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Noise Mitigation Report

For

Proposed Development:

**Whitelands East, Kildare
Co. Kildare**

Clients; Kilross Properties

Ref No.2608 Rev 0

Completed by: Navitus Ltd

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Date: May 2026

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Declared Competence

Navitus Energy Consultants are a firm of Engineers who specialise in sound testing of buildings. We are members of SITRI, the Sound Insulation Testing Register (Ireland). This is a certification scheme developed by the Association of Noise Consultants (ANC) and the Institute of Acoustics (IOA). It was created in order to:

1. Ensure an adequate supply of suitably qualified and experienced sound insulation testers in order to meet the requirements of Technical Guidance Document E Sound;
2. Maintain a database of competent testers in order that industry professionals (such as Assigned Certifiers and Architects) can commission sound insulation tests with confidence; and
3. Maintain a database of results from sound insulation tests conducted by its members

The Department of the Environment, Community & Local Government (DECLG) published new Building Regulations pertaining to sound in December 2014, referred to as Building Regulations; Technical Guidance Documents Part E 2014.

The author of this report, Oliver Walsh, is a Chartered Engineer, a member of Engineers Ireland and holds a Certificate of Competence in Buildings Acoustics Measurements (Ireland)

Report By	Qualification	Date	Sign off
Oliver Walsh	Chartered Engineer BSc P.Grad.Dip. MIEI Certificate of Competence in Building Acoustic Measurements.	20/05/2026	

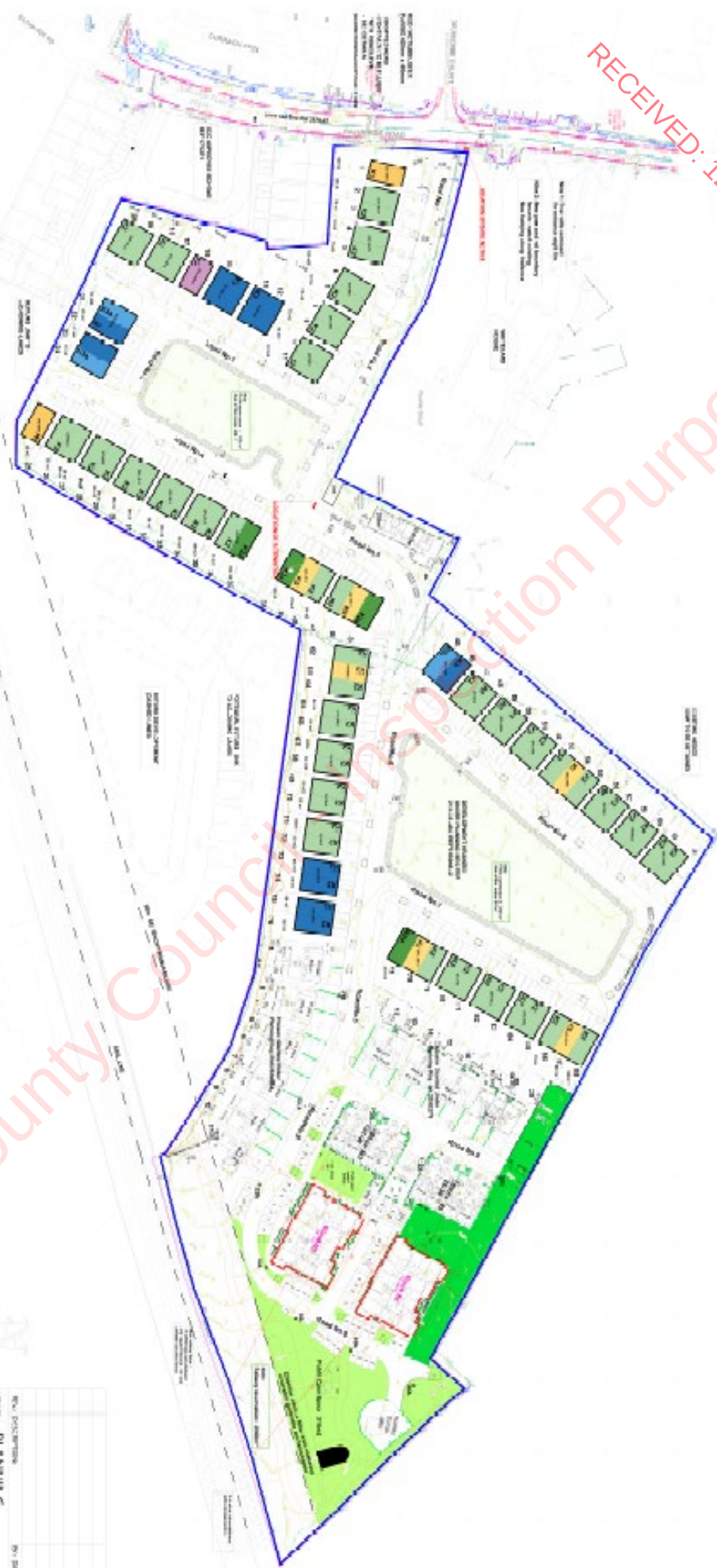
The proposed Development

Planning Permission is sought for amendments to a previously permitted residential development as granted under An Coimisiún Pleanála Ref. No. PL-500013-KE (Planning Ref. 25/60274) for the construction of an additional floor at third floor level to Apartment Blocks N1 and N2 comprising 5 no. 2-bedroom apartments to each block giving a total of 10 no. 2-bedroom apartments, along with all associated elevational amendments, amendments to parking spaces within the development and all other site development works at site east of the R415 in the Townlands of Kildare and Whitelands East, Kildare Town, Co. Kildare – Killross Properties Ltd – 26/60237

The site map below indicates the two blocks, marked in red.

RECEIVED: 12/06/2026

Site Layout Whitelands East : Kildare



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PROJECT INFORMATION		BY DATE	
PROJECT NAME		DATE	
PROJECT LOCATION		DATE	
PROJECT DESCRIPTION		DATE	
PROJECT STATUS		DATE	
PROJECT OWNER		DATE	
PROJECT CONTACT		DATE	
PROJECT REFERENCE		DATE	
PROJECT NOTES		DATE	
PROJECT SIGNATURE		DATE	
PROJECT SEAL		DATE	

Noise Risk Assessment

The buildings were assessed for noise generated by an external source entering the building, using the standard BS8233:2014-Guidance on sound insulation and noise reduction for buildings. This report, labelled, Whitelands Residential Development-Stage 2, D210910RP2 R3, supported the planning application Reference 25/60274.

This report recorded existing noise levels on the site and established from attended noise measurements were, and an unattended noise logger deployed to continuously record noise levels.

Using the measured noise levels, an assessment has been completed in accordance ISO EN 12354-3:2017 Building acoustics — Estimation of acoustic performance of buildings from the performance of elements — Part 3: Airborne sound insulation against outdoor sound.

Based upon the above, the acoustic performance requirements for the building have been developed to achieve the internal noise levels defined in BS 8233.

Interior noise levels for the whole development are predicted to comply with interior noise level criteria (including both LAeq and LAFMax) from BS 8233 provided that the construction requirements detailed below are implemented.

The development includes for a 2.5m high continuous concrete wall along the southern boundary. These walls reduce the noise levels across the site and improve the externally amenity of the site as a whole.

The noise levels in the majority of the external amenity areas are predicted to comply with the Lday (LAeq,16hr) range of 50 – 55 dB with the exception of a small area alongside the railway.

The entire development has been assessed and the noise levels at the facades of all proposed dwellings are predicted to be below 70dBA Lden. In addition, all facades of the proposed site are predicted to be below the threshold Lnight levels of 57dBA.

It demonstrates compliance with the EU Environmental Noise Regulations 2018 and Kildare County Council Noise Action Plan 2024-2028.

This assessment builds on those finding and outlines specific noise mitigation measures and recommendations to be implemented in this development.

Recommended Noise Mitigation Measures

BS 8233:2014, Section 5.2.2.2; Noise Generated outside the building, outlines the following mitigation measures as appropriate;

- a) location of the site in relation to the noise source(s);
- b) reduction of noise at source;
- c) positioning of buildings on site;
- d) orientation of buildings on site;
- e) provision of barriers;
- f) examine the sound insulation of the building envelope;
- g) re-planning the interior layout of the building.

To that end, points A, C, D & G are largely locked in details as this is an additional floor on a pre-approved building so its location, positioning and orientation and general layout offer little or no flexibility.

Point B, reduction of noise at source is beyond the control of the developer,

Points E & F are the keys areas which offer most potential to introduce noise mitigation measures. These included the following;

- Selection of construction methods and materials for meeting the required building performance
- Examination of the effects of noise transfer via proposed the ventilation system
- Attenuating the sound on its path to the receiver (building)
- Obstruction of the sound path between the source and the building
- Improving the sound insulation of the building envelope.

The target values internal noise levels from external sources as set out in BS8233 Section 7.7.2 is as follows;

Table 4 Indoor ambient noise levels for dwellings

Activity	Location	07:00 to 23:00	23:00 to 07:00
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 $L_{Aeq,8hour}$

To help achieve this target under the 5 headings above, the following measure should be implemented;

1. Selection of construction methods and materials for meeting the required building performance.

The walls and roof of a building obstruct the sound path from entering the building interior. Their effectiveness as a sound insulator is reduced by weaknesses in the envelope (e.g. ventilation openings, thin glazing and doorways), especially when windows are opened. It is therefore important that the effectiveness of measures for obstructing sound is determined. This is addressed with selection of materials, ventilation system and care and attention when constructing the building.

External walls;

The main factors determining the sound insulation of a building element (wall, floor or facade) are mass, airtightness and the isolation between elements (e.g. between the leaves of a cavity wall). Other factors which influence the sound transmission through a building are the characteristics of materials used for construction, the standard of workmanship, and the layout and detailing of the building. Sound transmission in buildings occurs through direct and flanking transmission paths.

The proposed external wall type on this project is a cavity masonry, plastered on both sides. The minimum mass of the wall should be 415kg/m² and minimum plaster thickness on both sides should be 13mm. The cavity should be minimum 75mm and block wall ties with a dynamic stiffness <4.8 MN/m³. This equates to WT 3 in section 3.5 of Building Regulations TGD Part E 2014 with a weighted sound index reduction of between 54-60 dB, meeting the levels in the table above.

All flanking details should be constructed in line with TGD Part E 2014 documents.

Glazing;

It is a requirement that the full composite system including the window frame has as a minimum, the same sound insulation performance as the glazing specified. Here we are recommending glazed windows with no trickle ventilators installed, with a weighted sound index reduction 40 dB rating and complying with the levels outlined in Table 4 above.

Roof construction;

Typical residential roof constructions achieve a sound insulation performance in the order of 43 dB RW based on the following roof Construction: Tiles on felt pitched roof, 300 mm mineral wool minimum density 10kg/m³ & Plasterboard ceiling.

All penetrations through the roof/ceiling system should be filled with insulation, faced with plasterboard and sealed with a resilient acoustic sealant.

2. Examination of the effects of noise transfer via proposed the ventilation system

Ventilation systems have the potential to impair the acoustic performance of a façade system. Natural ventilation, relying on opening windows or standard passive ventilation grilles offer minimal acoustic performance and are not suitable for some facades on this development.

The selected ventilation system should be centralised mechanical ventilation system with heat recovery, this will avoid having vents or louvres penetrating the building fabric. This will eliminate the requirement for trickle vents in windows, thus eliminating one of the major sources of noise transmission from outside to inside a building.

3. Attenuating the sound on its path to the receiver (building)

The closed building façade is 37m from the edge of the railway and there is a 25m buffer zone maintained along the . Noise is attenuated as it travels through the air because it spreads out and is affected by nearby surfaces, such as grass-covered ground and is partly absorbed by the air itself. The noise level from dense traffic diminishes at approximately 3 dB for each doubling of distance (taken as 20m)

4. Obstruction of the sound path between the source and the building

A 2.5m acoustic barrier has been included in the development for the boundary adjacent to the rail line. The barrier should be constructed of a material with a surface density of typically 15kg/m².

Whilst neither of the national methods for calculating noise from road traffic provides for any reduction in noise due to the presence of vegetation, other available guidance suggests that appreciable attenuation can be expected under certain conditions. ISO 9613-2 includes procedures for estimating the attenuation from foliage (trees and shrubs) in each octave band as a function of the total propagation distance that the sound travels through the foliage.

5. • Improving the sound insulation of the building envelope

Quality control and workmanship should always be considered very carefully. Noise control measures can fail to perform adequately if they are not built as the designer intended. Such variations might appear to be unimportant, but often have serious implications for noise control, e.g. a slight warp in a window frame can reduce the effectiveness of the seals. The table below shows the effects of holes and gaps during construction.

% Area of Hole	Effective or Average Sound Reduction Index of wall /dB					
	10 dB	20 dB	30 dB	40 dB	50 dB	60 dB
0.01%	10	20	29.6	37	39.6	40
0.1%	10	19.6	27	29.6	30	30
1%	9.6	17	19.6	20	20	20
10%	7.2	9.6	10	10	10	10
20%	5.5	6.8	7	7	7	7
50%	2.6	3	3	3	3	3

Compliance and sign off

Report By	Checked by	Qualification	Date	Sign off
Oliver Walsh	DT	Chartered Engineer BSc P.Grad.Dip. MIEI	18/05/2025	

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