SDCC Rathcoole Housing Development

Environmental Impact Assessment Report (EIAR)
Chapter 11: Noise and Vibration

South Dublin County Council (SDCC)

October 2026

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
0	07/09/2026	Draft	N	Richard O'Callaghan	Project Director
1	07/10/2026	Draft	Y	Richard O'Callaghan	Project Director
2	16/10/2026	Final	Y	Richard O'Callaghan	Project Director

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11 Noise and Vibration

11.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) presents an assessment of the likely significant effects of the Proposed Development in relation to noise and vibration. A full description of the Proposed Development is given in Chapter 02.

Noise and vibration emissions can occur during the construction and operational phases of the Proposed Development.

Potential sources of noise and vibration during the construction phase comprise:

- Noise and vibration generated by on-site construction activities; and
- Noise generated by changes in traffic flows on the existing surrounding road network during the construction phase.

Potential noise sources during the operational phase comprise:

- Noise generated by mechanical plant associated with the Proposed Development;
- Noise generated by changes in traffic flows on the existing road network during the operational phase; and
- Noise generated by activities associated with the use of Gaelic Athletic Association (GAA) pitches.

In addition to the above, the suitability of the Proposed Development Site for residential use, in terms of noise environment levels, has been considered.

This Chapter is supported by the following Figures (EIAR Volume 03):

- Figure A11-1 Ambient Sound Levels dB $L_{Aeq,16hr\ Day}$
- Figure A11-2 Ambient Sound Levels dB $L_{Aeq,8hr\ Night}$

11.2 Legislation, Policy and Guidance

The principal legislation, guidance and best practice documents used to inform the assessment are summarised below:

- Environmental Protection Agency Act 1992, Number 7 of 1992, s 19 (Irish Statute Book) Protection of the Environment Act 2003, No 27 of 2003, s 1 (Irish Statute Book) S.I. No. 179/1994;
- Environmental Protection Agency Act, 1992 (Noise) Regulations 1994, reg 1 (Irish Statute Book) Commission Directive (EU) 2015/996 of 19 May 2015 establishing common noise assessment methods according to Directive 2002/49/EC;
- South Dublin County Council (SDCC) Development Plan 2022-2028 (SDCC, 2022);
- Environmental Protection Agency (EPA) (2022), Guidelines on the Information to be contained in Environmental Impact Assessment Reports;
- EPA (2016). 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities' (NG4);
- British Standards Institution (BSI) (2014). ‘British Standard BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise’ (BS 5228-1);
- BSI (2014). ‘British Standard BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 2: Vibration’ (BS 5228-2);
- BSI (2014). 'British Standard BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings' (BS 8233);

– BSI (2003). 'British Standard BS 7445-1:2003 Description and Measurement of Environmental Noise – Part 1: Guide to Quantities and Procedures' (BS 7445-1);
– International Organisation for Standardisation (ISO) (2024). 'ISO 9613-2:2024 Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: Engineering Method for the Prediction of Sound Pressure Levels Outdoors' (ISO 9613-2);
– Department of Transport and the Welsh Office (1988). 'Calculation of Road Traffic Noise' (CRTN);
– Noise Advisory Council (1978) 'A Guide to Measurement and Prediction of the Equivalent Continuous Sound Level Leq' (NAC);
– Highways England (2020). 'Design Manual for Road and Bridges LA 111 Noise and Vibration' (DMRB LA 111);
– Transport Infrastructure Ireland (TII), (2004). 'Guidelines for the Treatment of Noise and Vibration in National Road Schemes' (PE-ENV-01110); and
– Bies, D.A. and Hansen, C.H. (2009). 'Engineering Noise Control: Theory and Practice (4th Edition)'. Spon Press, London.

11.3 Methodology

This section defines the study area, the existing acoustic baseline environment, the existing noise sensitive receptors (NSRs) in the vicinity of the Proposed Development, sets descriptors for the magnitude of impact, and sets descriptors for the potential effects.

11.3.1Study Area

The spatial scope of the construction phase assessments encompasses areas where construction works are to be undertaken and extends to the closest noise and vibration sensitive receptors to these works.

Based on guidance given in 'Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 2: Vibration' (BS 5228-2:2009+A1:2014), the spatial scope of construction phase vibration assessments are limited to 110 metres from the proposed works as beyond this distance vibration effects are very unlikely to be perceptible based on the typical equipment for works required.

The study area for construction noise effects will include receptors within 300m of the Proposed Development. This spatial extent is based on guidance provided in 'Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise' (BS 5228-1:2009+A1:2014) which states that construction noise predictions are generally reliable up to 300 m. The extent of the study area has been reviewed and and extended as appropriate where initial predictions indicate effects could occur at greater distances.

The study area for operational noise effects is initially defined as an area extending from the Proposed Development to the nearest sensitive receptor locations i.e. including receptor locations on Rathcoole Park and Mullally's Lane to the west, Beechwood Lawns to the north and Springbank Saggart to the east. If impacts are predicted at these nearest receptors, the study area will be extended to ensure all potential effects are identified.

The study area for the suitability of the Proposed Development Site for residential use covers all the proposed residential dwellings.

There are no existing sources of significant vibration in the vicinity of the Proposed Development, and the operation of the Proposed Development is not expected to generate significant sources of vibration. Therefore, operational vibration impacts are scoped out of this assessment.

11.3.2 Baseline Environment

The baseline acoustic environment has been determined via several long-term surveys conducted in and around the Site in accordance with BS 7445-2:1991 Description and measurement of environmental noise —Part 2: Guide to the acquisition of data pertinent to land use (BS 7445-2:1991).

11.3.3 Identifying Significant Environmental Effects

The Environmental Protection Agency (EPA) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports are Guidelines written to facilitate the implementation of Directive 2011/92/EU as amended by EU Directive 2014/52/EU in Ireland. This document covers the assessment and description of environmental impacts.

Effects are described under various headings, including Quality, Significance, Extent and Context, Probability, Duration and Frequency. Of relevance are the definitions of significance and duration, which are given in Table 11-1 and Table 11-2 below.

Table 11-1 Description of Significance of Effects

Aspect	Description
Imperceptible	An effect capable of measurement but without significant consequences
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends
Significant	An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment
Very Significant	An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment
Profound	An effect which obliterates sensitive characteristics

Source: Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA Guidelines)

Table 11-2 Description of Duration of Effects

Aspect	Description
Momentary	Effects lasting from seconds to minutes
Brief	Effects lasting less than a day
Temporary	Effects lasting less than a year
Short-Term	Effects lasting from one to seven years
Medium-Term	Effects lasting from seven to 15 years
Long Term	Effects lasting from 15 to 60 years
Permanent	Effects lasting over 60 years
Reversible	Effects that can be undone, e.g. through remediation or restoration
Frequency	How often the effect will occur

Source: Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA Guidelines)

11.3.4 Determination of Sensitive Receptors

The scale of NSR sensitivity is presented in Table 11-3 The majority of the NSRs which have the potential to be affected by noise and vibration arising from the Proposed Development are residential properties.

Table 11-3 Sensitivity/value criteria for noise and vibration receptors

Sensitivity/value	Description	Examples of receptor usage
Very High	Receptors where noise or vibration will significantly affect the function of a receptor.	Auditoria/studios Specialist medical/teaching centers or laboratories with highly sensitive equipment
High	Receptors where people or operations are particularly susceptible to noise or vibration.	Residential Quiet outdoor areas used for recreation Conference facilities Schools / educational facilities in the daytime Hospitals / residential care homes Libraries
Medium	Receptors moderately sensitive to noise or vibration where it may cause some distraction or disturbance	Offices Restaurants/retail Sports grounds when spectators or noise is not a normal part of the event and where quiet conditions are necessary (for example, tennis, golf)
Low	Receptors where distraction or disturbance of people from noise or vibration is minimal	Residences and other buildings not occupied during working hours Factories and working environments with existing high noise levels Sports grounds when spectators or noise is a normal part of the event

No 'Very High' sensitivity receptors exist in the vicinity of the Proposed Development and the majority of the NSRs are residential; falling into the high category. Although some medium and low receptors do exist, for simplicity of assessment, a blanket assumption of high sensitivity has been made. This is a conservative approach but viable in this instance given the low-risk nature of the Proposed Development with regards noise and vibration (discussed further below).

11.3.5 Describing Potential Effects

11.3.5.1 Construction Noise

Transport Infrastructure Ireland (TII; formerly the National Roads Authority) is the only government body in Ireland to publish construction noise limits, which are presented in the document 'Guidelines for the Treatment of Noise and Vibration in National Road Schemes' (NRA Guidelines).

It is acknowledged the limits presented relate to construction works for road schemes, however it is assumed that noise sensitive receptors are likely to be equally sensitive to construction noise from other project types. The criteria presented in this document are given in Table 11-4

Table 11-4 Maximum Permissible Noise Levels at the Façade of Dwellings During Construction

Period	$L_{Aeq,1hr}$ dB	$L_{p(max)\ slow}$ dB
Monday to Friday – 07:00 to 19:00	70	80
Monday to Friday – 19:00 to 22:00	60[1]	65[1]
Saturday – 08:00 to 16:30	65	75
Sundays and Bank Holidays – 08:00 to 16:30	60[1]	65[1]

[1] Construction activity at these times, other than that required in respect of emergency works, will normally require the explicit permission of the relevant local authority

Source: Guidelines for the Treatment of Noise and Vibration in National Road Schemes *(NRA Guidelines)*

Potential construction noise impacts can also be assessed using BS 5228-1:2009+A1:2014. Using the ABC method detailed in this standard, construction noise limits can be determined by rounding the ambient noise

levels to the nearest 5 dB and then comparing this level to the Category A, B and C values given in BS 5228-1:2009+A1:2014 to derive criteria. These values are detailed in Table 11-5.

Table 11-5 BS 5228-1:2009+A1:2014 Construction Noise Criteria

Assessment Category and Threshold Value Period (L_{Aeq})	Threshold Value L_{Aeq},T dB		
	Category A (a)	Category B (b)	Category C (c)
Night-time (23:00 – 07:00)	45	50	55
Evenings and weekends (d)	55	60	65
Daytime (07:00 – 19:00) and Saturdays (07:00 – 13:00)	65	70	75

NOTE 1: A potential significant effect is indicated if the $L_{Aeq,T}$ noise level arising from the site exceeds the threshold level for the category appropriate to the ambient noise level.
NOTE 2 If the ambient noise level exceeds the Category C threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a potential significant effect is indicated if the total $L_{Aeq,T}$ noise level for the period increases by more than 3 dB due to site noise.
NOTE 3: Applies to residential receptors only.

(a) Category A: Threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.
(b) Category B: Threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as Category A values.
(c) Category C: Threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than Category A values.
(d) 19:00 – 23:00 weekdays, 13:00 – 23:00 Saturdays, 07:00 – 23:00 Sundays.

Source: Code of Practice for Noise and Vibration Control on Construction and Open Sites - Part 1: Noise (BS 5228-1:2009+A1:2014)

For the purposes of this assessment, the criteria given in both the NRA Guidelines and BS 5228-1:2009+A1:2014 will be considered. Where the criteria differ, the more stringent of the two will be adopted.

With regards duration, a significant impact is only considered possible when the criteria set out above are exceeded for a period of ten or more days of working in any fifteen consecutive days or for a total of 40 in any 6-month period. This is based on guidance contained in BS 5228-1:2009+A1:2014 and also the National Highways 'Design Manual for Roads and Bridges LA111 Noise and vibration' document (LA111).

Although LA111 guidance was developed primarily in the context of road scheme assessments, the characteristics of construction traffic associated with residential developments can be considered generally comparable. Therefore, the application of the same assessment methodology to construction traffic noise generated by residential development schemes is considered appropriate.

In terms of significance of effect, the descriptions/thresholds detailed in Table 11-6 will be used.

Table 11-6 Description of Significance of Effects

Construction Noise Level	Significance of Effect
5 dB or more below TII or BS 5228:2009 criterion	Imperceptible/ Not Significant
Between 5 dB below and equal to the TII or BS 5228:2009 Criterion	Slight/Moderate
Between equal to and 5 dB above the TII or BS 5228:2009 Criterion	Significant
5 to 10 dB above the TII or BS 5228:2009 Criterion	Very Significant
>10 dB above the TII or BS 5228:2009 Criterion	Profound

11.3.5.2 Construction Vibration

Vibration due to construction activities has the potential to result in adverse effects on NSRs. Criteria based on guidance from BS 5228-2:2009+A1:2014 are presented in Table 11-7 alongside descriptions of significant of effect.

Table 11-7 Construction Vibration Threshold at Residential Dwellings

Vibration Level PPV (mm/s)	Description	Significance of Effect
>= 10	Vibration is likely to be intolerable for any more than a very brief exposure to this level.	Very Significant to Profound
1.0 to < 10	It is likely that vibration of this level in residential environments will cause complaint but can be tolerated if prior warning and explanation has been given to residents.	Moderate to Significant
0.3 to < 1.0	Vibration might be just perceptible in residential environments.	Slight
0.14 to < 0.3	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.	Not Significant

Source: Code of Practice for Noise and Vibration Control on Construction and Open Sites - Part 2: Vibration (BS 5228-2:2009+A1:2014)

Buildings may be damaged by high levels of vibration. The levels of vibration that causes building damage are greater than those that cause annoyance. Consequently, if vibration levels are controlled to those relating to annoyance (i.e., ≤ 1.0 mm/s PPV), then it is highly unlikely that buildings will be damaged by construction vibration levels.

11.3.5.3 Construction Traffic

The potential increase in noise levels resulting from changes to road traffic flows during the construction period have been determined in accordance with the NRA Guidelines which refer to the *Calculation of Road Traffic Noise* (CRTN) methodology.

The CRTN methodology is not reliable for very low traffic flows (below 1000 AAWT,18hr). Where flows of this magnitude are predicted, the Noise Advisory Council (NAC) prediction method detailed in the document '*A Guide to Measurement and Prediction of the Equivalent Continuous Sound Level* L_{eq}' has been used.

No specific Irish guidance containing criteria for noise impacts from construction traffic has been published. The impact of construction phase traffic has therefore been assessed in accordance with the short-term criteria provided in LA111.

LA111 presents a scoping assessment to determine where there is a need to undertake a detailed noise assessment. To require a further assessment, the following criteria would need to be met:

1) *The project is likely to cause a change in the BNL of 1dB* $L_{A10,18hr}$ *in the do-minimum opening year (DMOY) compared to the do-something opening year (DSOY)*
2) *The project is likely to cause a change in the BNL of 3dB* $L_{A10,18hr}$ *in the do-something future year (DSFY) compared to the DMOY*
3) *The project involves the construction of new road links within 600m of noise sensitive receptors*
4) *There would be a reasonable stakeholder expectation that an assessment would be undertaken*

For construction phase traffic, criterion 2 is not considered relevant due to the duration of the construction phase being less than 15 years. However, criteria 1,3 and 4 are relevant.

Where detailed assessment is required, the criteria are description of significance of effect are presented in Table 11-8.

Table 11-8 Magnitude of Impact – Construction Phase Traffic

Change in Sound Level ($L_{A10,18hr}$ dB)	Magnitude of Impact (Short Term, LA111)	Significance of Effect
0	No Change	Imperceptible
0.1 to 0.9	Negligible	Not Significant
1.0 to 2.9	Minor	Slight
3.0 to 4.9	Moderate	Moderate to Significant
5+	Major	Very Significant to Profound

Source: Design Manual for Roads and Bridges LA111 Noise and vibration (LA111)

11.3.5.4 Operational Noise

Criteria for operational phase noise emissions have been taken from Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) and are detailed in Table 11-9.

Table 11-9 Recommended Noise Limit Criteria

Scenario	Daytime Noise Criterion dB $L_{Ar,T}$ (0700 to 1900 hours)	Evening Noise Criterion dB $L_{Ar,T}$ (1900 to 2300 hours)	Night-time Noise Criterion dB $L_{Aeq,T}$ (2300 to 0700 hours)
Quiet Area	Noise from the licensed site to be at least 10 dB below the average daytime background noise level measured during the baseline survey	Noise from the licensed site to be at least 10 dB below the average evening background noise level measured during the baseline survey	Noise from the licensed site to be at least 10 dB below the average night-time background noise level measured during the baseline survey
Areas of Low Background Noise	45	40	35
All other Areas	55	50	45

Source: Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)

NG4 states that during daytime and evening periods rigorous efforts should be made to avoid clearly audible tones and impulsive noise at all sensitive locations.

A penalty of 5dB for tonal and/or impulsive elements is to be applied to the daytime and evening measured $L_{Aeq,T}$ values to determine the appropriate rating level ($L_{Ar,T}$). In all cases, an assessment by a competent person will be required. During the night-time period no tonal or impulsive noise from the facility should be clearly audible or measurable at any NSL. Any uncertainty over the presence of tones or otherwise should be addressed using the methodology set out in Section 5.0 of NG4.

NG4 defines the scenario as:

- A ‘Quiet Area’ being a location that meets the following criteria:
- At least 3 km from urban areas with a population >1,000 people;
- At least 10 km from any urban areas with a population >5,000 people;
- At least 15 km from any urban areas with a population >10,000 people;
- At least 3 km from any local industry;
- At least 10 km from any major industry centre;
- At least 5 km from any National Primary Route, and;
- At least 7.5 km from any Motorway or Dual Carriageway.

An ‘Area of Low Background Noise’ being a location that meets the following criteria:

- Average Daytime Background Noise Level ≤40dB L_{AF90}, and;
- Average Evening Background Noise Level ≤35dB L_{AF90}, and;
- Average Night-time Background Noise Level ≤30dB L_{AF90}.

The criteria are given in terms of a Rated Noise Level ($L_{Ar,T}$) which is defined in NG4 as:

> *The Rated Noise Level, equal to the L_{Aeq} during a specified time interval (T), plus specified adjustments for tonal character and/ or impulsiveness of the sound.*

The method for applying adjustments for tonal and / or impulsive characteristics are described in NG4 and have been considered in this assessment.

In terms of significance of effect, the descriptions/thresholds detailed in Table 11-10 will be used.

Table 11-10 Description of Significance of Effects

Construction Noise Level	Significance of Effect
<10 dB below the NG4 Criterion	Imperceptible/ Not Significant
Between 10 dB below and equal to the NG4 Criterion	Slight/Moderate
Between the NG4 Criterion and 5 dB above the NG4 criterion	Significant
Between 5 dB and 10 dB above the NG4 Criterion	Very Significant
>10dB above the NG4 Criterion	Profound

Source: Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)

11.3.5.5 Operational Traffic

The potential increases in noise levels resulting from changes to road traffic flows during the operational phase have been determined using the same calculation process and scoping approach as described for construction traffic (see 11.3.5.3).

For Operational Phase traffic, LA111 presents criteria in terms of change in the noise level in the short-term (year of opening) and long-term (typically 15 years after opening). Short term operational phase impacts are subject to the criteria set out in Table 11-8. Long term operational impacts are subject to the criteria set out in Table 11-11.

Table 11-11 Magnitude of Impact – Operational Phase Traffic – Long Term

Change in Sound Level ($L_{A10,18hr}$ dB)	Magnitude of Impact (Short Term, LA111)	Significance of Effect
0	No Change	Imperceptible
0.1 to 0.9	Negligible	Not Significant
1.0 to 2.9	Minor	Slight
3.0 to 4.9	Moderate	Moderate to Significant
5+	Major	Very Significant to Profound

Source: Design Manual for Roads and Bridges LA111 Noise and Vibration (LA111)

11.3.5.6 Suitability for a Residential Development

British Standard 'Guidance on Sound Insulation and Noise Reduction for Buildings' (BS 8233:2014) provides criteria for the assessment of internal and external noise levels for various uses including dwellings. The criteria for dwellings are given in Table 11-12 below.

Table 11-12 Indoor Ambient Sound Levels for Residential Properties

Criterion	Typical Situation	Day 0700 - 2300	Night 2300 - 0700
Resting	Living Room	35 dB $L_{Aeq,16h}$	-
Dining	Dining Room	40 dB $L_{Aeq,16h}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16h}$	30 dB $L_{Aeq,8h}$

Source: Guidance on Sound Insulation and Noise Reduction for Buildings (BS 8233:2014)

It is also necessary to assess the potential impact of noise emissions from individual vehicle passes on nearby roads on the bedrooms during the night-time. This is in line with guidance given in BS 8233:2014, which points out that regular individual noise events during the night have the potential to cause sleep disturbance.

The WHO 'Night Noise Guidelines for Europe' (WHO, 2009) provide guidelines on night-time noise limits to avoid sleep disturbance and also provides criteria for individual noise events at night. It advises that L_{AFmax} levels inside bedrooms should not regularly exceed 45 dB more than 10-15 times a night.

BS 8233:2014 also provides guidance on acceptable levels within external areas such as rear gardens and patios. BS 8233:2014 states that 'it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments.

The following criteria have therefore been adopted for this assessment:

- Internal ambient noise levels should not exceed 35 dB $L_{Aeq,16h}$ in habitable rooms during the daytime;
- Internal ambient noise levels should not exceed 30 dB $L_{Aeq,8h}$ in bedrooms during the night time;
- Maximum noise levels should not regularly exceed 45 dB L_{Amax} in bedrooms during the night;
- Ambient noise levels in external rear gardens should not exceed 55 dB $L_{Aeq,16h}$ during the daytime.

11.3.6 Assumptions and Limitations

The following limitations and assumptions apply to the assessment:

- The sound levels measured during the acoustic survey were obtained in accordance with BS 7445-1:2003 and are considered representative of the baseline acoustic environment. However, they are subject to the assumptions and limitations detailed within these standards.
- The calculated sound levels have been established using the calculation methodologies detailed in ISO 9613-2:2024 Acoustics — Attenuation of sound during propagation outdoors — Part 2: General method of calculation, BS 5228-1:2009+A1:2014, Bies, D.A. and Hansen, C.H. (2009). 'Engineering Noise Control: Theory and Practice (4th Edition) and/or CRTN. The assessment is therefore subject to the assumptions and limitations detailed within these standards or guides.
- Detailed construction information was unavailable at the time of writing; however, given the nature of the Proposed Development — which is unlikely to involve significant piling — and due to relatively large distance between the Site and the nearest existing noise sensitive receptors, construction noise is expected to be relatively low and manageable through standard mitigation and site management measures. The assessment below therefore adopts a qualitative approach focused on identifying appropriate controls.

11.4 Baseline Environment

11.4.1 Existing Receptors

Existing noise sensitive receptors (NSRs) in the vicinity of the Proposed Development are listed in Table 11-14 below.

Table 11-14: Approximate Distance to NSR from the Proposed Development

Receptor	X (m)	Y (m)	Approximate Distance (m)
NSR1 – Beechwood Lawns	302700	226744	200m
NSR2 – Coolamber Drive	302485	226590	320m
NSR3 – Millrace Park	303221	226616	480m

11.4.2 Baseline Measurements

An attended baseline noise survey was carried out in the vicinity of the Proposed Development to establish baseline levels between the 26th and 27th of June 2025. The survey was conducted in accordance with BS 7445-1:2003. The measurement locations used during the surveys are shown in Figure 11-1 below.



Figure 11-1: Baseline Monitoring Locations

A summary of the results of the attended measurement survey is given in Table 11-13. More details about the survey, regarding instrumentation and location description can be found in Appendix 11.1.

Table 11-13 Attended Baseline Measurements

Location	Date	Period	Measurement	$L_{Aeq,T}$ (dB)	$L_{A90,15min}$[i] (dB)
L1	26/06/2025 to 27/06/2025	Day	45 minutes (15-minute intervals)	56	49
		Night	45 minutes (15-minute intervals)	52	45
L2	26/06/2025 to 27/06/2025	Day	45 minutes (15-minute intervals)	54	50
		Night	45 minutes (15-minute intervals)	51	45
L3	26/06/2025 to 27/06/2025	Day	45 minutes (15-minute intervals)	58	54
		Night	45 minutes (15-minute intervals)	57	51
L4	26/06/2025 to 27/06/2025	Day	45 minutes (15-minute intervals)	53	50
		Night	45 minutes (15-minute intervals)	51	45
L5	26/06/2025 to 27/06/2025	Day	45 minutes (15-minute intervals)	48	43
		Night	45 minutes (15-minute intervals)	48	45
L6	26/06/2025 to 27/06/2025	Day	45 minutes (15-minute intervals)	50	46
		Night	45 minutes (15-minute intervals)	51	45

[i]Median average $L_{A90,15min}$ for each time period. Where the median average could not be taken, a modal average was used.

11.5 Potential Impacts

11.5.1 Construction Noise and Vibration

The on-site construction is expected to start in January 2028, to be completed in May 2029 and will comprise:

- Site clearance
- Earthworks
- Topsoil stripping/spreading for the GAA Pitches
- Drainage works
- Installation of attenuation basins
- Grading and reuse of backfill for landscaping
- Levelling
- Bridge construction (including precast installation and excavation on both banks)
- Utility installation
- Road paving
- Construction of residential, recreational and associated infrastructure.

A full quantitative assessment of construction impacts is not possible at this stage as details of the proposed construction methods and plant are not currently available. Instead, a qualitative assessment based on the adoption of best practicable means (BPM) in accordance with the guidance and recommendations set out in BS 5228-1:2009+A1:2014 and BS 5228-2:2009+A1:2014 has been carried out.

The construction of low- and medium-rise residential units is a common activity within an urban/suburban setting, as is the case with the Proposed Development. The construction processes are comparable to those that are routinely used in similar contexts throughout Ireland and the Proposed Development is, for the most part, a reasonable distance from nearby receptor locations (meaning that any noise generated will benefit from the attenuation provided by the intervening distance). These factors indicate that the risk of adverse effects from construction noise and/or vibration is relatively low.

In light of the above, it is anticipated that any potential adverse effects can be readily mitigated through the adoption of the best practicable means (BPM) identified in BS 5228:2009+A1:2014 and/or other relevant guidance. These are discussed further in section 11.5.8. A commitment is made to implement these mitigation measures as, and where, necessary to ensure that noise and vibration emissions are maintained within acceptable limits.

On this basis, construction noise and vibration effects are assessed as **Adverse, Not Significant** and **Short-Term.**

11.5.2 Construction Traffic

Traffic data for road links surrounding the Proposed Development that are expected to experience a change in traffic flows due to construction traffic have been established by the design team. The calculated construction traffic flows can be seen in Appendix 11.2.

The initial scoping exercise described in Section 11.3.5.511.3.5.3 identified that only Road Link IDs 7 and 8 require detailed assessment, given that these are the only links where a greater than 1 dB increase in noise levels is expected. The relevant construction traffic flows are presented in Table 11-14 below.

Table 11-14 Construction Traffic Flows

Road	Baseline AAWT, 18hr	Baseline % HGV	Daily Construction Traffic Flow	% HGV	% Change in HGVs
Link ID 7 – Greenogue Drive	367	0.0%	100	40%	8.6%
Link ID 8 – Mullalys Lane	7	0.0%	100	40%	37.5%

As the CRTN methodology is not accurate for very low traffic flows (below 1000 AAWT, 18hr), calculations to determine the change in noise levels resulting from the changes in traffic flows have been carried out in accordance with the NAC method. The results of these calculations alongside the magnitude of impact are presented in Table 11-15.

Table 11-15 Change in Noise Level from Construction Phase

Road	2028 Baseline Predicted Noise Level $L_{Aeq\ 18hr}$ (dB)	2028 Baseline + Construction Traffic Predicted Noise Level $L_{Aeq\ 18hr}$ (dB)	Change in Noise Level (dB)	Magnitude of Impact
Link ID 7 – Greenogue Drive	46.6	47.7	1.1	Minor
Link ID 8 – Mullalys Lane	29.3	42.5	13.2	Major

The impact predicted from Road Link ID 7 will result in an **Adverse, Slight, Short-Term Effect**.

The preliminary impact predicted from Road Link ID 8 will result in an **Adverse, Very Significant to Profound, Short-Term Effect.**

However, with regards to Road Link ID 8, the following context should be considered:

- Although the change in noise level is significant, absolute levels are still low. Predicted noise levels are 13 dB below the measured daytime baseline level at the nearest monitoring location (L1). Therefore, although noise levels from this link will increase and will likely be noticeable at nearby NSRs, it is not predicted to increase overall ambient sound levels in its vicinity.
- Link ID 8 (Mullaly's Lane) has four NSRs, so the extent of effect is limited. However, it is acknowledged that the additional traffic will be distinct given that the link will be converted from a small cul-de-sac into the principal site access.

In light of the above context and considering the "Description of Significance of Effects" in Table 11-6 the significance of the effect at Road Link ID 8 is revised to **Adverse, Slight,** and **Short Term.**

The magnitude of impact from changes in traffic flow at all other road links are considered negligible, indicating an **Adverse, Not Significant** and **Short-Term Effect**.

11.5.3 Operational Noise and Vibration

Based on the measured baseline data and the NG4 criteria, the Proposed Development Site and surrounding area is neither a quiet area nor Area of Low Background Noise. Hence, the criteria adopted for the operational phase assessment are presented in Table 11-16.

Table 11-16 Operational Phase Noise Criteria

Location	Daytime Noise Criterion dB $L_{Ar,T}$ (0700 to 1900 hours)	Evening Noise Criterion dB $L_{Ar,T}$ (1900 to 2300 hours)	Night-time Noise Criterion dB $L_{Aeq,T}$ (2300 to 0700 hours)
All other Areas	55	50	45

The Proposed Development, being principally residential in nature, does not contain significant noise generating plant. The exceptions are several diesel generators included for life safety system backup and an Electricity Supply Board (ESB) substation.

The diesel generators do not form part of typical operations and will only be used under emergency conditions; therefore, they have not been included in the operational noise assessment.

The principal noise source within the substation is the transformer, which is rated at 1000 kVA. Noise emissions from the substation were predicted in accordance with the methodology set out in Bies, D.A. and Hansen, C.H. (2009). 'Engineering Noise Control: Theory and Practice (4th Edition)' which results in a predicted sound power level of 88 dB L_{wA}. This transformer will be located within an enclosure made from glass reinforced plastic (GRP) which is expected to provide a sound insulation performance of approximately 20 dB R_w.

The nearest noise-sensitive receptor (NSR) is located within the Proposed Development, at approximately 15 m from the substation. Predicted noise levels at this receptor are 36 dB, demonstrating compliance with the day, evening and night-time criterion specified in Table 11-16. It follows that, if acceptable noise levels are achieved at the nearest receptor, acceptable noise levels are expected at all other noise-sensitive receptors.

As noise levels from the substation to the nearest noise sensitive receptor are below the noise criterion, the effects are considered **Adverse**, **Not Significant** and **Permanent**.

11.5.4 Operational Noise from Sports Pitches

There is a potential for elevated noise levels to arise from additional activities associated with the use of GAA pitches. Typical operational noise sources include player activity, spectator attendance, vehicle movements within the site and associated car parking areas, and noise from ancillary infrastructure such as Public Address (PA) systems.

As GAA pitches are often located in close proximity to noise-sensitive receptors such as residential dwellings, there is potential for these activities to give rise to adverse noise effects. However, where required, appropriate operational management measures will be developed and implemented in consultation with the relevant local authority to minimise potential noise effects.

Due to this, the magnitude of impact from GAA pitches is considered to be negligible. Therefore, the effects are considered **Adverse, Not Significant,** and **Permanent.**

11.5.5 Suitability of the Site for Residential Development

To establish noise levels across the Site, a 3D noise model of the Site and surrounding area was developed using CadnaA environmental noise modelling software.

CadnaA incorporates the calculation methodology outlined in the Calculation of Road Traffic Noise (CRTN) for the prediction of road traffic noise, the conversion formulas detailed in the DEFRA/TRL document 'Method for Converting the UK Road Traffic Noise Index $L_{A10,18hr}$ to the EU Noise Indices for Road Noise Mapping', the BS 5228:2009 calculation methodology for construction noise and the ISO 9613:2024 calculation methodology for industrial sound sources.

The noise model was based on the following inputs:

- Development layout provided as shown on project drawing 2430-MET-ZZ-ZZ-DR-A-101108 dated 22/09/2026
- Vector mapping obtained from OpenStreetMap and subsequently calibrated to aerial photography obtained from ESRI; and
- Traffic flow data for surrounding roads provided by the project team.

To verify the noise model, the baseline survey locations were duplicated in the model and the predicted and measured noise levels at these locations were compared. Reasonable agreement was observed between the measured and predicted levels, with the predicted levels being generally higher where deviation was observed. Therefore, the model is considered to provide a conservative approach.

Noise maps showing the distribution of sound levels across the Site are shown in Figure A11-1 and Figure A11-2. It can be seen from these figures that sound levels incident on the facades of the residential dwellings range from 53 to 60 dB $L_{Aeq,16hr}$ during the daytime and 47 to 54 dB $L_{Aeq,8hr}$ during the night time. With regards maximum (L_{AFmax}) noise levels incident on the dwelling facades, a value of 69 dB L_{AFmax} has been used in the calculations described below, based on the highest night time maximum level measured at location ML1.

Using the results of the traffic noise modelling, sound insulation performance requirements of the residential facades were calculated in accordance with the methodology given in BS 8233:2014 The calculations were carried out based on the dimensions detailed in Table 11-17 Room DimensionsTable 11-17 below, taken from the following drawings:

- Drawing Number 2430-MET-ZZ-ZZ-DR-A -111100 30/04/2026
- Drawing Number 2430-MET-ZZ-ZZ-DR-A-111200 13/04/2026
- Drawing Number 2430-MET-ZZ-ZZ-DR-A-121012 10/04/2026
- Drawing Number 2430-MET-ZZ-ZZ-DR-A-121041 16/04/2026

Table 11-17 Room Dimensions

Building	Room	Façade Element	Surface Area (m^2)	Volume (m^3)
House	Bedroom	Glazing	3	19
		External Walls	14	
	Living room	Glazing	6	52
		External Walls	13	
Apartment	Bedroom	Glazing	3	18
		External Walls	14	
	Living room	Glazing	9	63
		External Walls	25	

It is understood that the facades of the dwellings will be of a masonry construction and will consequently provide a high level of sound insulation when compared to other façade elements. For this assessment it has been assumed that the facades will provide 51 dB R_w of sound insulation, however in practice this level may be higher.

The ventilation scheme for the project has not yet been decided and therefore it has been assumed that units will be ventilated via trickle ventilators in the external facades with openable windows for the provision of purge ventilation. It has been assumed that one trickle vent will be required per bedroom and three trickle vents per living room.

For the apartment units no noise ingress via the roof is assumed given that most units benefit from the additional units above, and the roof of the topmost unit is elevated and shielded from the principal noise sources (e.g. the N7) located at ground level. For the houses a roof sound insulation performance of 43 dB R_w is assumed based on a typical timber trussed roof covered with tiles above plasterboard and loft insulation.

Full details of these calculations are provided in Appendix 11.3. These calculations demonstrate that acceptable internal noise levels are achievable using glazing with an R_w + Ctr of 28 dB (broadly comparable to standard thermal double glazing with no acoustically upgraded features) together with standard hit-and-miss trickle ventilators. Both are readily available, standard building products, and the requisite acoustic performance may well be achieved by default through compliance with non-acoustic design requirements (e.g. thermal/building regulations), without the need for bespoke acoustic specification.

A commitment is made to adopt this specification in the development design, and this can be controlled via planning condition if deemed necessary by the Planning Authority. Therefore, the Proposed Development is considered acceptable with regards to the noise levels in external amenity areas.

The results of the 3D noise modelling have also been compared to the criterion of 55 dB $L_{Aeq,16h}$ for external amenity areas. It was seen that all external amenity areas are expected to meet this criterion. Therefore, the Proposed Development is considered acceptable with regards to the noise levels in external amenity areas.

11.5.6 Operational Traffic

Traffic data for road links surrounding the Proposed Development that are expected to experience a change in traffic flows due to operational traffic have been established by the design team, considering scenarios both with and without traffic associated with the Operational Phase of the Proposed Development, for the following years:

- Do Minimum Opening Year (DMOY) – 2029
- Do Something Opening Year (DSOY); and
- Do Something Future Year (DSFY) – 2044 (2029 + 15 years)

The calculated operational traffic flows can be seen in Appendix 11.2.

In line with the scoping criteria outlined in Section 11.3.5.5, only Road Link IDs 7 and 8 have been included in the operational traffic noise assessment. All other links fall outside the scoping criteria and have therefore not been assessed.

The associated traffic flows by link are presented in Table 11-18 below. The calculated percentage change in traffic flows are also presented. Speeds are not presented as the Proposed Development is not expected to affect speeds on surrounding road links.

Table 11-18 Operational Phase Traffic Flows

Road	DMOY AAWT,18hr	DMOY % HGV	DSOY AAWT,18hr	DSOY % HGV	Flow Change (%)
Link ID 7 Greenogue Drive	1438	0.0%	1902	0.0%	32.2%
Link ID 8 Mullalys Lane	1071[i]	0.0%	1534	0.0%	43.3%

[i]Do Minimum Opening Year (DMOY) traffic flows for Link ID 8 are higher than the baseline traffic flows for the construction noise assessment. This is due to the inclusion of school traffic along Mullalys Lane. Further discussion on cumulative impacts are discussed in Section 11.7.1.

As the CRTN methodology is not accurate for very low traffic flows (below 1000 AAWT, 18hr), calculations to determine the change in noise levels resulting from the changes in traffic flows have been carried out in accordance with the NAC method.

The results of these calculations alongside the magnitude of impact are presented in Table 11-19.

Table 11-19 Predicted Change in Noise Levels from Operational Phase

Road	DMOY Predicted Noise Level $L_{Aeq\ 18hr}$ (dB)	DSOY Predicted Noise Level $L_{Aeq\ 18hr}$ (dB)	Change in noise level (dB)	Magnitude of Impact
Link ID 7 Greenogue Drive	52.6	53.8	1.2	Minor
Link ID 8 Mullalys Lane	51.3	52.8	1.6	Minor

The predicted change in noise levels at both links indicate an **Adverse, Slight** and **Permanent Effect**.

The magnitude of impact from changes in traffic flow at all other road links are considered negligible, indicating an **Adverse, Not Significant** and **Permanent Effect.**

11.5.7 Indirect, Secondary & Transboundary Effects

In addition to direct effects at the Proposed Development site, indirect and secondary noise effects may arise from construction and operational traffic on the surrounding road network. This includes traffic generated by ancillary uses within the Proposed Development, such as open spaces and GAA pitches, which has the potential to affect noise-sensitive receptors along the access routes.

Road traffic generated from these activities is not anticipated to result in a substantial increase in traffic flows relative to existing traffic levels on the surrounding road network, particularly given the infrequent nature of such activities. Due to this, the magnitude of impact from indirect and secondary construction and operational traffic noise is expected to be negligible, indicating an **Adverse, Not Significant** and **Permanent Effect.**

There are no other indirect, secondary or transboundary effects relating to noise and vibration that are expected to occur as a result of the Proposed Development.

11.5.8 Construction Phase

To minimise noise and vibration emissions, as far as practicable, the following mitigation measures will be implemented:

- All construction plant and equipment will comply with EU noise emission limits;
- Proper use of plant with respect to minimising noise emissions and regular maintenance. All vehicles and mechanical plant used for the purpose of the works will be fitted with effective exhaust silencers and will be maintained in good efficient working order;
- Selection of inherently quiet plant where appropriate. All major compressors will be 'sound reduced' models fitted with properly lined and sealed acoustic covers which should be kept closed whenever the machines are in use and all ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers;
- Machines in intermittent use will be shut down in the intervening periods between work or throttled down to a minimum;
- Plant and equipment such as flatbed lorries, skips and chutes will be lined with noise attenuating materials. Materials will be handled with care and be placed, not dropped. Materials will be delivered during normal working hours only;
- All ancillary plant such as generators, compressors and pumps will be positioned so as to cause minimum noise disturbance, i.e. furthest from receptors or behind close boarded noise barriers. If necessary, acoustic enclosures will be provided and/or acoustic shielding;
- Where ground compaction works are required, vibration-generating plant such as rollers and vibro compaction equipment will be operated in low-vibration modes (e.g. dead rolling) in the vicinity of sensitive receptors. These operational controls are well-established mitigation measures that are effective in reducing ground-borne vibration to acceptable levels,
- The appointed Contractor will be required to adhere to the codes of practice for construction working given in BS 5228:2009 and the guidance given therein regarding minimising noise emissions from the Site; and
- If the developers intend to have a compound on Site for material deliveries, then they will locate this away from noise sensitive properties.

Following the appointment of the Contractor, a detailed review of the noise and vibration mitigation requirements will be undertaken, as necessary, to reflect the final construction methodology. A commitment is made to implement the mitigation measures outlined above, together with any additional measures identified during the detailed construction planning process, to minimise construction noise and vibration and maintain emissions within acceptable limits. The implementation of these measures will be managed through the Construction Environmental Management Plan (CEMP). A proportionate noise and vibration monitoring programme will be implemented where required to demonstrate the effectiveness of the mitigation measures.

11.5.9 Operational Phase

As identified in section 11.5.3, no adverse operational noise effects are anticipated as a result of the Proposed Development.

The Site has been demonstrated to be suitable for residential development, subject to the adoption of appropriate acoustic façade specifications during the detailed design phase. A commitment is made to incorporate this specification into the final design. No additional mitigation measures are therefore required.

11.6 Residual Impacts

Following the implementation of the mitigation measures described in Section 11.6, the residual effects relating to noise and vibration are as follows:

- Construction Noise and Vibration: Residual construction noise and vibration effects are predicted to be **Adverse, Not Significant and Short-Term.**
- Construction Traffic: Residual construction traffic noise effects are predicted to be **Adverse, Slight and Short-Term** along Road Link ID 7 (Greenogue Drive) and Road Link ID 8 (Mullaly's Lane). The residual construction traffic noise effects at all other road links assessed are predicted to be **Adverse, Not Significant and Short-Term.**
- Operational Noise and Vibration: No likely significant residual operational noise or vibration effects are anticipated. Residual operational noise effects associated with the electricity substation are predicted to be **Adverse, Not Significant and Permanent.**
- Operational Noise from Sports Pitches: Residual operational noise effects are predicted to be **Adverse, Not Significant and Permanent.**
- Residential Amenity: The Proposed Development has been demonstrated to be suitable for residential use from a noise perspective, subject to the incorporation of the acoustic façade specification identified in Section 11.5.4 during the detailed design phase.
- Operational Traffic: Residual operational traffic noise effects are predicted to be **Adverse, Slight and Permanent** along Road Link ID 7 (Greenogue Drive) and Road Link ID 8 (Mullally's Lane). The residual construction traffic noise effects at all other road links assessed are predicted to be **Adverse, Not Significant and Permanent.**
- Indirect, Secondary & Transboundary Effects: Residual operational noise effects are predicted to be **Adverse, Not Significant and Permanent.**

Accordingly, with the exception of the localised residual construction traffic noise effect associated with Road Link ID 8 (Mullally's Lane), no likely significant residual effects relating to noise and vibration are anticipated as a result of the Proposed Development.

11.7 Cumulative Impacts

Developments within a 1 km radius of the Site are listed in Table 11-20 below, alongside commentary relating to potential cumulative noise and / or vibration effects. Developments further than 1 km from the Site are not discussed as the intervening distance between the Site and these developments is considered sufficient to mitigate any potential cumulative effects. Furthermore, small developments affecting a single residential property have also not been discussed given that the magnitude of emissions from such developments is likely to be limited. Developments that were granted permission more than 5 years ago have not been considered further, as they are considered to form part of the baseline environment against which the Proposed Development has been assessed.

Table 11-20 Noise and Vibration Related Cumulative Impacts

Planning Authority	Reference	Status	Date	Address	Description	Approx. Distance	Potential for Noise and Vibration Cumulative Effects?
SDCC & ABP	SDCC Ref. LRD25A/0008W ABP Ref. 324071	Application refused, under appeal	Appeal lodged 11 Feb 2026	5.8-hectare site at lands to the east and west of Stoney Hill Road Rathcoole, Co. Dublin, D24 V578	Demolition of 5 no. existing dwellings and associated outbuildings on the Site. Construction of a 176 no. dwellings on the site to the east of Stoney Hill	0.1km	No potential for operational cumulative effects as neither the Proposed Development or this development will generate significant operational noise. There is the potential for construction phase cumulative impacts, however it is expected that any potential cumulative construction effects can be appropriately managed through careful site management and sensitive programming (if the appeal is upheld).
SDCC	SDCC Ref. SD25A/0266W	Further information requested	12-Dec-25	Muldowney's Pub, Main Street, Rathcoole, Co. Dublin, D24 AE33	a) the part demolition of Muldowney's Pub to the rear; b) the change of use of the front portion of the pub to provide for 2no. 1-bed units; c) the construction of 8 no. own-door residential units	0.5km	No likely significant cumulative construction or operational noise effects are anticipated due to the low levels of operational noise expected from both developments and the acoustic screening/attenuation provided by the intervening building and distance between the two sites.
SDCC	SDCC Ref. SD21A/0231	Granted	12-Oct-21	Scoil Chrónáin, Lands Opposite Rathcoole Community Centre, Rathcoole, Dublin	Removal of all existing temporary accommodation and construction of a new 16 classroom part three storey, part two storey primary school.	0.6km	No operational or construction phase cumulative impacts expected due to the low levels of operational noise expected from both developments and the acoustic screening/attenuation provided by the intervening building and distance between the two sites.

ACP & SDCC	SDCC Ref.SD21A/0171 ACP Ref. 313119	Granted, leave to appeal refused	17-May-22	Saggart, Co. Dublin	Land recontouring/infilling works on C. 38,000sq.m of a folio size of C.5.3HA	0.6km	Based on the information available at the time of the assessment, it is uncertain whether the development has been implemented. No operational cumulative effects expected (this development will not generate noise once complete) and no construction cumulative noise impacts expected due to the intervening distance, nature of works being carried out and the fact that the construction periods are unlikely to overlap due to the time since permission was granted.
ACP & SDCC	SDCC Ref. SD24A/0092W ACP Ref. 322539	Granted on appeal with conditions	10-Feb-26	Lands located adjacent to Drury Mills and Drury Park, Swiftbrook, Saggart, Co. Dublin	73 units: 6 houses, 59 duplex, 8 apartments within the curtilage of protected structures. Associated and ancillary site development works.	0.7km	No operational phase cumulative impact is expected due to the low levels of operational noise expected from both this and the Proposed Development. There is the potential for construction phase cumulative impacts if the construction phases overlap. However, is expected that any potential cumulative construction effects can be appropriately managed through careful site management and adoption of best practicable means if required.
ACP & SDCC	ACP Ref. 312501	Granted with conditions	02-Aug-22	Mill Road, Saggart, Co. Dublin	Demolition of an existing dwelling, construction of 274 no. residential units (51 no. houses, 223 no. apartments), creche and associated site works.	0.7km	No operational phase cumulative impact is expected, given the low operational noise anticipated from both this and the Proposed Development. Construction at this site is already underway, so the construction phases are unlikely to overlap, meaning no cumulative construction phase impact is expected either

SDCC	SDCC Ref. SD22A/0342	Permission granted	07-Jun-23	Lands located to the east of Tay Lane, Newcastle Road, Rathcoole, Co. Dublin	Construction of a four-storey apartment block (4224 sq.m) consisting of 58 age friendly residential units comprising 20 one bedroom units and 38 two bedroom units	0.8km	No operational or construction phase cumulative impacts expected due to the low levels of operational noise expected from both developments and the acoustic screening/attenuation provided by the intervening building and distance between the two sites.
ACP & SDCC	SDCC Ref.SD20A/0325 ACP Ref. 311938	Grant permission with conditions	21-Mar-22	Slade, Saggart, Co. Dublin	30 Metre communications structure with ancillary equipment.	0.9km	No operational or construction phase cumulative impacts expected due to the low levels of operational noise expected from both developments and the acoustic screening/attenuation provided by the intervening building and distance between the two sites.
SDCC	SDCC Ref. SD25A/0161W	Permission granted	08-Dec-25	13 Mill Road, Saggart, Co. Dublin, D24PK27	03 no. two-storey residential dwellings situated to the rear of the existing property at 13 Mill Road, Saggart, Dublin.	0.9km	No operational or construction phase cumulative impacts expected due to the low levels of operational noise expected from both developments and the acoustic screening/attenuation provided by the intervening building and distance between the two sites.
ACP & SDCC	SDCC Ref. SD23A/0336 ACP Ref. 321696	Granted on appeal with revised conditions	19-May-25	Lands south of Coolamber Drive, Rathcoole, Co. Dublin	New primary school (Roll No. 20549P), including 20 classrooms, with a gross floor area of 3,449 sq.m over 3 storeys	0km	This application is on behalf of the same applicant. A commitment is made to coordinate the design and construction of the two developments such that no cumulative impacts arise with regards construction or operational phase emissions. Potential cumulative traffic noise impacts during the operational phase are discussed below.

11.7.1 Associated School Development – Cumulative Operational Phase Traffic Noise

If the Proposed Development is granted planning permission, the new primary school (SDCC Ref. SD23A/0336, ACP Ref. 321696) will use the Proposed Development's access road (Link ID 8) as school access.

The operational phase traffic noise assessment presented above includes school traffic within the Do Minimum scenario because the school does not form part of the Proposed Development. Consequently, the change in noise level presented is smaller than would be the case if school traffic were included in the do something scenario for the link (i.e. the actual change in noise emissions from baseline conditions).

To determine the cumulative effect of noise emissions from Link ID 8 from both developments cumulatively (i.e. the Proposed Development and the school), calculations have been carried out in accordance with the NAC method. Noise from the link was seen to be 53 dB $L_{Aeq,16hr}$ i.e. generally lower than baseline levels measured in the vicinity of the Site. Therefore, no adverse cumulative effect is anticipated as a result, even if flows from both developments are considered.

11.8 'Do Nothing' Scenario

If the Proposed Development were not to proceed, the temporary and permanent noise and / or vibration sources associated with its construction and operation would not be introduced into the receiving environment. The baseline acoustic environment would therefore remain largely unchanged, with the exception of changes arising from other permitted or committed developments, including the associated primary school development where relevant, which have been considered independently of the Proposed Development.

11.9 Summary

The Proposed Development has been assessed with regard to the following areas:

Short-term impacts during the construction phase, including:

- noise and vibration generated by onsite construction activities; and
- noise generated by changes to traffic flows on existing roads.

Long-term impacts during the operational phase, including:

- noise generated by the Proposed Development once complete; and
- noise generated by changes to traffic flows on existing roads.

During the construction phase, residual construction noise and vibration effects are predicted to be **Adverse, Not Significant and Short-Term.** An exception is that associated with changes in traffic flows on Road Link ID 8 (Mullally's Lane), Given this is temporary in duration, limited in extent, and the predicted levels are below the measured baseline for the area, the significance of the effect at Road Link ID 8 is considered to be **Adverse, Slight, and Short-Term.**

Subject the adoption of the mitigation measures detailed in this chapter, the Proposed Development is considered suitable for residential use from a noise and vibration perspective and is not predicted to result in any likely significant operational noise or vibration effects.

11.10 References

Bies, D.A. and Hansen, C.H. (2009). Engineering Noise Control: Theory and Practice (4th Edition). Available at: https://www.routledge.com/Engineering-Noise-Control-Theory-and-Practice/Bies-Hansen/p/book/9780415478589.

British Standards Institution (2003). BS 7445-1:2003 Description and Measurement of Environmental Noise – Part 1: Guide to Quantities and Procedures. Available at: https://knowledge.bsigroup.com.

British Standards Institution (2014). BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise. Available at: https://knowledge.bsigroup.com.

British Standards Institution (2014). BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 2: Vibration. Available at: https://knowledge.bsigroup.com.

British Standards Institution (2014). BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings. Available at: https://knowledge.bsigroup.com.

Department of Transport and the Welsh Office (1988). Calculation of Road Traffic Noise. Available at: https://www.gov.uk/government/publications/calculation-of-road-traffic-noise.

Environmental Protection Agency Act 1992 (1992). Environmental Protection Agency Act 1992 (No. 7 of 1992). Available at: https://www.irishstatutebook.ie/eli/1992/act/7/enacted/en/html.

Environmental Protection Agency (2016). Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4). Available at: https://www.epa.ie/publications/compliance--enforcement/noise/guidance-note-for-noise-licence-applications-surveys-and-assessments-in-relation-to-scheduled-activities-ng4.php.

Environmental Protection Agency (2022). Guidelines on the Information to be Contained in Environmental Impact Assessment Reports. Available at: https://www.epa.ie/publications/monitoring--assessment/assessment/guidelines-on-the-information-to-be-contained-in-environmental-impact-assessment-reports.php

European Commission (2015). Commission Directive (EU) 2015/996 of 19 May 2015 establishing common noise assessment methods according to Directive 2002/49/EC of the European Parliament and of the Council. Available at: https://eur-lex.europa.eu/eli/dir/2015/996/oj/eng.

International Organization for Standardization (2024). ISO 9613-2:2024 Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: Engineering Method for the Prediction of Sound Pressure Levels Outdoors. Available at: https://www.iso.org/standard/87682.html.

Irish Statute Book (1994). S.I. No. 179/1994 – Environmental Protection Agency Act, 1992 (Noise) Regulations, 1994. Available at: https://www.irishstatutebook.ie/eli/1994/si/179/made/en/print.

National Highways (2020). Design Manual for Roads and Bridges LA 111 Noise and Vibration. Available at: https://standards.nationalhighways.co.uk/ha/standards/dmrb.

Noise Advisory Council (1978). A Guide to Measurement and Prediction of the Equivalent Continuous Sound Level L_{eq}. Available at: https://books.google.com.

OpenStreetMap contributors. (2026). *OpenStreetMap.* OpenStreetMap Foundation. Available under the Open Database License at openstreetmap.org.

Protection of the Environment Act 2003 (2003). Protection of the Environment Act 2003 (No. 27 of 2003). Available at: https://www.irishstatutebook.ie/eli/2000/act/isbc/2003_27.html.

South Dublin County Council (2022), Development Plan 2022-2028. Available at: https://www.sdcc.ie/en/services/planning-building-control/development-plan/.

Transport Infrastructure Ireland (2004). Guidelines for the Treatment of Noise and Vibration in National Road Schemes (PE-ENV-01110). Available at: https://www.tiipublications.ie.