18 May 2023

Andrew Croft
Barratt Homes & David Wilson Homes Yorkshire West
2 Capitol Close
Morley
Leeds
LS27 0WH

Our Ref: 403.064816.00001

Dear Andrew

NOISE ADDENDUM – WHITECHAPEL ROAD, CLECKHEATON

SLR Consulting Ltd. has been appointed to prepare a Noise `Addendum Letter, in relation to a residential development, located off Whitechapel Road, Cleckheaton.

This Addendum Letter presents the updated glazing and ventilation scheme, following amendments to the housing layout at the development site.

In addition, this letter will address the impact of removing the 1m high bund from the western boundary of the Site as shown on drawing number H8040-TL 01F.

Background

Planning permission for the site was approved by Kirklees in June 2021 (Ref: 2019/62/93658). The application was supported by a Noise Assessment Report prepared by SLR (Ref: 405.03696.00038, Version 10), which included a detailed glazing and ventilation scheme based upon the approved layout.

However, since planning permission for the site was approved, minor amendments have been made to the previously approved layout, therefore the glazing and ventilation scheme has been updated to reflect the amendments.

With regards to noise, the following plot changes have been made which may potentially affect the glazing and ventilation scheme:

- Plots 11 to 13 House type changed to Kewdale (2-story)
- Plots 15 to 17 House type changed to Woodcote (3-story)
- Plot 83 House type changed to Maidstone

It should be noted that only minor changes have made.

Noise Model

As noted within the Section 5.0 of the V10 report, to determine the daytime and the night-time noise environment across the site, a noise model of the development was produced using the modelling software CadnaA®.

The ambient, and maximum (night-time), noise monitoring results, were used to calibrate the noise model which contained the existing site elevation contours. The model was adjusted to ensure that the predicted noise levels at the monitoring locations, matched the measured noise levels.

The planning layout was also included within the model, and this was previously used to determine the glazing and ventilation sound reduction requirements, for each façade of each dwelling.

As part of this Addendum Letter, the noise model has been updated to reflect the new house layout. This enables façade noise levels to be predicted, in order to determine the glazing and ventilation required.

Internal Noise Levels

With regards to acceptable internal noise levels BS8233:2014 has the following three limits:

- Bedrooms 30 dB $L_{Aeq\ (15\ Minutes)}$ (2300 hrs – 0700 hrs).
- Living/Bedrooms 35 dB $L_{Aeq\ (15\ Minutes)}$ (0700 hrs – 2300 hrs).
- All Other Habitable Rooms 40 dB $L_{Aeq\ (15\ Minutes)}$ (0700 hrs – 2300 hrs).

Further to the above, ProPG guidance states that a reasonable standard in noise-sensitive rooms at night (e.g. bedrooms) individual noise events should not normally exceed 45dB L_{AFmax} more than 10 times a night.

From an analysis of the site-wide modelled data against internal limits given above, it was determined that the glazing specification for habitable rooms was being driven by the requirement to meet night-time internal ambient limits of 30dB(A).

The required sound reduction of the glazing required at the Site is presented in this addendum. It is assumed that in terms of sound insulation, the glazing is the weakest element of the building envelope i.e. all other elements of the building envelope, including exterior walls and roof, must achieve a sound reduction at least as high as the specified glazing performance at that location.

Glazing

Windows do not reduce noise equally across the entire frequency spectrum, so the frequency content of the sound will influence the overall sound reduction performance of a given window and by extension, the resulting noise levels within the receiving room.

However, many glazing manufacturers test their products under laboratory conditions using a typical road traffic noise frequency spectrum source. The resultant measured noise attenuation, in dB, gives a very useful guide to in-situ sound reduction performance of the window for situations where fast-moving road traffic noise dominates. This performance index is known as $R_w + C_{tr}$ dB.

In order to achieve the BS8233 guideline noise values for internal rooms, the $R_w + C_{tr}$ dB reduction required by the glazing at each façade is provided within the plans in Appendix 01. The assessment has followed the methodology used in the previous noise assessment, which was agreed and subsequently approved by Kirklees Council in 2021.

Ventilation

Where a closed window would be required for internal noise level limits to be achieved, background ventilation could be provided by trickle ventilators, specified to comply with the requirements of the Building Regulations Approved Document F.

Occasional purge ventilation (for example to dispel smoke from burnt toast) may be provided by an open window, as during purge ventilation it is not necessary for the noise limits to be met.

As above, the assessment has followed the previously agreed assessment methodology, and the initial $D_{n,e,w}$ +C_{tr} requirements for the trickle vents are provided within the plans in Appendix 01.

The sound reduction requirements are higher, towards the western boundary of site closest to the M62. These facades have been highlighted Blue on plans, and where background ventilation could be provided via mechanical method, such as MVHR.

However, it is understood that all properties on the western edge of the development, closest to the M62, will be provided with an MVHR system. MVHR (Mechanical Ventilation with Heat Recovery) provides fresh filtered air into a building whilst retaining most of the energy that has already been used in heating the building.

Therefore, trickle vents will not be required for these properties (however the glazing requirements will remain un-changed).

Bund Removal

Since submitting Version 1 of this letter, it is understood that the Council has queried the removal of a 1m high bund that was included on drawing number H8040-TL 01F and have asked for confirmation that the removal of the bund will not affect the noise environment at the Site.

Whilst this bund was included on drawing number H8040-TL 01F it was removed from the noise assessment completed in 2021 (and subsequently updated in this Addendum) as a precaution because it was understood that the bund may hinder formation of the footpath. A screenshot of how the 2.1m high barrier appears in the noise model is shown in Figures 1 to 3.

Figure 1
Location of 2.1m High Barrier (Looking Down the Embankment)

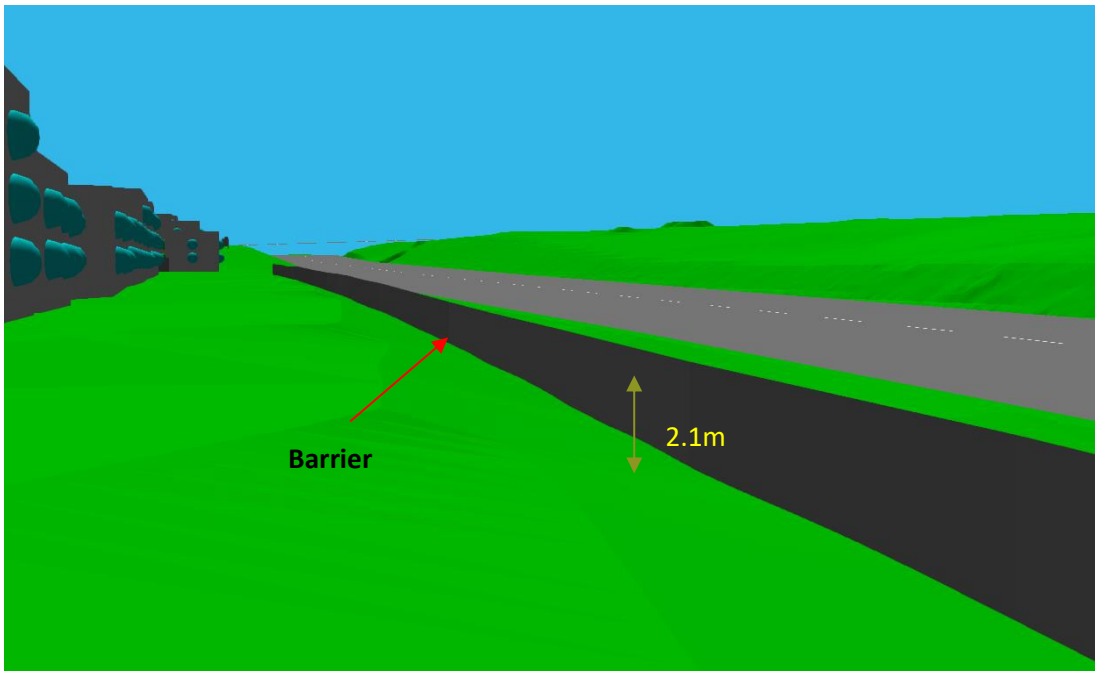


Figure 2
(Looking up the Embankment)

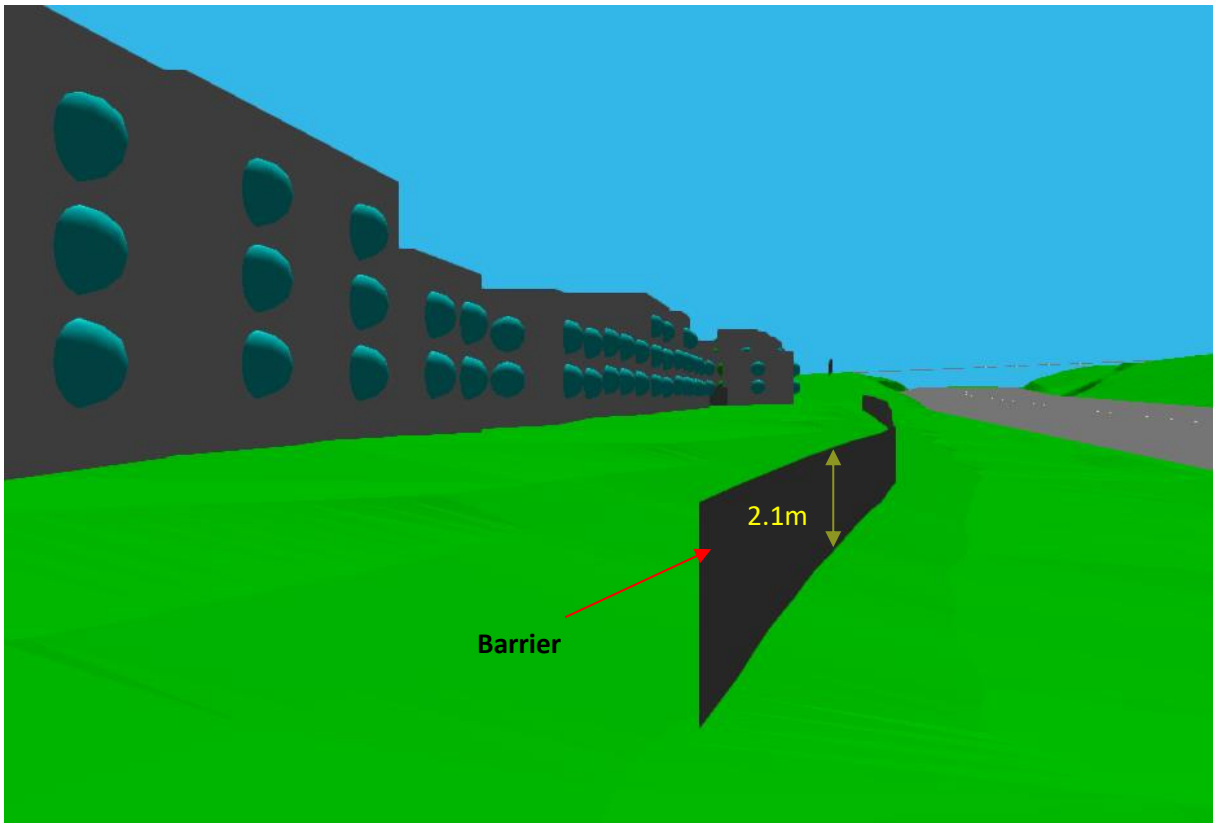
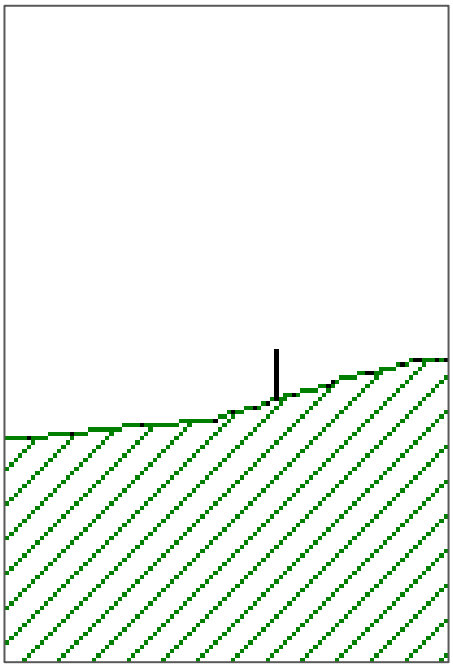


Figure 3
Profile of 2.1m Barrier



Summary

This Noise Addendum Letter has been prepared to provide an updated glazing and ventilation plan for a residential development located off Whitechapel Road, Cleckheaton.

The noise model which was used by SLR in the previous noise assessment has been updated, to reflect minor changes that have been made to the previously approved layout.

The updated noise model has been used to predict the façade noise levels, in order to determine the glazing and ventilation requirements for each dwelling and is shown in Appendix 01.

This update has followed the same methodology as used in the previous noise assessment, which was agreed and subsequently approved by Kirklees Council in 2021. In addition, all properties along the western site boundary, shall incorporate a MVHR system.

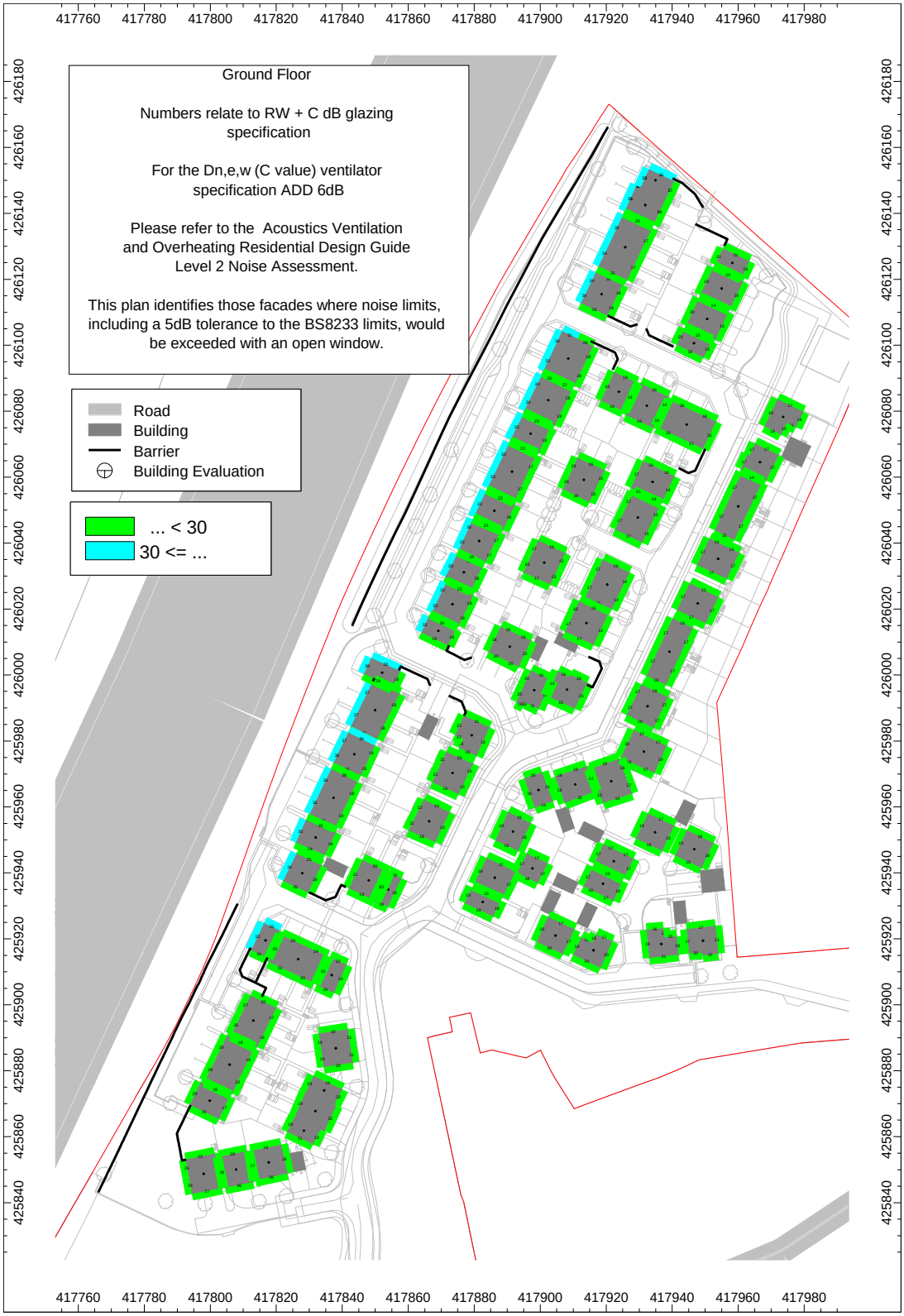
Yours sincerely
SLR Consulting Limited

N C Auckland
Associate Acoustic Consultant

Enc Appendix 01 – Glazing and Ventilation Sound Reduction Requirements

APPENDIX 01 – GLAZING AND VENTILATION REQUIREMENTS

Ground Floor



First Floor


Ground Floor
Numbers relate to RW + C dB glazing specification
For the Dn,e,w (C value) ventilator specification ADD 6dB
Please refer to the Acoustics Ventilation and Overheating Residential Design Guide Level 2 Noise Assessment.
This plan identifies those facades where noise limits, including a 5dB tolerance to the BS8233 limits, would be exceeded with an open window.
Road
Building
Barrier
Building Evaluation
... < 30
30 <= ...
417760 417780 417800 417820 417840 417860 417880 417900 417920 417940 417960 417980
426180 426160 426140 426120 426100 426080 426060 426040 426020 426000 425980 425960 425940 425920 425900 425880 425860 425840

Second Floor