1st July 2022

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TECHNICAL NOTE FOR PROPOSED RESIDENTIAL DEVELOPMENT
LAND AT SANDYGATE LANE, STAIRFOOT, BARNSLEY

BARNSLEY METROPOLITAN BOROUGH COUNCIL PLANNING APPLICATION REF 2018/1040

Environmental Noise Solutions Limited (ENS) has been commissioned by Blackstone Developments to produce a technical note for the proposed residential development at land at Sandygate Lane, Stairfoot, Barnsley (hereafter referred to as the application site).

The application site is located in a predominantly commercial area in Stairfoot, near Barnsley (see Figure 1 below for location of the site).

Figure 1 – Site Location

This technical note has been produced to accompany a S73 Application to vary Condition 1 (approved plans) of Planning Permission ref: 2018/1040 for the residential development of the application site.

Planning History

Outline planning permission (ref: 2016/0288) for the development was granted by Barnsley Metropolitan Borough Council (BMBC) in June 2016, subject to conditions. There are no conditions relating to noise for the operational phase of the development.

A noise report (report ref: 3438-R1) was prepared by Clover Acoustics in February 2016 in support of the outline planning application. The report characterised the noise environment at the application site, noting that a commercial unit adjacent to the south western boundary of the application site was unused/vacant at the time of the survey, and stated that *'…the dominant noise source impacting on the proposed development site is road traffic, although the site is adjacent to a McDonalds and a car lot.'*

The report determined that standard thermal double glazing rated at least 24 dB R_w+C_{tr} was sufficient throughout the application site, with acoustic trickle vents where required, to avoid compromising the performance of the building façade.

Following the granting of the outline planning permission, the vacant unit adjacent to the south western boundary of the application site came into use as a scrapyard (Stairfoot Metals), and it was recommended by the local authority that a further noise survey was undertaken to fully assess noise from the scrapyard and to review the design, layout and mitigation measures at the subject site.

As part of reserved matters planning application ref: 2018/1040, a noise impact assessment (NIA) was therefore undertaken by ENS (report ref: NIA/8529/19/8485/v5/Stairfoot) in order to determine the noise levels associated with the scrapyard and provide recommendations for a scheme of sound attenuation works.

The planning application was granted by BMBC in April 2020, subject to conditions. Condition 1 relates to approved plans for the application site, and Condition 7 relates to the control of noise as follows:

'The noise mitigation measures detailed within approved report reference NIA-8529-19-8485-v5 Stairfoot shall be implemented in full before the development is brought into use and shall be retained thereafter for the lifetime of the development.'

For reference, the noise mitigation measures contained within the NIA comprised a scheme of enhanced glazing and mechanical ventilation for habitable rooms fronting towards the scrapyard, and a 2.2 metre close-boarded timber fence (or a combination of bund and fence) to be installed along the south-western boundary of the gardens.

Following an enforcement notice issued by BMBC in July 2020, the adjacent unit is no longer in use as a scrapyard and has been vacated by Stairfoot Metals. Further, in planning terms the unit is considered 'abandoned' with no extant planning use, and therefore any future occupants of the unit would need to seek planning permission and would have to consider the impact of their operations upon the occupants at the application site, in accordance with the 'agent of change' principle.

Revised Proposals and Sound Attenuation Scheme Review

Proposals are now to vary Condition 1 of Planning Permission ref: 2018/1040 under Section 73 of the Town and Country Planning Act in order to submit an amended scheme with a 'frontage' layout (see Appendix 1).

As the layout has been revised and the scrapyard is no longer in use, a review of the noise mitigation scheme approved under Condition 7 of Planning Permission ref: 2018/1040 is provided herewith.

In the absence of scrapyard noise, ambient noise levels throughout the application site were wholly due to road traffic on the A635 Barnsley Road and (to a lesser extent) Wombwell Lane and Sandygate Lane.

Noise levels at the northern tip of the application site (fronting towards the A635 Doncaster Road) were measured at **62–64 dB $L_{Aeq,\ T}$** and were wholly due to road traffic on the A635 Doncaster Road. Maximum noise levels were measured at up to **75 dB L_{AFMax}**.

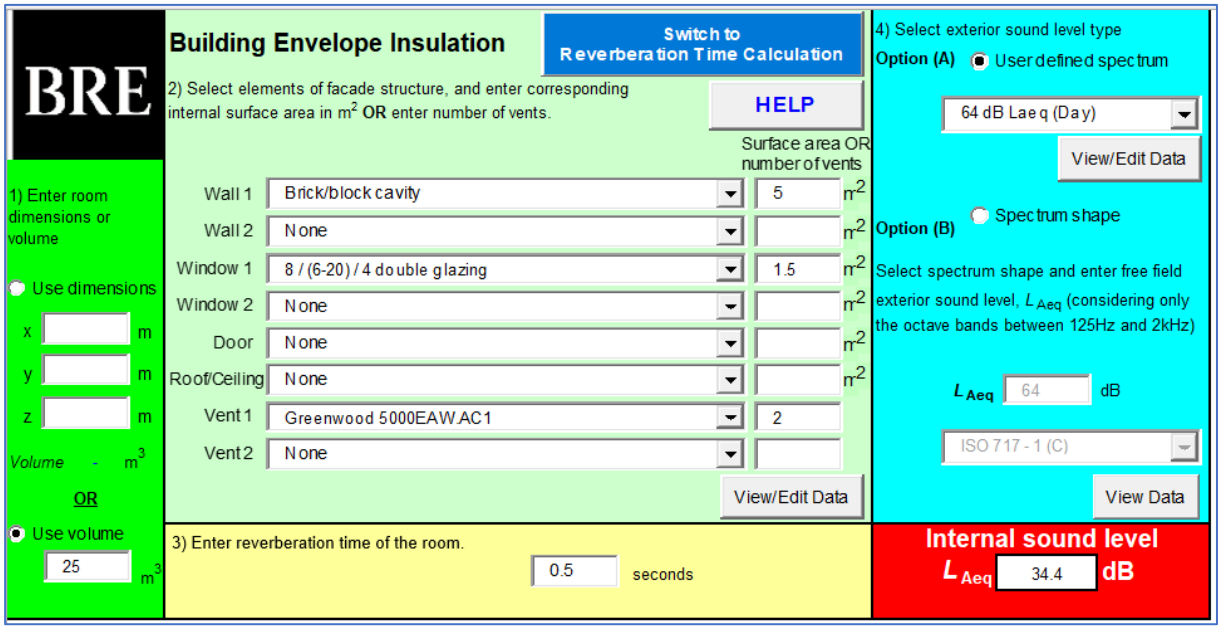
Based on the guidance contained in ProPG Planning and Noise: New Residential Development (ProPG), the following criteria (with windows closed and an alternative means of ventilation provided) are considered appropriate for the proposed residential development and considered to represent good resting and sleeping conditions:

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

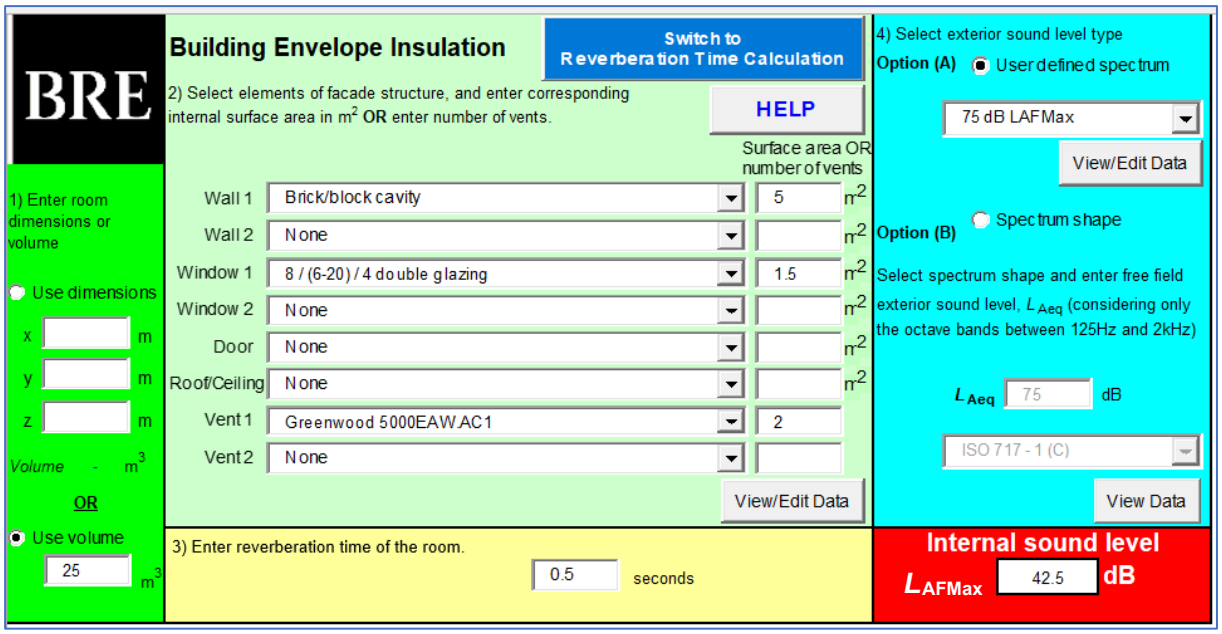
In order to calculate the sound insulation requirements of the building envelope, the Building Research Establishment (BRE) building envelope insulation calculation spreadsheet was used. This spreadsheet is based on the calculation methodology advocated in BS 8233. The spreadsheet allows input of external 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).

Habitable rooms in plots at the northern boundary of the development should be provided with enhanced glazing rated at least **29 dB R_w+C_{tr}** (such as 8 mm glass / 6-20 mm / 4 mm glass) in conjunction with acoustic trickle vents rated at least **39 dB $D_{n,e,w}$** per 5000 mm² EA (vent open), such as the Greenwood 5000EAW.AC1, or equivalent. See below for example BRE calculation spreadsheets.

Daytime Ambient Noise Levels – Habitable rooms overlooking the A635

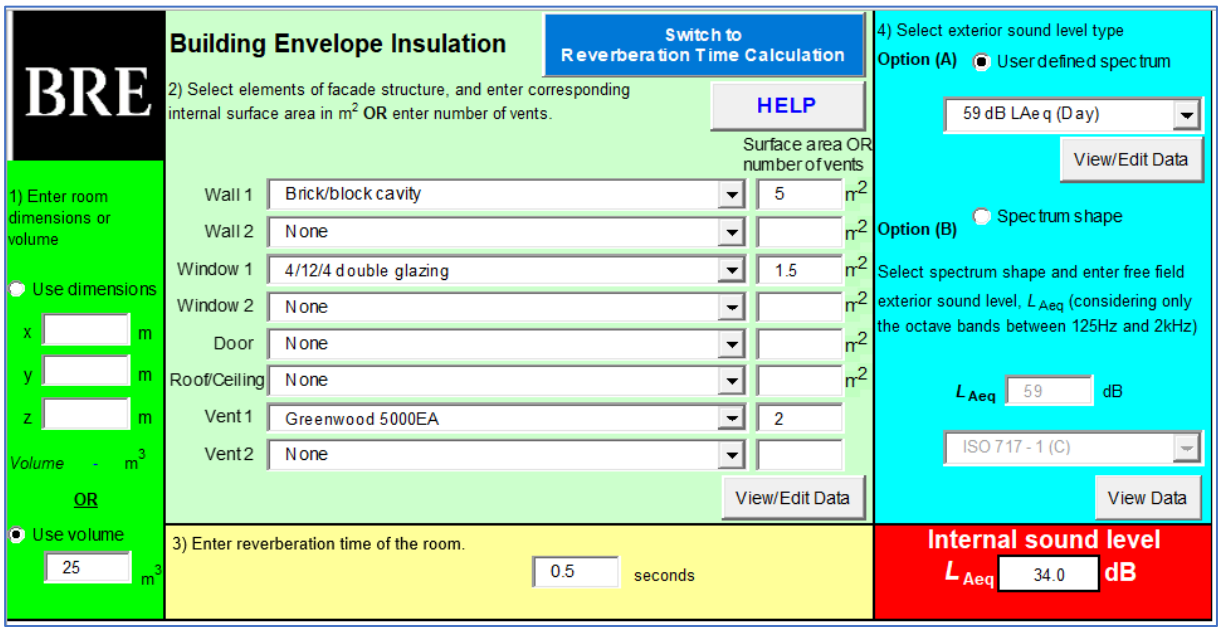


Maximum Noise Levels – Bedrooms overlooking the A635



Daytime ambient noise levels throughout the remainder of the application site (set back from the A635) were **≤ 59 dB $L_{Aeq,\,T}$**. As evidenced below, standard double glazing rated at circa **25 dB R_w+C_{tr}** in conjunction with standard trickle vents rated at least **33 dB $D_{n,e,w}$** per 5000 mm² EA (vent open), such as the Greenwood 5000EA, or equivalent, are appropriate in remaining plots.

Daytime Ambient Noise Levels – Habitable rooms set back from the A635

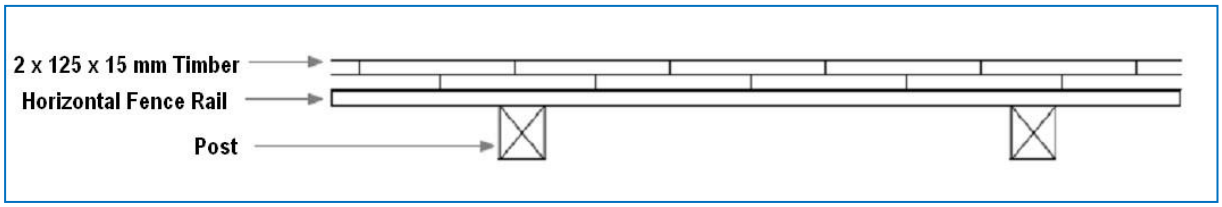


For clarity, Appendix 2 contains an annotated markup showing the locations of enhanced glazing/ventilation.

In the absence of scrapyard noise, daytime ambient noise levels within proposed garden areas have been measured at **≤ 55 dB $L_{Aeq, T}$**.

Whilst such levels are within the guideline levels contained in ProPG, as part of a robust scheme of sound attenuation, it is recommended that a 2.2 metre close-boarded timber fence (or a combination of bund and fence) is installed along the south-western boundary of the application site (see Appendix 2 for the location of the fence).

The timber fence should be built in double-thickness solid timber construction as illustrated below. The fence should have no gaps or holes (cover strips should also be used to prevent gaps forming over time) and should be fully sealed at the ground (i.e. include a gravel board).

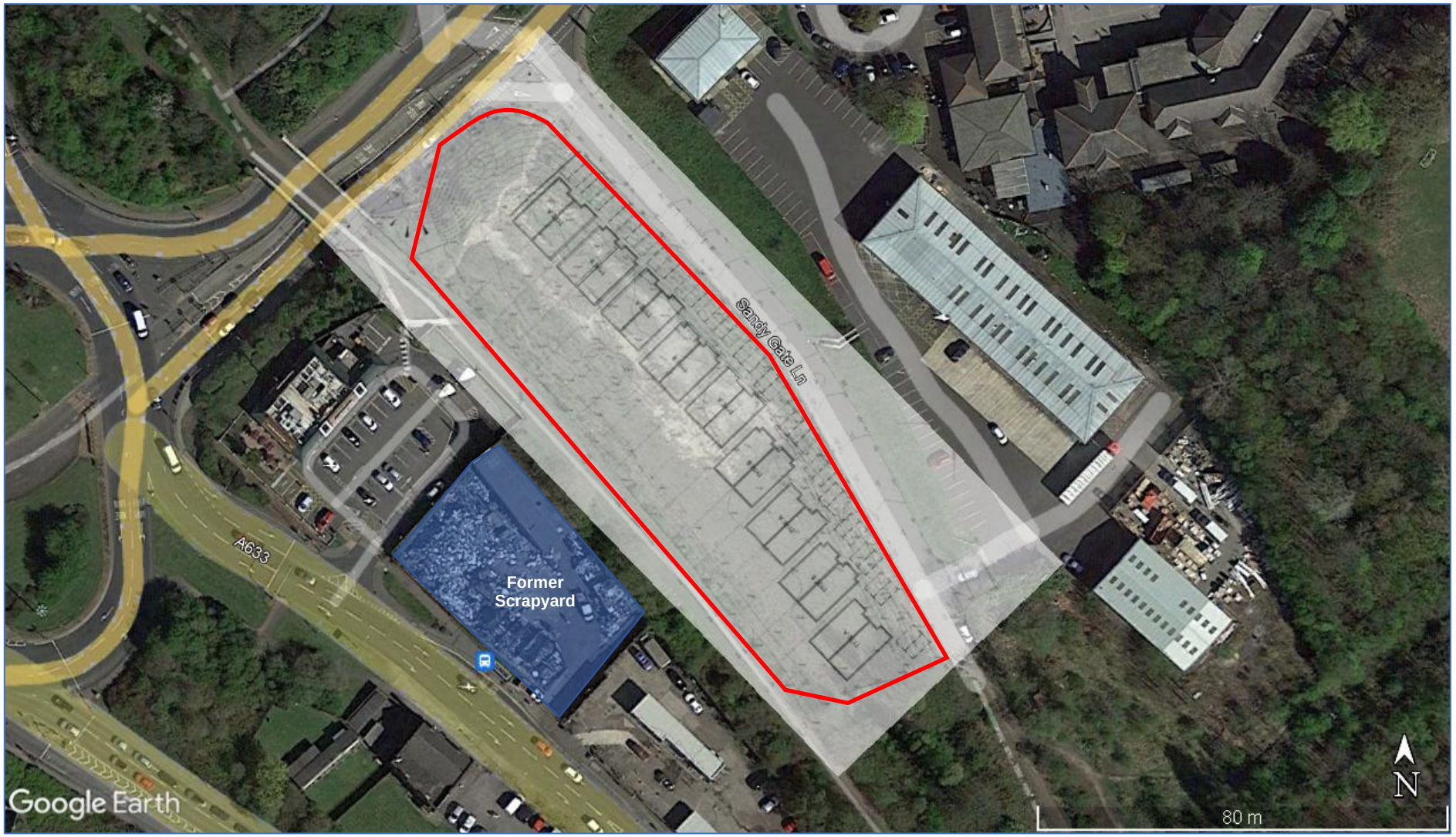


I trust the foregoing is sufficient for your needs. Should you have any queries regarding the above, please do not hesitate to contact me.

Yours sincerely

Thomas Crabb
MIOA, Diploma in Acoustics and Noise Control
Environmental Noise Solutions Limited

Appendix 1
Drawings (Annotated Site Plan)



Appendix 2
Drawings (Scheme of Sound Attenuation)

2.2-metre-high acoustic timber fence
Enhanced glazing rated at 29 dB Rw+Ctr with acoustic trickle vents rated at 39 dB Dn,e,w per 5000 mm2 (2 per habitable room)