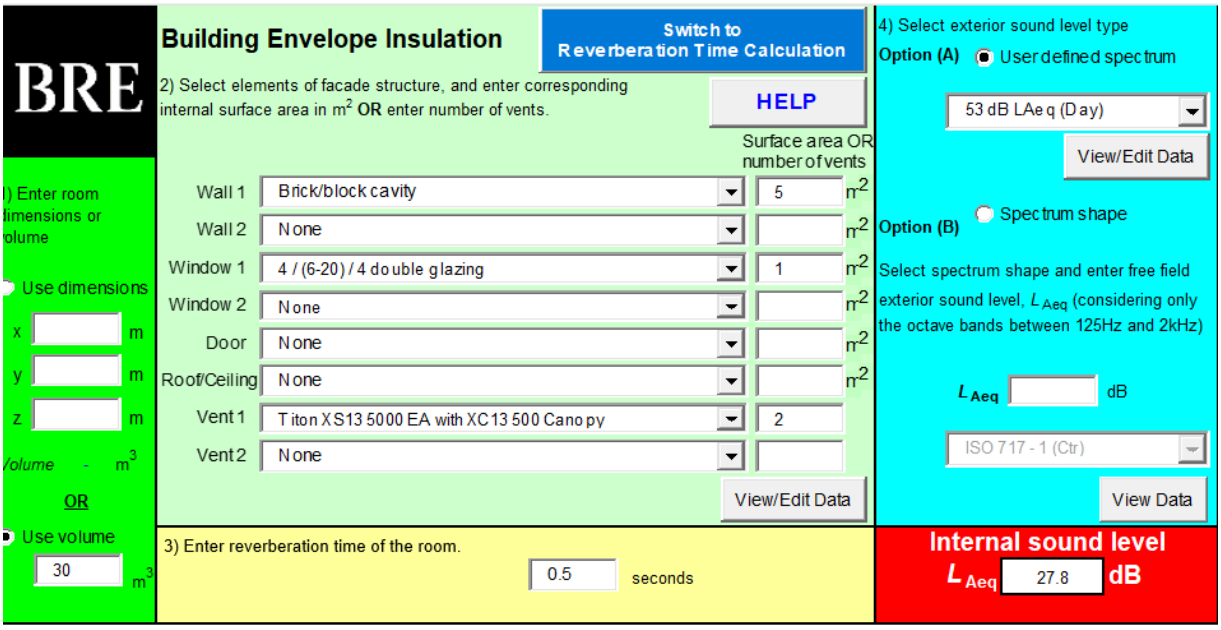
Plots which are set back ≥10 metres from Cemetery Road should be fitted with double glazing rated at least **25 dB R_w+C_{tr}** (such as 4 mm glass / 6-20 / 4 mm glass) in conjunction with acoustic trickle vents rated at least **38 dB $D_{n,e,w}+C$** such as the Titon V75 vent (TA5235) with C75 canopy (TA5236) or equivalent. As evidenced in the calculation sheet below, this glazing/ventilation specification will provide circa 30 dB(A) sound insulation from external to internal.

Figure 4.1: BRE Calculation Spreadsheet for Typical Bedroom 10 metres from Cemetery Rd



Plots which are set back ≥20 metres from Cemetery Road should be fitted with double glazing rated at least **25 dB R_w+C_{tr}** (such as 4 mm glass / 6-20 / 4 mm glass) in conjunction with standard wall vents or trickle vents rated at least **32 dB $D_{n,e,w}+C$** such as the Titon Trimvent Select Xtra S13 with XC13 canopy. As evidenced in the calculation sheet below, this glazing/ventilation specification will provide circa 25 dB(A) sound insulation from external to internal.

Figure 4.2: BRE Calculation Spreadsheet for Typical Bedroom 20 metres from Cemetery Rd



Plots which are set back ≥30 metres from the nearside railhead should be fitted with double glazing rated at least **25 dB R_w+C_{tr}** (such as 4 mm glass / 6-20 / 4 mm glass) in conjunction with acoustic trickle vents rated at least **38 dB $D_{n,e,w}+C$** such as the Titon V75 vent (TA5235) with C75 canopy (TA5236) or equivalent.

Plots which are set back ≥60 metres from the nearside railhead should be fitted with double glazing rated at least **25 dB R_w+C_{tr}** (such as 4 mm glass / 6-20 / 4 mm glass) in conjunction with standard wall vents or trickle vents rated at least **32 dB $D_{n,e,w}+C$** such as the Titon Trimvent Select Xtra S13 with XC13 canopy.

The glazing and ventilation requirements throughout the site are summarised in Table 4.1.

Table 4.1 – External Noise Levels and Resultant Internal Noise Levels

Location	Glazing	Ventilation
≥10 metres from Cemetery Road	Double glazing rated at least **25 dB R_w+C_{tr}** (such as 4 / 6-20 / 4)	Acoustic trickle vents rated **38 dB $D_{n,e,w}+C$** such as the Titon V75 vent (TA5235) with C75 canopy (TA5236)
≥20 metres from Cemetery Road		Trickle vents rated **32 dB $D_{n,e,w}+C$** such as the Titon Trimvent Select Xtra S13 with XC13 canopy
≥30 metres from nearside railhead	Double glazing rated at least **25 dB R_w+C_{tr}** (such as 4 / 6-20 / 4)	Acoustic trickle vents rated **38 dB $D_{n,e,w}+C$** such as the Titon V75 vent (TA5235) with C75 canopy (TA5236)
≥60 metres from nearside railhead		Trickle vents rated **32 dB $D_{n,e,w}+C$** such as the Titon Trimvent Select Xtra S13 with XC13 canopy

The resultant internal noise levels for typical bedrooms are set out in the table below.

Table 4.2 – External Noise Levels and Resultant Internal Noise Levels

Location	External Noise Level	Reduction	Resultant Internal Level
≥10 metres from Cemetery Road	≤ 58 dB $L_{Aeq\ (0700\text{-}2300)}$ ≤ 50 dB $L_{Aeq\ (2300\text{-}0700)}$ ≤ 72 dB L_{AFMax}	-30 dB	≤ 28 dB $L_{Aeq\ (0700\text{-}2300)}$ ≤ 20 dB $L_{Aeq\ (2300\text{-}0700)}$ ≤ 42 dB L_{AFMax}
≥20 metres from Cemetery Road	≤ 53 dB $L_{Aeq\ (0700\text{-}2300)}$ ≤ 45 dB $L_{Aeq\ (2300\text{-}0700)}$ ≤ 67 dB L_{AFMax}	-25 dB	≤ 27 dB $L_{Aeq\ (0700\text{-}2300)}$ ≤ 20 dB $L_{Aeq\ (2300\text{-}0700)}$ ≤ 42 dB L_{AFMax}
≥30 metres from nearside railhead	≤ 71 dB L_{AFMax}	-30 dB	≤ 41 dB L_{AFMax}
≥60 metres from nearside railhead	≤ 65 dB L_{AFMax}	-25 dB	≤ 40 dB L_{AFMax}

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.

- This assessment assumes that the acoustic performance of the solid façade elements would be significantly higher than that of the glazing and ventilation. Where lightweight façade elements are proposed, this may cause the glazing/ventilation requirements to change.

- 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.

- The opening and free area of the ventilation units should be checked by a mechanical service engineer before designs are finalised. Should the equivalent open area be insufficient to meet the minimum requirements of ADF, it may be necessary to increase the number of units per habitable room. Where this applies, the required sound reduction of the ventilation units may need to be increased accordingly.

- Internal noise levels due to mechanical ventilation plant should not exceed 26 dB(A) in bedrooms and 30 dB(A) in living rooms.

- The ceilings (and side cheeks to any dormer windows) in any room-in-roof habitable rooms requiring enhanced glazing should be double boarded, with 100 mm (minimum) mineral wool insulation above. The glazing specification above is also applicable to 'Velux' windows.

4.3 External Amenity

With regards to external amenity, ProPG states:

"The acoustic environment of external amenity areas that are an intrinsic part of the overall design should always be assessed and noise levels should ideally not be above the range 50 – 55 dB $L_{Aeq,16hr}$."

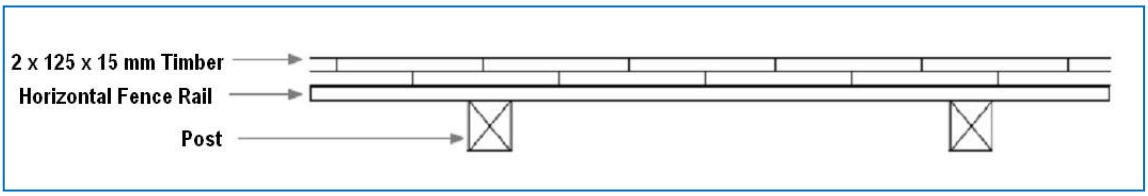
"These guideline values may not be achievable in all circumstances where development might be desirable. In such a situation, development should be designed to achieve the lowest practicable noise levels in these external amenity spaces."

In order to reduce garden levels as low as practicable, it is recommended that the gardens which are exposed to road/rail are provided with circa 2.0-metre-high solid timber fences or brick walls (see Appendix 3 for barrier locations).

A brick wall of any construction is appropriate, providing there are no gaps in the construction.

If a solid timber fence is installed, then it should be ensured that it has a mass per unit area of ≥ 10 kg/m². The fence should have no gaps or holes and should be fully sealed at the ground (i.e. include a gravel board).

An indicative acoustic fence detail is illustrated below. The double-thickness solid timber construction is considered robust and appropriate.



Based on the site layout and timber fencing as proposed, daytime external ambient noise levels throughout the site are not expected to exceed the criteria set out in ProPG.

5 Summary and Conclusions

A noise impact assessment has been undertaken for the proposed residential development of land to the south of Cemetery Road, Jump, Barnsley.

Noise monitoring was carried out at the site to determine the level of external noise affecting the proposed development.

A scheme of sound attenuation works (glazing, fenestration and ventilation) has been developed to protect the proposed residential development from the ambient noise climate in accordance with pertinent guidelines. On this basis, the ambient noise climate does not pose a constraint to the proposed residential development.

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.

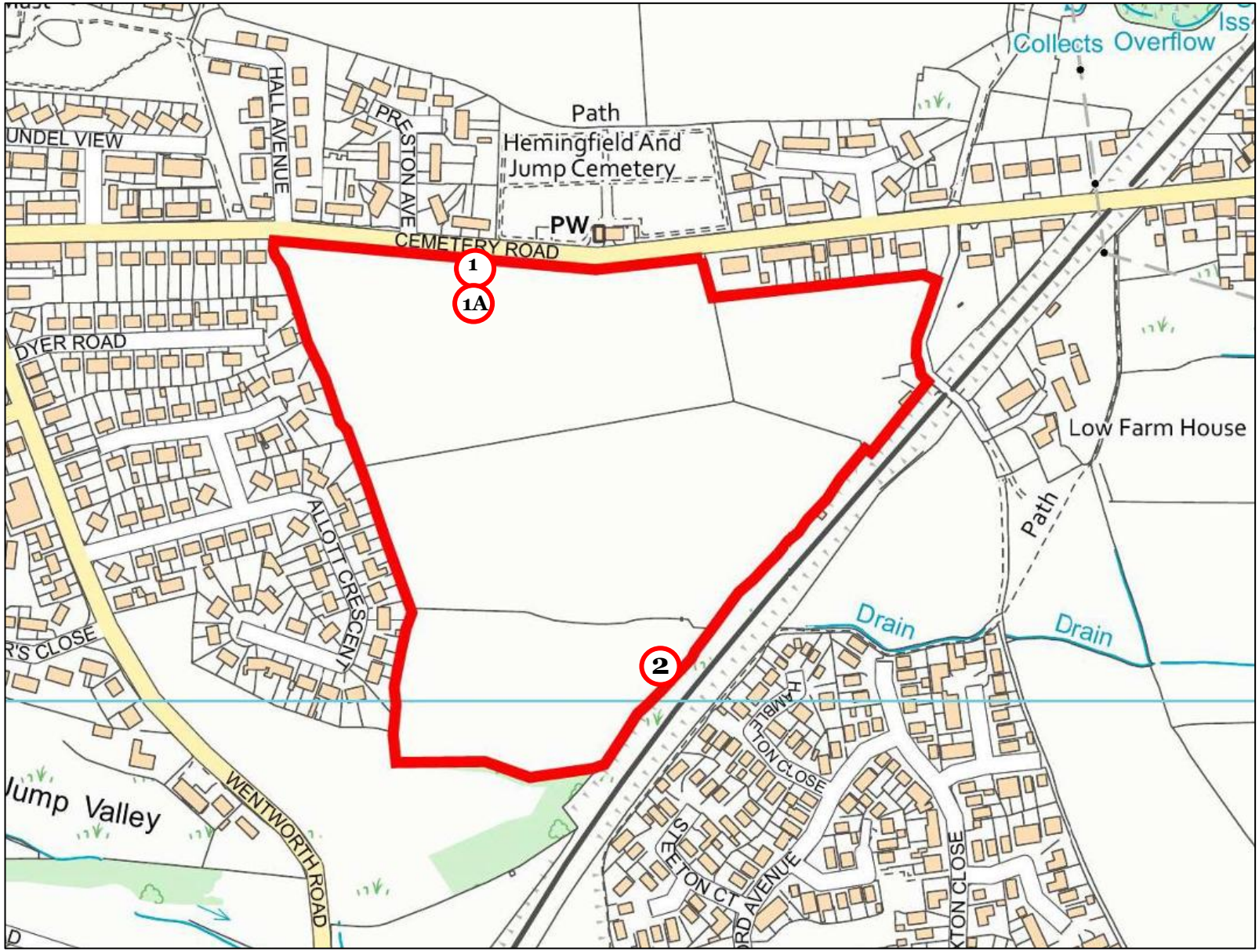
$L_{AF\ max}$
The maximum A-weighted noise level recorded during the measurement period. The subscript 'F' denotes fast time weighting, slow time weighting 'S' is also used.

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.

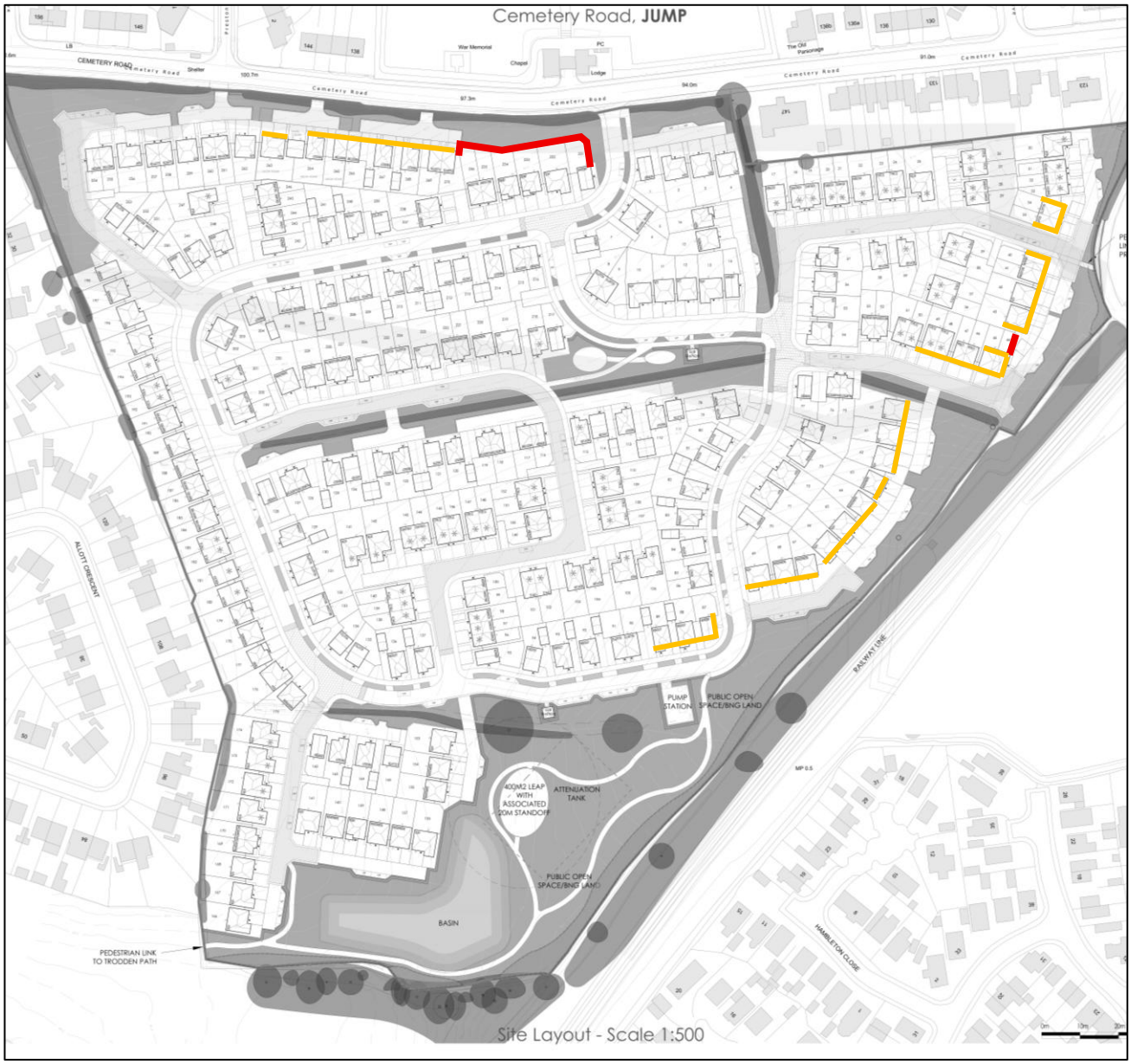
Weighted Sound Reduction Index (R_W)

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 – Site Layout and Noise Measurement Positions



Appendix 3 – Locations of Mitigation Requirements



Key	Mitigation
	2.0 metre boundary screening (see Section 4.3)
	Double glazing rated at least **25 dB R_w+C_{tr}** (such as 4 mm glass / 6-20 / 4 mm glass) in conjunction with acoustic trickle vents rated at least **38 dB $D_{n,e,w}+C$** such as the Titon V75 vent (TA5235) with C75 canopy (TA5236) or equivalent
Unmarked	Double glazing rated at least **25 dB R_w+C_{tr}** (such as 4 mm glass / 6-20 / 4 mm glass) in conjunction with standard wall vents or trickle vents rated at least **32 dB $D_{n,e,w}+C$** such as the Titon Trimvent Select Xtra S13 with XC13 canopy