



CABRA PBSA

Ecological Impact Assessment Report

R & D Developments Limited (in Receivership) Grant Thornton

Report no.: 1.0, Rev. 001

Date: 06/01/2026



Project name:	Cabra PBSA	DNV Markets & Risk
Report title:	Ecological Impact Assessment Report	Ecology Department
Customer:	R & D Developments Limited (in Receivership) Grant Thornton,	Block 71, The Plaza, Parkwest, Dublin
Customer contact:	Andrew Anderson	Tel: 01 565 4730
Date of issue:	06/01/2026	
Project no.:	10574310	
Organisation unit:	Energy Systems	
Report no.:	1.0, Rev. 001	

Applicable contract(s) governing the provision of this Report:

Objective:

Prepared by:	Verified by:	Approved by:
Charith Rakesh Kumar Ecologist	Sanni Hintikka Senior Ecologist	Shea O'Driscoll Principal Ecologist
_____	_____	_____
_____	_____	_____

Internally in DNV, the information in this document is classified as:

	Can the document be distributed internally within DNV after a specific date?	
	No	Yes
☐ Open	--	--
☒ DNV Restricted		
☐ DNV Confidential	☐	☐ 2025/08/20
☐ DNV Secret		

Additional authorised personnel for distribution within DNV:

Keywords

Rev. no.	Date	Reason for issue	Prepared by	Verified by	Approved by
1	2025/11/27	Client draft issue	CRK	SH	SOD
2	2026/01/06	Final Issue	CRK	SH	SOD

Copyright © DNV 2025. All rights reserved. Unless otherwise agreed in writing: (i) This publication or parts thereof may not be copied, reproduced or transmitted in any form, or by any means, whether digitally or otherwise; (ii) The content of this publication shall be kept confidential by the customer; (iii) No third party may rely on its contents; and (iv) DNV undertakes no duty of care toward any third party. Reference to part of this publication which may lead to misinterpretation is prohibited.

DISCLAIMER

Independence, impartiality, and advisory limitations

This document contains content provided by DNV. Please note the following:

Ethical safeguards

To maintain integrity and impartiality essential to its third-party roles, DNV performs initial conflict-of-interest assessments before engaging in advisory services.

Priority of roles

This report is generated by DNV in its advisory capacity, subsequent to conflict-of-interest assessments. It is separate from DNV's responsibilities as a third-party assurance provider. Where overlap exists, assurance activities conducted by DNV will be independent and take precedence over the advisory services rendered.

Future assurance limitation

The content in this document will not obligate or influence DNV's independent and impartial judgment in any future third party assurance activities with DNV.

Compliance review

DNV's compliance with ethical and industry standards in the separation of DNV's roles is subject to periodic external reviews.

Table of contents

1	INTRODUCTION.....	1
1.1	Quality Assurance and Competence	1
1.2	Relevant Legislation and Policy Context	2
2	DESCRIPTION OF THE PROPOSED DEVELOPMENT	2
2.1	Site Location	2
2.2	Proposed Development Description	5
2.3	Description of the Construction Phase	9
2.4	Description of the Operational Phase	10
3	METHODOLOGY	13
3.1	Scope of Assessment	13
3.2	Desk Study	13
3.3	Zone of Influence	13
	Identification of Relevant Designated Sites	14
3.4	Field Surveys	14
3.5	Ecological Assessment	18
3.6	Limitations	20
4	ECOLOGICAL BASELINE CONDITIONS	21
4.1	Geology, Hydrogeology and Hydrology	21
4.2	Designated Sites	22
4.3	Habitats	29
4.4	Species and Species Groups	32
4.5	Summary of Evaluation of Ecological Features	49
5	ECOLOGICAL IMPACT ASSESSMENT	53
5.1	Avoidance and Mitigation Embedded in Project Design	53
5.2	Construction Phase	53
5.3	Operational Phase	55
5.4	Do Nothing Impact	55
5.5	Potential for In-Combination Effects	56
6	AVOIDANCE, MITIGATION, COMPENSATION AND ENHANCEMENT MEASURES	59
6.1	Avoidance By Design	59
6.2	Construction Phase	59
6.3	Operational Phase	63
6.4	Biodiversity Enhancement Measures	63
7	MONITORING	65
8	RESIDUAL IMPACTS	66
9	CONCLUSION	70
10	REFERENCES.....	71
11	APPENDICES	74
	Appendix I - Legislation and Policy	74
	Appendix II - Value of Ecological Resources	79
	Appendix III - Impact Assessment Criteria	81



Appendix IV - Site Photographs	83
Appendix V - Bat Detector Metadata	84

83
84

1 INTRODUCTION

DNV was commissioned by R & D Developments Limited (in receivership) Grant Thornton to undertake an Ecological Impact Assessment (EclA) in relation to a Proposed Large-scale Residential Development (purpose built student accommodation), entitled 'Cabra PBSA' at 2A Fassauga Avenue, Dublin 7, D07 TH77, Co. Dublin, hereafter referred to as 'Proposed Development' or 'Site' when referring to the site area of the Proposed Development.

This EclA assesses the potential effects of the Proposed Development on habitats and species; particularly those protected by national and international legislation or considered to be of particular nature conservation importance on or adjacent to the Site. This report will describe the ecology of the Site, with emphasis on habitats, flora and fauna, and will assess the potential effects of the Construction and Operational Phases of the Proposed Development on these ecological receptors. The report follows Guidelines for Ecological Impact Assessment in the UK and Ireland, by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018) and supplemented by the National Roads Authority (2009) guidelines for Assessment of Ecological Impacts of National Road Schemes. The purpose of this EclA is to:

- Set out the methodologies used to inform the assessment.
- Identify Key Ecological Receptors (KERs) within the Zone of Influence (ZOI).
- Assess the impacts from the Proposed Development on the KERs and the resulting significant effects.
- Set out measures to avoid or mitigate negative impacts.
- Assess the residual effects after the incorporation of agreed avoidance or mitigation measures to ensure legal compliance.
- Set out agreed measures to offset significant residual effects.
- Set out opportunities for ecological enhancement.

1.1 Quality Assurance and Competence

All surveying and reporting have been carried out by qualified and experienced ecologists and environmental consultants. EK, Ecologist with DNV supported the field surveys for this report. CRK, Ecologist with DNV authored this report and undertook the desktop research for this report. The bat surveys were undertaken by KM, graduate ecologist with DNV, CR, CM, And AD, ecologist interns with DNV also assisted with the bat surveys.

EK has a BSc in Psychology from the University of Maryland, USA and an MSc in Biodiversity and Conservation from Trinity College Dublin. His experience includes desktop research, literature-scoping review, and report writing as well as vegetation surveys, rare species surveys, and habitat mapping. EK has contributed to the preparation of several AA Screenings, Ecological Impact Assessments (EclA) and EIAR Biodiversity Chapters, as well as Biodiversity Net Gain (BNG) Reports.

CRK is an Ecologist with a M.Sc. in Biodiversity and Conservation from Trinity College Dublin. CRK's experience as an ecologist is broad both variety of ecological reports and literature, and field surveys conducted. CRK has experience in surveying habitats, birds, plants, bats, mammals and invasive species, with some experience in assessing welfare conditions of animals using behavioural repertoires as indicators. CRK's experience in ecological report writing extends from Research associated reporting to AA screening reports and Natura 200 Impact (NIS) reports.

KM is a Graduate Ecologist with DNV and has a B.Sc (Hons) in Environmental Biology from University College Dublin. KM has a range of fieldwork experience including mammal, bird, and amphibian surveys in addition to freshwater ecology research. KM has extensive experience in data collection and ecological report writing, including but not limited to appropriate assessment screening reports.

CR is a final year B.Sc. undergraduate in Sustainability and Environmental Science at University College Dublin, gaining skills in report writing, desktop research and literature review, alongside extensive laboratory and environmental and biological data analysis experience. Under the supervision of senior ecologists, CR has contributed to the preparation of Ecological Impact Assessments (EclAs) and AA Screening Reports, supporting the delivery of high-quality ecological reporting.

CM is an Intern Ecologist with DNV and has a B.Sc (Hons) in Zoology from University College Dublin. CM has experience in data collection, ecological modelling, report writing, animal handling, and field surveying, including invasive species sampling, animal behaviour monitoring, species identification, and habitat sampling. CM has partaken in projects across marine, freshwater and terrestrial systems, focusing on ecological impacts and invasive species, and has contributed to relevant reports and academic research.

AD is an Intern Ecologist with a B.Sc. (Hons) in Geoscience from Trinity College Dublin, and a MSc in Applied Environmental Science from University College Dublin. AD's experience includes both geological and ecological field and laboratory work, molecular biomarker analysis and ecological report preparation. AD is also a student member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

1.2 Relevant Legislation and Policy Context

An EcIA is a process of identifying, quantifying, and evaluating potential effects of development-related or other actions on habitats, species and ecosystems (CIEEM, 2018). The Proposed Development is sub-threshold for an Environmental Impact Assessment (EIA) under the Planning and Development Regulations 2001-2025, as amended.

When an EcIA is undertaken as part of an EIA process it is subject to the EIA Regulations (under the Planning and Development Regulations 2001-2023). An EcIA is not a statutory requirement, however it is a best practice evaluation process. This EcIA is provided to assist the Competent Authority with its decision making in respect of the Proposed Development.

There is a number of pieces of legislation, regulations and policies specific to ecology which underpin this assessment. These may be applicable at a European, National or Local level. Legislation at the International level relevant to the Proposed Development are listed below:

- *Council Directive 92/43/EEC* on the Conservation of Natural Habitats and of Wild Fauna and Flora; hereafter the 'Habitats Directive'.
- *Directive 2009/147/EEC*, hereafter the 'Birds Directive'.
- *Directive 2011/92/EU*, hereafter the 'EIA Directive'.
- EU Regulation 1143/2014, on Invasive Alien Species.
- *Convention on the Conservation of European Wildlife and Natural Habitats 1982*, hereafter the 'Bern Convention'.
- *The Convention on the Conservation of Migratory Species of Wild Animals 1983*, hereafter the 'Bonn Convention'.
- *Ramsar Convention on Wetlands 1971*, hereafter referred to as 'Ramsar'.
- *Water Framework Directive 2000/60/EC*, hereafter the 'WFD'.

National legislation and policy relevant to the Proposed Development are listed below:

- Wildlife Act 1976, as amended in 2000.
- Flora (Protection) Order 2022.
- The Planning and Development Act 2000 as amended (currently in effect till the Planning and Development Act 2024 that comes into effect in 2026).
- National Biodiversity Plan 2023-2030.

Additionally, Natural Heritage Areas (NHAs) are designations under the Wildlife Acts to protect habitats, species, or geology of national importance. The boundaries of many of the NHAs in Ireland overlap with Special Areas of Conservation (SAC) and/or Special Protection Area (SPA) sites. Although many NHA designations are not yet fully in force under this legislation (referred to as 'proposed NHAs' or pNHAs), they are offered protection in the meantime under planning policy which normally requires that planning authorities give recognition to their ecological value.

Local plans and policies relevant to the Proposed Development are listed below:

- Dublin City Development Plan 2022-2028
- Dublin City Biodiversity Action Plan 2021-2025

Further details on legislation and policy relevant to the Proposed Development are detailed in Appendix I.

2 DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Site Location

The Site of the Proposed Development is situated on the Site of the former Matt's of Cabra public housing at 2A Fassagh Avenue, Dublin 7, D07 TH77, Co. Dublin. Cabra is an inner-city suburb located on the Northside of Dublin, approximately 2km northwest of the city centre. The Proposed Development comprises of the redevelopment of the vacant site located along Faussagh Avenue, oriented longitudinally from south to north. It is bounded to the east by a residential area and to



the west by a railway line. On the southern end of the site lies a derelict structure, formerly a local pub Matts of Cabra, now in a state of ruin. The southern boundary consists of the derelict building, access gates, and site hoarding. The western boundary along the Irish Rail line is defined by a tall palisade fence, which is supplemented by hoarding in certain areas. The northern boundary is marked by a light timber fence, while the eastern boundary, adjoining to residential properties, is primarily defined by a 2 m high blockwork wall or the backs of buildings. The Royal Canal flows 210m north of the Site, flowing in a south-eastward direction in relation to the Proposed Development (see Figure 1)



FIGURE 1. SITE LOCATION

2.2 Proposed Development Description

The Proposed Development provides for a Large-Scale Residential Development, which in summary, shall consist of:

- a) Demolition of the former 'Matts of Cabra' public house and associated structures.
- b) Construction of a purpose-built student accommodation scheme consisting of 249 no. student bedspaces arranged in 32 no. clusters of 4, 7, 8, 9 and 10-bedroom units (including 13 no. accessible units and 10 no. studio units) each with associated shared kitchen/living/dining areas in 2 no. blocks ranging in height from 4-6 storeys;
- c) Internal amenity spaces (approx. 347.1 sqm) including a student lounge area, laundry room, postal room and a reception / office / kitchen / tearoom across the ground floor and first floor levels;
- d) External amenity areas (approx. 2,971.4 sqm) including 1 no. outdoor terrace at fourth floor level of Block A (193.1 sqm);
- e) Approx. 405.5 sqm of public open space in the form of a public plaza fronting Fassagh Avenue;
- f) Switch room, ESB substation, sprinkler room and bin storage all in a single storey services building along the eastern site boundary;
- g) A total of 308 no. bicycle parking spaces at surface level (258 no. long term, covered bicycle parking spaces including 12 no. cargo bicycle parking spaces and 50 no. visitor bicycle parking spaces);
- h) Vehicular access to be provided from Fassagh Avenue;
- i) 1 no. accessible car parking space proposed within the site;
- j) It is proposed that the development will be used for short term tourist or visitor accommodation outside of academic term times, in accordance with the definition of student accommodation.

The development will also provide for all associated service connections, public lighting, cold water storage and thermal store room, hard and soft landscaping, planting, formal activity equipment, removable bollards, tactile paving, boundary treatments, nature-based SuDS features, green and blue roofs, and all associated site clearance, excavation and development works above and below ground.

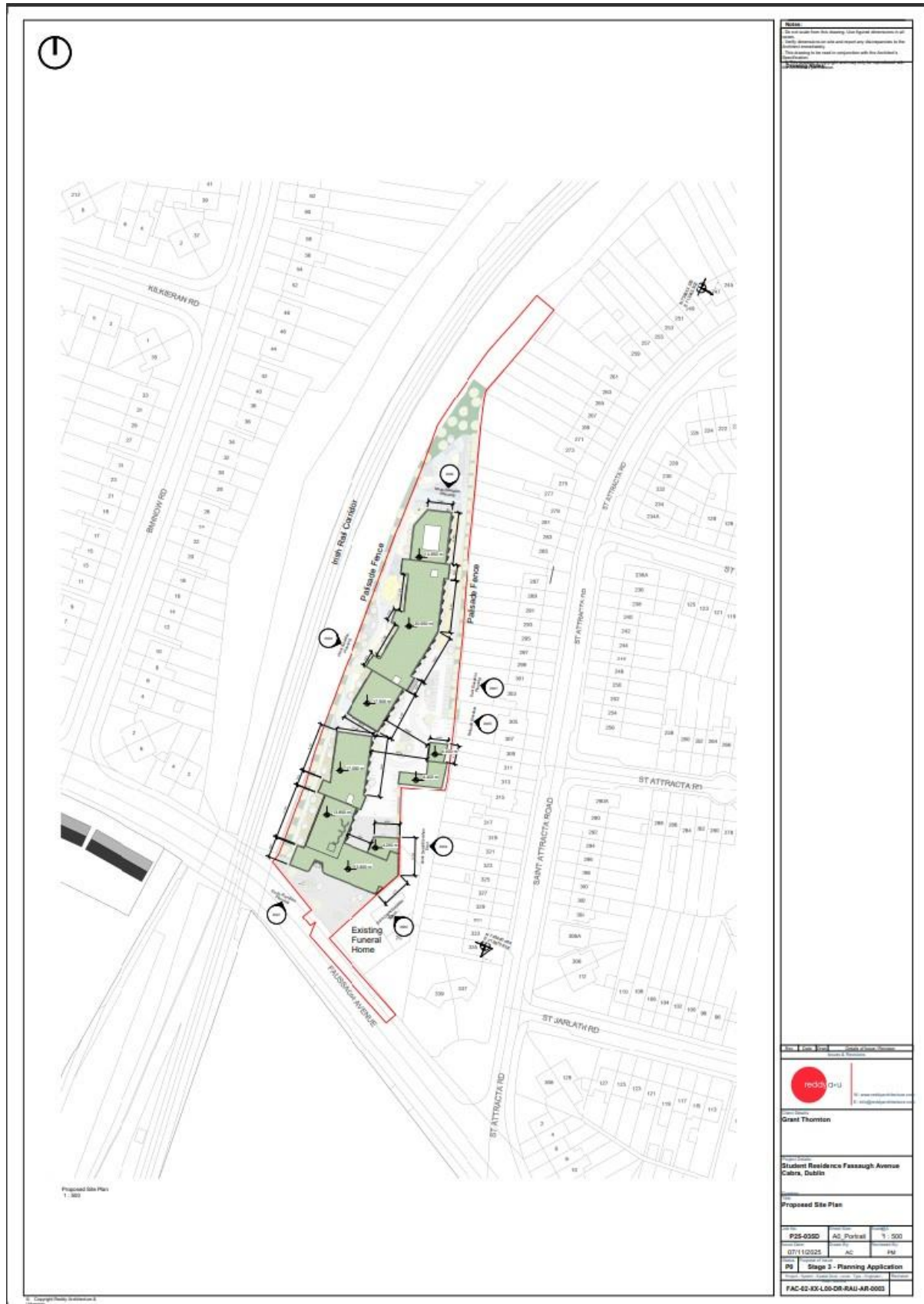


FIGURE 2. PROPOSED SITE PLAN (REDDY 2025)

2.2.1 Drainage and Water Supply

2.2.1.1 Surface water

The following information is extracted from the Engineering Service Report for the Proposed Development (Lohan & Donnelly, 2025a).

Existing Surface Water Drainage

A review of the Irish Water drainage record map showed no existing surface water sewer in the vicinity of the Site. However, after consultation with DCC, they have confirmed the existence of a surface water sewer with sufficient capacity for the proposed development to connect into.

Proposed Surface Water Drainage

The proposed surface water drainage infrastructure for the Proposed Development has been designed and is to be constructed in accordance with "Greater Dublin Strategic Drainage Study (GDSDS) Regional Drainage Policies Technical Document – Volume 2, New Developments, 2005, "Greater Dublin Regional Code of Practice Works" and the Building Regulation requirements.

It is proposed to provide 225mm diameter surface water pipes to service the Site. Surface water collected from within the site boundary will flow into the last manhole on site "SW01". From the last manhole on site "SW01" the surface water will flow out into the existing water sewer adjacent to the southern boundary of the Site (see Figure 3).

Sustainable Drainage Systems (SuDS)

The Proposed Development will incorporate the design principles of Sustainable Drainage Systems (SuDS). The SuDS elements which were found applicable to the proposed scheme design and layout include the following:

- **Extensive Green-Blue Roof** – It is proposed to provide a green-blue roof system that covers approximately 1662m² of the roof area of the Proposed Development. The blue roof will act as a roof level attenuation tank which removes the need for an in-ground attenuation tank with the green roof typically installed above the blue roof. Rainwater on the green-blue roof will be absorbed by the vegetation layer. For heavier storm events, when the vegetation layer is no longer capable of retaining any more water, it will then be deposited into a 100mm deep "Bauder attenuation cell 100" and used by the vegetation layer once it has recovered. In heavy 1 in a 100-year storm event, when the water can no longer be held within the vegetation layer or attenuation cells it will discharge into the surface water sewer located at ground level at a controlled rate via flow restrictors.
- **Permeable Paving** – It is proposed to incorporate a permeable paving system into the paved areas within the Proposed Development, with the aim of reducing run-off from the site in times of precipitation and improving the quality of run-off generally. The quality of run-off from the Site shall also be improved due to the filtering process of the paving, which retains silts and degrades hydrocarbons. In a 1 in 100-year storm event, with 20% increase in storage volume to allow for climate change and total permeable paving area of 1790m², the total required attenuation volume equates to 52.329m³. The total provided attenuation by the permeable paving is 161.09m³.
- **Hydrobrake (Site Run-off Control)** control will be used to avoid over capacitating the existing surface water sewer. This will be installed adjacent to the 'SW01' manhole on Site, where it will control the flow rate of water.

The aforementioned SuDS will also undergo maintenance during the extent of the Operational Phase of the Proposed Development to ensure they continue to function in an optimal and efficient state.

2.2.1.2 Foul Drainage

The following information is extracted from the Engineering Service Report for the Proposed Development (Lohan & Donnelly, 2025a).

Existing Foul Drainage

There is an existing 225mm diameter concrete sewer located in close vicinity to the Proposed Development along Faussagh Avenue. The sewer originates a small distance South of the site boundary, before travelling South-East down Faussagh Avenue.

Proposed Foul Drainage

Foul water from the Proposed Development will discharge into a 225mm diameter foul water pipe, commencing from a location along the Easterly boundary of the site, before extending to the last foul water manhole of the site 'FW01' located just South of the site beside Fassaugh Avenue, before discharging all the foul water generated from the proposed development into an existing foul water manhole located further South-East down Fassaugh Avenue (see Figure 3). Foul water from here will be directed to Ringsend Wastewater Treatment Plant (WwTP).

2.2.2 Landscape Plan

The proposed landscape design of the Site has been prepared by ait (ait, 2025a) (see Figure 4).

The landscaping design outlines details of the proposed landscaping at the Proposed Development, which includes pedestrian footpath networks, a vehicular access road along the eastern section of the Site, hard landscaping for these areas, public open space, communal open space, soft landscaping across the Site, boundary treatment, and SuDs proposed for the Site.

Along the southern section of the Site, public open space is proposed, where a mix of ornamental flowering trees and native mix will be used for a pollinator-friendly planting scheme. The communal open spaces in the southern, northern and western sections of the Site will also adhere by the aforementioned planting scheme. Pedestrian access is provided via two gentle gradients from the east and west.

Given the lack of trees currently present at the Site, light-canopy native trees such as birch are proposed along the western boundary of the Site, and native hedgerow planting along the western and parts of the eastern boundary have been proposed. In addition, multi-stem flowering trees and other flowering species have been proposed for the vegetation in the central areas of the Site.

2.2.3 Lighting Plan

A Lighting plan for the Site was developed by O'Connor Sutton Cronin Multidisciplinary Consulting Engineers (OCSC, 2025).

This lighting report outlines details such as the design criteria, luminaire types proposed for the development and how the proposed design will meet the relevant public lighting standards. The lighting system was designed to achieve the level of Lux and set up a plan to bring up the overall to the desired limits. A section of this report focuses on the biodiversity and environmentally friendly strategy employed by the lighting plan, where the strategies are as follows:

- Do not over light - Where relevant guidance gives a range of illumination levels the lowest one which is appropriate shall be utilised. No lighting is directly at the open water or trees or the canal frontage.
- Luminance distribution - The spread of light shall be kept near to or below the horizontal where possible.
- Minimise UV light – Selected luminaires shall emit minimal UV light. This can be achieved by selecting LED luminaires.
- Colour temperature of lamps – All light sources shall be 3000K maximum.
- Lighting controls – Consideration shall be made to when lighting is operational to reduce detrimental impacts on nocturnal animals
- Light spill - The lighting calculations were conducted to examine if the light spill from the fittings. It was concluded that the levels were appropriately low. As an E4 zone a lux average level below 5 lux would be considered appropriate. To achieve these levels back baffles were installed on the luminaires in question.

These strategies will ensure that all installations meet the requisite specifications for safety, efficiency, and environmental considerations, while providing optimal illumination for public areas

2.3 Description of the Construction Phase

A preliminary Construction Environmental Management Plan (CEMP) has been prepared by AWN Consulting (AWN, 2025) with details of the Construction Phase for the Site.

It is anticipated that the construction works associated with the Proposed Development will be undertaken in a single phase. These works are expected to commence in the second quarter (Q2) 2026 and will take approximately one year for the construction and commission phases.

Except otherwise agreed with Dublin City Council, working hours will be 08:00 to 19:00 Mondays to Fridays

Demolition Phase

The construction works will include the demolition of the existing “Matts of Cabra” public house at the Site. The demolition shall be in full compliance with BS 6187 “Demolition in Buildings”¹ and all measures necessary will be taken to protect persons from injury. The demolition will commence with the removal of any hazardous materials by an appropriately qualified contractor for disposal at an appropriate licensed waste collection facility. All non-structural items will then be removed and segregated for re-use or re-cycling where possible. The remainder of the building structure will be removed in an approved sequence outlined in a Method Statement prepared by the yet to be selected demolition contractor’s structural engineer.

Excavation and Construction Phase

The project excavations will involve excavations for new foundations, site levelling and excavations for roads and services.

The works will include:

- Site set up, welfare facilities and compound establishment, decommissioning and movement of site compound and facilities as needed.
- Set up of hoarding around compound and the site boundary.
- Erection of safety signage to all areas and implementation of traffic/pedestrian management plan.
- Commencement of construction works thereafter

During construction the following will be implemented:

- Dust, noise and vibrations control measures will be implemented to protect the surrounding residential areas and environment.
- Acceptable excavation material will be reused, while unacceptable material will be transported off site to a licensed waste disposal facility.
- Adherence to best practice in respect of protection of the watercourses during all stages of construction.
- Suitable surface water management. Any surface water encountered during this phase will be pumped to the foul sewerage network during periods of low flow in agreement with the relevant authorities or pumped to tankers and removed from site. In the event of an unexpected underground stream being encountered, this will be diverted in consultation with relevant agencies before excavation works continue.
- Protection of existing buildings in the vicinity of the Site.
- Focussed and controlled lighting during construction.

2.4 Description of the Operational Phase

The Operational Phase of the Proposed Development will see the normal use of the large scale residential development by its tenants. It is anticipated that human activity at the central and southern sections of the Site will be increased from the baseline due to the communal open space and public open space that have been incorporated in these regions respectively, and the pedestrian access routes that connect these features. It is also anticipated that road use (vehicular, cyclists and pedestrian activity) along Faussagh Avenue will increase from baseline.



Page 12

3 METHODOLOGY

This EclA has been undertaken to support and assess the Proposed Development planning application and assesses the potential impacts that the Proposed Development may have on the ecology of the Site and its environs. Where potential for a risk to the environment is identified, mitigation measures are proposed on the basis that by deploying these mitigation measures the risk is eliminated or reduced to an insignificant level.

This section details the steps and methodology employed to undertake an ecological impact assessment of the Proposed Development.

3.1 Scope of Assessment

The specific objectives of the study were to:

- Undertake baseline ecological surveys and evaluate the nature conservation importance of the Site;
- Identify and assess the direct, indirect and cumulative ecological implications or impacts of the Proposed Development during its lifetime; and
- Where possible, propose mitigation measures to remove or reduce those impacts at the appropriate stage of the Proposed Development.

3.2 Desk Study

A desktop study was carried out to collate and review available information, datasets and documentation sources pertaining to the Site's natural environment. The desk study, completed in November 2025, relied on the following sources:

- Information on species records¹ and distributions, obtained from the National Biodiversity Data Centre (NBDC) at maps.biodiversityireland.ie;
- Information on Floral Protection Order (FPO) Bryophytes database at dahg.maps.arcgis.com;
- Information on waterbodies, catchment areas and hydrological connections obtained from the Environmental Protection Agency (EPA) at gis.epa.ie;
- Information on bedrock, groundwater, aquifers and their statuses, obtained from Geological Survey Ireland (GSI) at www.gsi.ie;
- Information on the network designated conservation sites, site boundaries, qualifying interests and conservation objectives, obtained from the National Parks and Wildlife Service (NPWS) at www.npws.ie;
- Satellite imagery and mapping obtained from various sources and dates including Google, Digital Globe, Bing and Ordnance Survey Ireland;
- Information on the existence of permitted development, or developments awaiting decision, in the vicinity of the Proposed Development from the National Planning Application Database available at: <https://housinggov.ie/maps/arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de>; and
- Information on the extent, nature and location of the Proposed Development, provided by the applicant and/or their design team.

A comprehensive list of all the specific documents and information sources consulted in the completion of this report is provided in Section 10, References.

3.3 Zone of Influence

The ZOI for a project is the area over which ecological features may be affected by changes as a result of the Proposed Development and associated activities. This is likely to extend beyond the development site, for example where there are ecological or hydrological links beyond the site boundaries (CIEEM, 2018). The ZOI will vary with different ecological features, depending on their sensitivities to an environmental change.

¹ The Site of the Proposed Development lies within the 10km grid square O13 and the 2km grid square O13I. Records from the last 20 years from available datasets are given in the relevant sections of this report.

Furthermore, ZOI in relation to European sites is described as follows in the 'OPR Practice Note PN01 - Appropriate Assessment Screening for Development Management' (OPR, 2021):

"The zone of influence of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. This should be established on a case-by-case basis using the Source-Pathway-Receptor framework and not by arbitrary distances (such as 15 km)."

Identification of Relevant Designated Sites

To determine the ZOI of the Proposed Development for designated sites, reference was made to the OPR Practice Note PN01 - Appropriate Assessment Screening for Development Management' (OPR, 2021), a practice note produced by the Office of the Planning Regulator, Dublin. This note was published to provide guidance on screening for AA during the planning process, and although it focuses on the approach a planning authority should take in screening for AA, the methodology is also readily applied in the preparation of EclA reports such as this to identify all relevant designated sites potentially linked to the Proposed Development.

As noted above, the most recent guidance advises against the use of arbitrary distances that serve as precautionary ZOI (e.g., 15km), and instead recommends the application of the Source-Pathway-Receptor (S-P-R) model in the identification of designated sites, stating that *"This should avoid lengthy descriptions of European sites, regardless of whether they are relevant to the proposed development, and a lack of focus on the relevant European sites and issues of importance"*. Although this statement refers to European sites, it is also applicable to other designated sites.

Thus, the methodology used to identify relevant designated sites comprised the following:

- Identification of potential sources of effects based on the Proposed Development description and details;
- Identification of potential pathways between the Site of the Proposed Development and any designated sites within the ZOI of any of the identified sources of effects.
 - Water catchment data from the EPA (www.epa.ie) were used to establish or discount potential hydrological connectivity between the Proposed Development and any designated sites.
 - Groundwater and bedrock information used to establish or discount potential hydrogeological connectivity between the Proposed Development and any designated sites.
 - Air and land connectivity assessed based on Proposed Development details and proximity to designated sites.
 - Consideration of potential indirect pathways, e.g., impacts to flight paths, *ex-situ* habitats, etc.
- Review of Ireland's designated sites to identify those sites which could potentially be affected by the Proposed Development in view of the identified pathways, using the following sources;
 - European sites and nationally designated sites (e.g., NHAs and pNHAs) from the NPWS (www.npws.ie);
 - Ramsar sites from the Irish Ramsar Wetland Committee (<https://irishwetlands.ie/irish-sites/>);
 - Other internationally designated sites e.g., UNESCO Biosphere's; and
- Regional development plans to identify any remaining sites or areas designated for nature conservation at a local level.

3.4 Field Surveys

To determine the likely ecological constraints at the Site, a multidisciplinary walkover survey was carried out on 17th June 2025. This survey covered the following aspects:

- Habitat mapping to level 3 (Fossitt 2000)
- Preliminary Bat Roost Assessment and Habitat Suitability Survey

- Bird Scoping Survey
- Invasive Flora Survey
- A search for signs of protected fauna (e.g., mammals, reptiles, amphibians)

Following the initial walkover, targeted surveys to determine bat activity were also carried out. The list of surveys conducted for the Site of the Proposed Development have been presented in the table below.

TABLE 1. FIELD SURVEYS UNDERTAKEN AT THE PROPOSED DEVELOPMENT SITE.

Survey	Surveyor	Dates
Preliminary Habitat and Flora Survey (incl. invasive species)	DNV (EK)	17 th June 2025
General Mammal Survey		
Bird Scoping Survey		
Bat Activity Survey	DNV (CRK, AD, KM)	23 rd July 2025 12 th August 2025
Bat Emergence Survey	DNV (CRK, CR, CM, AD, KM)	22 nd July 2025 12 th August 2025
Bat Static Survey	DNV (CRK)	22 nd to 28 th July 2025 12 th to 18 th August 2025

3.4.1 Habitat Surveys

Habitat surveys of the Site were conducted by DNV on 17th June 2025. Habitats were categorised according to the Heritage Council's 'A Guide to Habitats in Ireland' (Fossitt, 2000) to level 3. The habitat mapping exercise had regard to the 'Best Practice Guidance for Habitat Survey and Mapping' (Smith *et al.*, 2010) published by the Heritage Council.

The habitats at the Site were also assessed for their potential to support protected and/or notable fauna.

3.4.2 Invasive Species Surveys

An invasive species surveys was carried out in conjunction with the habitat surveys on 17th June 2025. This included a detailed search for signs of any invasive flora or fauna, with any incidental observations of evidence for invasive species recorded whenever on Site.

3.4.3 Bat Surveys

3.4.3.1 Preliminary Bat Roost Assessment

A daytime inspection of the Site was undertaken on the 17th June 2025. The aim of the inspection was to search for indication of the presence of roosting bats, and to assess the habitat for its ability to support commuting and foraging bats. Buildings and trees on Site were visually assessed from the ground with the aid of a torch and binoculars. The roost inspection comprised a detailed inspection of structures and trees on Site. These were subject to exterior and interior inspections (where possible) to search for evidence of bat use. This includes live and dead specimens, droppings, feeding remains, oil staining and noise (Collins 2023). Buildings were assessed for cracks and crevices, or entry points to the roof that might support roosting bats, while trees were searched for Potential Roosting Features (PRFs) such as hollow trunks, knot holes, peeling bark, splits, cracks, and crevices (Collins 2023; Andrews 2018).

Collins (2023) recommends that structures and trees are assessed for their ability to support roosting bats under separate categorisations using professional judgement. Sub-categories to consider for structures are as presented in Table 4.1 (Collins, 2023):

- Negligible – No suitable features observed, however, a small element of uncertainty remain;
- Low – A structure with one or more roost features as used by individual bats opportunistically at any time of year;
- Moderate – A structure with one or more roost features that could be used by bats on a regular basis or by a larger number of bats; and
- High – A structure with one or more roost features that are obviously suitable for use by a larger number of bats on a regular basis, and potentially for longer periods of time. These features have the potential to support high conservation status roosts.

Trees are categorized separately according to Table 4.2 of Collins (2023). These classifications are:

- NONE – Either no PRFs in the tree or highly unlikely to be any;
- FAR – Further assessment required to establish if PRFs are present in the tree; and
- PRF – A tree with at least one PRF present.

Where a tree contains at least one PRF, each PRF is further assessed according to Table 6.2 (Collins 2023). PRF's are scored as either:

- PRF-I – PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
- PRF-M – PRF is suitable for multiple bats and may therefore be used by a maternity colony.

For trees with PRF-I's only, no further surveys may be required, but appropriate compensation for all PRF-I's must be designed and incorporated in advance of impacts along with a Precautionary Working Method Statement (PWMS). As the Site increases in suitability for roosting bats e.g., PRF-M's present, the survey effort increases accordingly. A PRF-M will require a detailed inspection, such as aerial inspection, conducted over three survey visits, a minimum of three weeks apart, which should be carried out between May and September with at least two in the period May to August. Where features are inaccessible by ladder, climbing, or MEWP, or too extensive for a PRF inspection, the aerial inspection should be replaced with emergence surveys carried out between May and September with Night Vision Aids (NVA) where possible or otherwise surveyed using Advanced Licence Bat Survey Techniques (ALBST), such as trapping, tagging, and radio-tracking to inform of the importance of a roost.

3.4.3.2 Preliminary Bat Habitat Suitability Assessment

A Bat Habitat Suitability Assessment was carried out in conjunction with the roost assessment on 17th June 2025. This assessment evaluated the habitats present on Site and in the wider area for bat foraging and commuting suitability. Habitat suitability is assessed qualitatively from Negligible to High:

- Negligible – No suitable foraging or commuting habitats on Site
- Low – Suitable but isolated habitats that could be used by small numbers of commuting and/or foraging bats, such as poorly connected gappy hedgerows, lone trees, unvegetated streams, etc.
- Moderate – Suitable continuous habitat connected to the wider landscape that could be used by commuting and/or foraging bats, such as treelines, scrub, grassland, water, etc.
- High – Continuous high-quality habitat that is well-connected to the wider landscape, and is likely used regularly by commuting and/or foraging bats, such as river valleys, broadleaved woodland, woodland edge, grazed parkland, etc.

3.4.3.3 Bat Landscape Suitability

The Bat Conservation Ireland Landscape Suitability Model (Lundy *et al.*, 2011) provides a habitat suitability index for bat species across Ireland. The model divides the country into 1 km grid squares and ranks the habitat within the squares according to its suitability for various bat species. The scores are divided into five qualitative categories of suitability, namely:

- 0.0000000 - 13.0000000: Low
- 13.0000001 - 21.333300: Low – Medium
- 21.333301 - 28.111099: Medium
- 28.111100 - 36.444401: Medium – High
- 36.444402 - 58.555599: High

3.4.3.4 Bat Emergence Surveys

The surveys were conducted by experienced surveyors who were situated in locations that gave good views of the PRFs identified within the Site. The methodology of the emergence/re-entry surveys followed best practice guidelines (Collins, 2023 and Marnell et al., 2022) with dusk surveys commencing 15 minutes before sunset and lasting until approximately 1.5 – 2 hours after sunset and dawn surveys commencing 2 hours prior to sunrise and ending at sunrise. PRFs in the form of gaps in masonry of the existing buildings on Site were identified and surveyed for emergence. Details of the date, times and weather conditions are presented below.

TABLE 2. WEATHER CONDITIONS RECORDED DURING BAT EMERGENCE SURVEYS

Date	Sunset	Survey Start & End	Weather at Start	Weather at End
22/07/2025	21:30	21:30 to 23:10	16 °C, dry, 75% cloud cover, light breeze (wind speed of 7km/hr), visibility 4/4	16 °C, dry but very light drizzle towards the end of survey, 100% cloud cover, gentle breeze (wind speed of 7km/hr), visibility 4/4
12/08/2025	20:59	20:44 to 22:34	20 °C, dry, 25% cloud cover, light breeze (wind speed of 7km/hr), visibility 4/4	18 °C, dry, 50% cloud cover, light breeze (wind speed of 5km/hr), visibility 1/4

3.4.3.5 Bat Activity Surveys

The Site was assessed by an experienced ecologist in relation to the potential bat foraging habitat and commuting routes. The surveys were undertaken to best practice guidance (Collins, 2023 and Marnell et al., 2022) during times of suitable weather conditions, as detailed below. The surveyor was equipped with a Elekon Batlogger M2 detector and powerful L.E.D. torch and head torches. Surveys started at sunset and continued for 2-3 hours, along a predesigned transect route with regular point counts, as presented in Figure 12.

TABLE 3. WEATHER CONDITIONS RECORDED DURING BAT TRANSECT SURVEY

Date	Sunset	Survey Start & End	Weather at Start	Weather at End
23/07/2025	21:34	21:24 to 23:05	17 °C, dry, 100% cloud cover, light breeze (wind speed of 9km/hr), visibility 4/4	16 °C, dry, 100% cloud cover, light breeze (wind speed of 4km/hr), visibility 1/4
12/08/2025	20:59	20:44 to 22:34	20 °C, dry, 25% cloud cover, light breeze (wind speed of 7km/hr), visibility 4/4	18 °C, dry, 50% cloud cover, light breeze (wind speed of 5km/hr), visibility 1/4

Data Analysis

Species were identified from recordings using Elekon's BatExplorer software (version 2.1.10.1). Bat data was analysed and species assigned to each record with reference to species identification guides such as Russ (2012).

Each record i.e., a sequence of bat calls/pulses, is noted as a bat pass; to indicate the level of bat activity for each species recorded. Each bat pass does not correlate to an individual bat but is representative of bat activity levels. Some bats such as *Pipistrelle* species may continuously fly around a habitat or feature, therefore, it is possible that a series of bat passes within a similar time frame is representative of an individual bat. On the other hand, Leisler's bats (*Nyctalus leisleri*) tend to travel through an area quickly, and as such, an individual sequence or bat pass is more likely to be indicative of individual bats. The meta data from the transect surveys have been included in section 11 of this report.

3.4.3.6 Bat Static Surveys

Static bat detectors of the 'SM4Bat FS' model were deployed on Site between 22nd to 28th July 2025 and 12th to 18th August 2025, during which the static detectors were deployed on Site for a duration of roughly five days to ensure that robust data of bat species utilising the Site were recorded. The methodology of the static survey followed best practice guidelines (Collins, 2023 and Marnell et al., 2022) where the static detector deployed on Site was scheduled to start and end 30min before sunset and after sunset respectively.

Data Analysis

Species were identified from recordings using Kaleidoscope Pro software. Bat data was analysed and species assigned to each record with reference to species identification guides such as Russ (2012). Each record i.e., a sequence of bat calls/pulses, is noted as a bat pass; to indicate the level of bat activity for each species recorded. Each bat pass does not correlate to an individual bat but is representative of bat activity levels as described above in section 3.4.3.5. Given the large nature of the static data, meta data from the static surveys have not been included in this report but can be provided separately if required.

3.4.4 Bird Scoping Surveys

A bird scoping survey was carried out 17th June 2025 to scope out the breeding and non-breeding bird potential at the Site based on habitats. Additionally, all bird species encountered during the survey were recorded and activity noted where possible.

The survey methodology employed was based on that recommended in standard literature used by for example the British Trust for Ornithology (BTO) (Gillings et al, 2007; Bibby et al, 1992 and Gilbert et al, 1998), which has subsequently been adapted into guidelines for ecological consultants by the Bird Survey & Assessment Steering Group (2022). During the surveys, the Site was walked slowly, approaching all habitats within and adjacent to the Proposed Development and scanning and listening for birds.

3.4.5 Fauna Survey

A general fauna survey of the Site was carried out in conjunction with the other field surveys on 17th June 2025. The habitat types recorded throughout the survey area were used to assist in identifying the fauna considered likely to utilise the area. The Site was searched for tracks and signs of mammals as per Bang and Dahlstrom (2001) and other fauna as per the National Road Authority (NRA, 2005; NRA.2009a).

3.5 Ecological Assessment

This EcIA has been undertaken following the methodology set out in Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018); and with reference to the National Roads Authority 'Guidelines for Assessment of Ecological Impacts of National Road Schemes' (NRA, 2009) and the Environmental Protection Agency (EPA) 'Guidelines on the information to be contained in Environmental Impact Assessment Reports' (EPA, 2022) and BS 42020:2013 Biodiversity: Code of practice for planning and development (BSI, 2013).

The evaluation of significant effects should be based on available scientific evidence. Based on the precautionary principle, if the available information is not sufficient, then a significant effect may be assumed likely to occur.

3.5.1 Evaluation of Ecological Features

The value of the ecological features, i.e., the habitats and species present or potentially present, was determined using the ecological evaluation at different geographical scales (NRA, 2009), presented in Appendix II. This

evaluation scheme, with values ranging from locally important to internationally important, seeks to provide value ratings for habitats and species present that are considered ecological receptors of impacts that may ensue from a proposal. Based on best practice (CIEEM, 2018), any features considered to be less than of local value are not assessed within this EclA.

3.5.2 Impact Assessment

As per the NRA guidelines, impact assessment is only undertaken of Key Ecological Receptors (KERs). The assessment of the potential impact of the Proposed Development on the identified KERs was carried out with regard to the criteria outlined in the EPA Guideline (EPA, 2022), presented in Appendix III. These guidelines set out a number of parameters that should be considered when determining which elements of the Proposed Development could constitute impact or sources of impacts. These include;

- Positive, neutral or negative effect;
- Significance;
- Extent;
- Probability;
- Duration;
- Timing;
- Frequency; and
- Reversibility.

The impact assessment process considers both direct and indirect impacts: direct ecological impacts are changes that are directly attributable to a defined action, e.g. the physical loss of habitat. Indirect ecological impacts are attributable to an action, but which affect ecological resources through effects on an intermediary ecosystem, process, or feature, e.g., the creation of roads which cause hydrological changes, which, in the absence of mitigation, could lead to an adverse effect of a sensitive habitat.

3.5.3 Assessment of Cumulative Impacts and Effects

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects can occur where a Proposed Development results in individually insignificant impacts that, when considered in combination with impacts of other proposed or permitted plans and projects, can result in significant effects.

Relevant plans and policies (see section 1.2) were reviewed to identify any potential for negative cumulative impacts with the Proposed Development. Additionally, existing planning permissions from the past five years (from 2018 onwards) within the ZOI of the Proposed Development were reviewed, with particular focus on potential cumulative impacts on the identified KERs. Long-term developments were also considered where applicable.

3.5.4 Avoidance, Mitigation, Compensation and Enhancement Measures

Where potentially significant effects have been identified, the mitigation hierarchy has been applied, as recommended in the CIEEM Guidelines. The mitigation hierarchy sets out a sequential approach beginning with the avoidance of impacts where possible, the application of mitigation measures to minimise unavoidable impacts and then compensation for any remaining impacts. Once avoidance and mitigation measures have been applied residual effects are then identified along with any necessary compensation measures, and incorporation of opportunities for enhancement. When seeking mitigation or compensation solutions, efforts should be consistent with the geographical scale at which an effect is significant. For example, mitigation and compensation for effects on a species population significant at a county scale should ensure no net loss of the population at a county scale. The relative geographical scale at which the effect is significant will have a bearing on the required outcome which must be achieved.

It is important for the EclA to clearly differentiate between avoidance, mitigation, compensation and enhancement and these terms are defined here as follows:

- Avoidance is used where an impact has been avoided, e.g., through changes in scheme design. In practice, avoidance measures are typically implemented during the design stage via discussions and re-

design (e.g., avoiding a sensitive habitat by relocating a building). Avoidance measures are therefore rarely reported within an EclA, which focuses on assessing the final design.

- Mitigation is used to refer to measures to reduce or remedy a specific negative impact in situ.
- Compensation describes measures taken to offset residual effects, i.e. where mitigation in situ is not possible.
- Enhancement is the provision of new benefits for biodiversity that are additional to those provided as part of mitigation or compensation measures, although they can be complementary.

3.6 Limitations

Every effort has been made to provide a comprehensive description of the site; however, the following specific limitations apply to this assessment:

- An extensive search of available datasets for records of rare and protected species within proximity of the Proposed Development has been undertaken as part of this assessment. However, the records from these datasets do not constitute a complete species list. The absence of species from these datasets does not necessarily confirm an absence of species in the area.
- No dedicated breeding bird surveys were carried out for this application. However, due to the highly disturbed nature of the habitats at the Site and the limited impacts predicted on adjacent natural habitats, the Site is unlikely to support significant breeding populations of notable bird species. As such, the lack of dedicated breeding bird surveys is not considered to be a significant limitation in combination with the application of a precautionary approach.
- The general mammal survey that was carried out during the PEA walkover survey was done so outside the optimal survey period for mammals as high vegetation growths can obscure signs of mammals (e.g. trails, snuffle holes and setts). However, this does not constitute a significant limitation given the small nature of the Site in a highly urbanised area, and limited vegetation and habitats present on Site.

No other potential limitations were encountered during the preparation of this report. It is therefore considered that an appropriate evaluation of the habitats, species and other ecological features and the potential impacts that could arise from the Proposed Development has been carried out in this assessment.

4 ECOLOGICAL BASELINE CONDITIONS

This section sets out the baseline conditions for the ecological features within the Site using the findings of the desk study and field surveys.

4.1 Geology, Hydrogeology and Hydrology

The Site is located in the *Liffey and Dublin Bay Catchment* (I.D.: 09) and in the *Tolka_SC_020* sub-catchment (I.D.: 09_4).

The *Royal Canal Main Line (Liffey and Dublin Bay)* canal (IE_09_AWB_RCMLE) is the closest waterbody to the Site of the Proposed Development, located 250m north of the Site boundary. This canal ultimately flows into the *Irish Sea* via the *Liffey Estuary Lower* transitional waterbody (IE_EA_090_0300) at a distance of approximately 4.5 kilometres (km) from the Proposed Development, and the *Dublin Bay* coastal waterbody (IE_EA_090_0000) at a distance of approximately 8km. The closest river/stream to the Proposed Development is the *Tolka_060* river (IE_EA_09T011150) located approximately 900m north of the Site boundary.

The Site is situated on the *Dublin* groundwater body (IE_EA_G_008), and the vulnerability to contamination of said groundwater from human activities is currently under the 'review' process (GSI, 2025). The aquifer type in the surrounding area is 'Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones' (LI) (GSI, 2025).

The soil underneath the Site of the Proposed Development is classified as 'Urban – soil concerted over', and the sub-soil underneath the Site is 'Limestone till (Carboniferous)' (TLs) for the predominant area, with a small section along the southeast section of the Site classified as 'Man made'. The underlying quaternary sediments are predominantly 'Tills derived from limestone' (TLs) (GSI, 2025). The waterbody status from the waterbodies relevant to the Site as recorded by EPA (EPA, 2025) in accordance with European Communities Regulations 2003 (SI no. 722/2003) are provided in Table 4 below.

TABLE 4. EPA MONITORING STATIONS AND ASSIGNED Q VALUES

EPA Monitoring Station name	Station Code	Location from Site	Distance from Site	Assigned value	Q
TOLKA-Cardiff'd Br	RS09T011050	North upstream	1.13km	3 "Poor"	
Violet Hill Drive Finglas	RS09T011100	Northeast upstream	0.9km	3 "Poor"	

TABLE 5. WFD RISK AND WATER BODY STATUS

Waterbody Name	Water body; EU code	Location from Site	Distance from Site (km)	WFD water body status (2019-2024)	WFD 3 rd cycle Risk Status	Hydraulic Connection to the Site
Surface Water Bodies						
Royal Canal Main Line (Liffey and Dublin Bay)	IE_09_AWB_RCMLE	North	0.25	Good	Review	In the vicinity of the Site
Tolka_060	IE_EA_09T011150	North	0.90	Poor	At Risk	None
Transitional Water Bodies						

Waterbody Name	Water body; EU code	Location from Site	Distance from Site (km)	WFD water body status (2019-2024)	WFD 3 rd cycle Risk Status	Hydraulic Connection to the Site
Liffey Estuary Lower	IE_EA_090_0300	Southeast	4.5	Moderate	At risk	Downstream of Royal Canal Main Line Canal
Coastal Water Bodies						
Dublin Bay	IE_EA_090_0000	Southeast	8	Good	Not at Risk	Downstream of Royal Canal Main Line Canal and connected to Liffey Estuary Lower
Groundwater Bodies						
Dublin	IE_EA_G_008	N/A	N/A	Good	Review	Underlying groundwater-body

4.2 Designated Sites

All European sites potentially linked to the Proposed Amendments have been identified and fully assessed in the AA Screening Report (DNV, 2025) accompanying this submission under separate cover. A summary of the AA conclusions is given below.

Other nationally or internationally designated sites potentially linked to the Proposed Development are identified in section 4.2.2.

4.2.1 European sites – Appropriate Assessment

The following conclusion is extracted from the AA Screening Report accompanying this application under separate cover (DNV, 2025):

“The Proposed Development at former Matt’s of Cabra public housing at 2A Fassagh Avenue, Dublin 7, D07 TH77, Co. Dublin has been assessed taking into account:

- The nature, size and location of the proposed works and possible impacts arising from the construction works.*
- The QIs and conservation objectives of the European sites*
- The potential for in-combination effects arising from other plans and projects.*

*In conclusion, upon the examination, analysis and evaluation of the relevant information and applying the precautionary principle, it is concluded by the authors of this report that the possibility **may be excluded** that the Proposed Development will have a significant effect on any of the European sites listed below:*

- North Dublin Bay SAC (000206)*
- South Dublin Bay SAC (000210)*
- Baldoyle Bay SAC (000199)*
- South Dublin Bay and River Tolka Estuary SPA (004024)*
- North Bull Island SPA (004006)*
- North-west Irish Sea SPA (004236)*

- *Baldoyle Bay SPA (004016)*

In carrying out this AA screening, any targeted ecological mitigation measures and/or measures intended or included for the purposes of avoiding adverse effects arising as a result of the Proposed Development on any European site have not been taken into account.

On the basis of the screening exercise carried out above, it can be concluded, on the basis of the best scientific knowledge available and objective information, that the possibility of any significant effects on the above listed European sites, whether arising from the project itself or in combination with other plans and projects, can be excluded in light of the above listed European sites' conservation objectives. Thus, there is no requirement to proceed to Stage 2 of the Appropriate Assessment process; and the preparation of a NIS is not required. "

4.2.2 Other Designated sites

4.2.2.1 S-P-R links to Designated Sites

Potential impact pathways are discussed in the following sections in the context of the Proposed Development as described in Section 3.

Direct Pathways

Hydrological pathways

The closest watercourses to the Site of the Proposed Development are the Royal Canal and Tolka_060 River located approximately 0.25km and 0.90km north of the Site respectively. The nearest designated site along these watercourses is the *Royal Canal pNHA (002103)* designated for the Royal Canal, located 200m from the Site of the Proposed Development. However, there are no water courses present on Site that connect to the Royal Canal Main Line stream that flows in this pNHA, and the existing train line north and northeast of the Site will act as a buffer to any surface water flow between the Site and the pNHA. In addition, the embedded mitigations for the Construction Phase of the Proposed Project will negate any impacts via this pathway. Therefore, hydrological pathways to the *Royal Canal pNHA (002103)* are deemed to be weak, and no significant impacts are envisaged.

Should any surface waters from the Site reach these watercourses, the nearest designated sites downstream of these watercourses are the *North Dublin Bay pNHA (000206)*, *North Bull Island Ramsar site (406)*, and *South Dublin Bay pNHA (000210)*. The boundaries of these designated sites correspond with the *North Dublin Bay SAC (000206)* and *South Dublin Bay SAC (000210)* respectively, which have been assessed and screened out in the accompanying AA Screening report. These designated sites are sufficiently distant (>7km) that the pathway between the Site of the Proposed Development and the designated sites are insignificant due to the dilution factor of potential pollutants that may enter the water during construction/operation. By extension, the same logic is applied to any designated sites further.

Additionally, the Dublin Bay Biosphere UNESCO (United Nations Educational, Scientific and Cultural Organisation) site is located downstream at the lower reaches of the Royal Canal. However, for reasons outlined above, the hydrological pathway between the Site of the Proposed Development and this designated site is deemed to be weak and insignificant.

Foul water from the Operational Phase of the Proposed Development will be treated at Ringsend Wastewater Treatment Plant (WwTP), which discharges into Dublin Bay at Ringsend (south of the Tolka depositing point). The designated sites located near the depositing point of the Ringsend WwTP are *North Dublin Bay pNHA (000206)*, *South Dublin Bay pNHA (000210)*, *UNESCO Dublin Bay Biosphere*, and *North Bull Island RAMSAR site (406)*. Indirect hydrological pathways to designated sites connected to the Proposed Development, i.e., pollution of sites in Dublin Bay via foul water outflow from Ringsend WwTP has been assessed in full and screened out in the associated AA Screening Report (DNV, 2025) accompanying this submission under separate cover. As such, indirect pathways to designated sites will not be considered further in this report.

Hydrogeological pathways

During groundworks and other construction activities, the ground will be exposed and any potential accidental discharges to ground could potentially migrate vertically downward to the underlying bedrock aquifer and laterally within the aquifer to the designated sites.

In the vicinity of the Site, the *Royal Canal pNHA (002103)* is the closest designated site to the Proposed Development. However, given the distance of 200m from this site to the Proposed Development, urban nature of the Site, the presence of railway lines and luas lines west and north of the Site respectively, and the vulnerability of the area surrounding the Site of the Proposed Development to groundwater confirmation ('Low') it is not envisaged that there will be any significant impacts on these designated sites (and by proxy any other designated sites located further afield) as a result of the Proposed Development.

Air and land pathways

The Construction Phase of the Proposed Development could introduce dust and noise impacts transferable via air and land pathways, as well as increased lighting and human activity at the Site and in the vicinity of the Site during the Construction and Operational Phases. The *Royal Canal pNHA (002103)* located 200m north of the Site is the closest designated site to the Proposed Development. This is significant enough a distance that there is no potential for air/land pathways between this pNHA and the Site. As all other designated Sites are located further afield than *Royal Canal pNHA (002103)*, air and land pathways to all other designed sites further afield from the Site can be ruled out, by proxy.

Indirect Pathways

No indirect pathways to any nationally or internationally designated sites (excl. SACs/SPAs) were identified.

Relevant Designated Sites

A designated site will only be at risk from likely significant effects where an S-P-R link of note exists between the Proposed Development and the designated site. All designated sites considered as part of the S-P-R method (excl. European sites) are listed in Table 6. The location of designated sites considered within the Source- Pathway- Receptor (S-P-R) method in relation to the Proposed Development are shown in Figure 5 and Figure 6. Those sites with notable S-P-R links to the Proposed Development are assessed further in this report as KERs of 'National Importance' (pNHAs and NHAs) or 'International Importance' (SACs/SPAs, UNESCO sites, Ramsar sites, etc.). However, no designates sites with notable S-P-R links to the Proposed Project exist and are therefore not considered further in this report.

TABLE 6. DESIGNATED SITES CONSIDERED WITH THE SOURCE-PATHWAY-RECEPTOR (S-P-R) METHOD TO ESTABLISH NOTABLE LINKS BETWEEN THE SOURCES OF EFFECTS ARISING FROM THE PROPOSED AMENDMENTS, AND ANY RELEVANT DESIGNATED SITES. THOSE SITES WITH NOTABLE S-P-R LINKS THAT ARE FURTHER ASSESSED IN THIS REPORT ARE HIGHLIGHTED IN GREEN (IF ANY).

Site Name & Code (Receptor)	Distance to Site of Proposed Development	Designation Rationale / Site Description	Potential Pathway to receptors
Internationally Designated Sites			
UNESCO Dublin Bay Biosphere	3.3km	UNESCO, 2025 The biosphere reserve is significant from a conservation perspective since it supports well-developed salt marshes and dune systems displaying all stages of development from the earliest phase of colonization to stable and full maturity. It also qualifies for international importance as the numbers of three species exceed the international threshold – Light-bellied Brent Goose (<i>Branta bernicla hrota</i>), Black-tailed Godwit (<i>Limosa limosa</i>) and Bar-tailed Godwit (<i>Limosa lapponica</i>). Species such as Grey Heron (<i>Ardea cinerea</i>), Goldeneye (<i>Bucephala</i>), Red-breasted Merganser (<i>Mergus serrator</i>) and Greenshank (<i>Tringa nebularia</i>) are regular in winter in numbers of regional or local importance. The North Bull Island and parts of the buffer zone in north Dublin include populations of Irish Mountain Hare (<i>Lepus timidus hibernicus</i>), a uniquely Irish sub-species of a species of national and international importance, but under severe pressure from recreational disturbance and illegal poaching.	No potential pathways identified
North Bull Island Ramsar site (406)	7.1km	Ramsar Sites Information Service (2023). This Ramsar site is noted for a significant population of Black-tailed godwit (<i>Limosa limosa</i>) Bar-tailed godwit (<i>Limosa lapponica</i>)	No potential pathways identified
Proposed Natural Heritage Areas			
Royal Canal pNHA (002103)	0.20km	The Royal Canal is a man-made waterway linking the River Liffey at Dublin to the River Shannon near Tarmonbarry. The ecological value of the canal lies more in the diversity of species it supports along its linear habitats than in the presence of rare species. It crosses through agricultural land and therefore provides a refuge for species threatened by modern farming methods.	Weak hydrological pathway via Royal Canal. Deemed insignificant due to lack of watercourses on Site connecting to the Royal Canal, presence of railway lines north and northeast of the Site and embedded mitigation for the Construction Phase. No other potential pathways identified.

Site Name & Code (Receptor)	Distance to Site of Proposed Development	Designation Rationale / Site Description	Potential Pathway to receptors
North Dublin Bay pNHA (000206)	3.8km	QI habitats and species overlap with the EU site of the same name— North Dublin Bay SAC (000206). As per (NPWS, 2013a) • Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • <i>Salicornia</i> and other annuals colonising mud and sand [1310] • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] • Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] • Humid dune slacks [2190] <i>Petalophyllum ralfsii</i> (Petalwort) [1395]	Weak hydrological pathway via the Royal Canal, deemed insignificant due to distance. No other potential pathways identified.
South Dublin Bay pNHA (000210)	6.1km	QI habitats and species overlap with the EU site of the same name— South Dublin Bay SAC (000206). As per (NPWS, 2013b) • Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • <i>Salicornia</i> and other annuals colonising mud and sand [1310] Embryonic shifting dunes [2110]	Weak hydrological pathway via the Royal Canal, deemed insignificant due to distance. No other potential pathways identified.

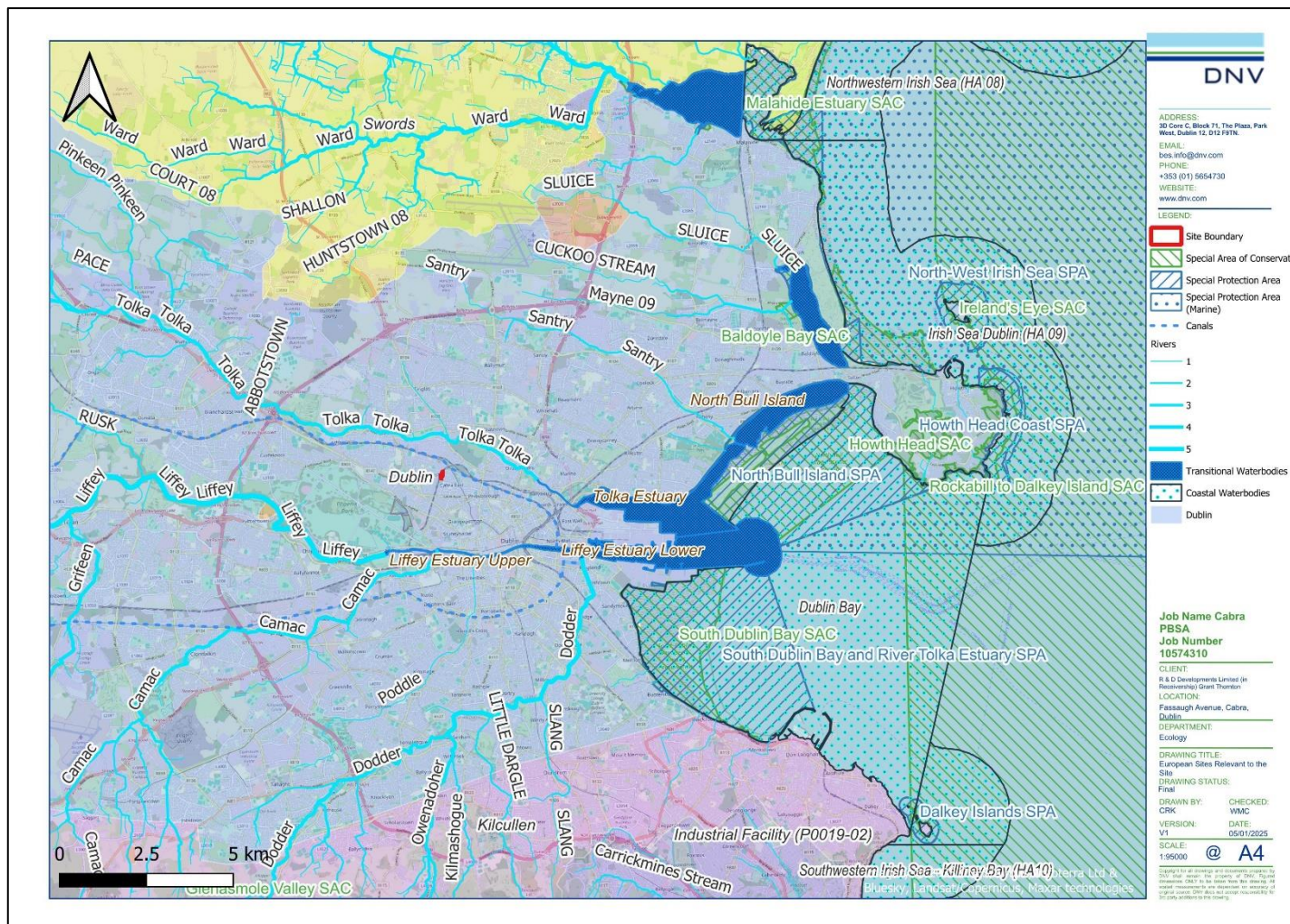


FIGURE 5. LOCATION OF EUROPEAN SITES CONSIDERED WITH THE SOURCE-PATHWAY-RECEPTOR (S-P-R) METHOD IN RELATION TO THE PROPOSED DEVELOPMENT

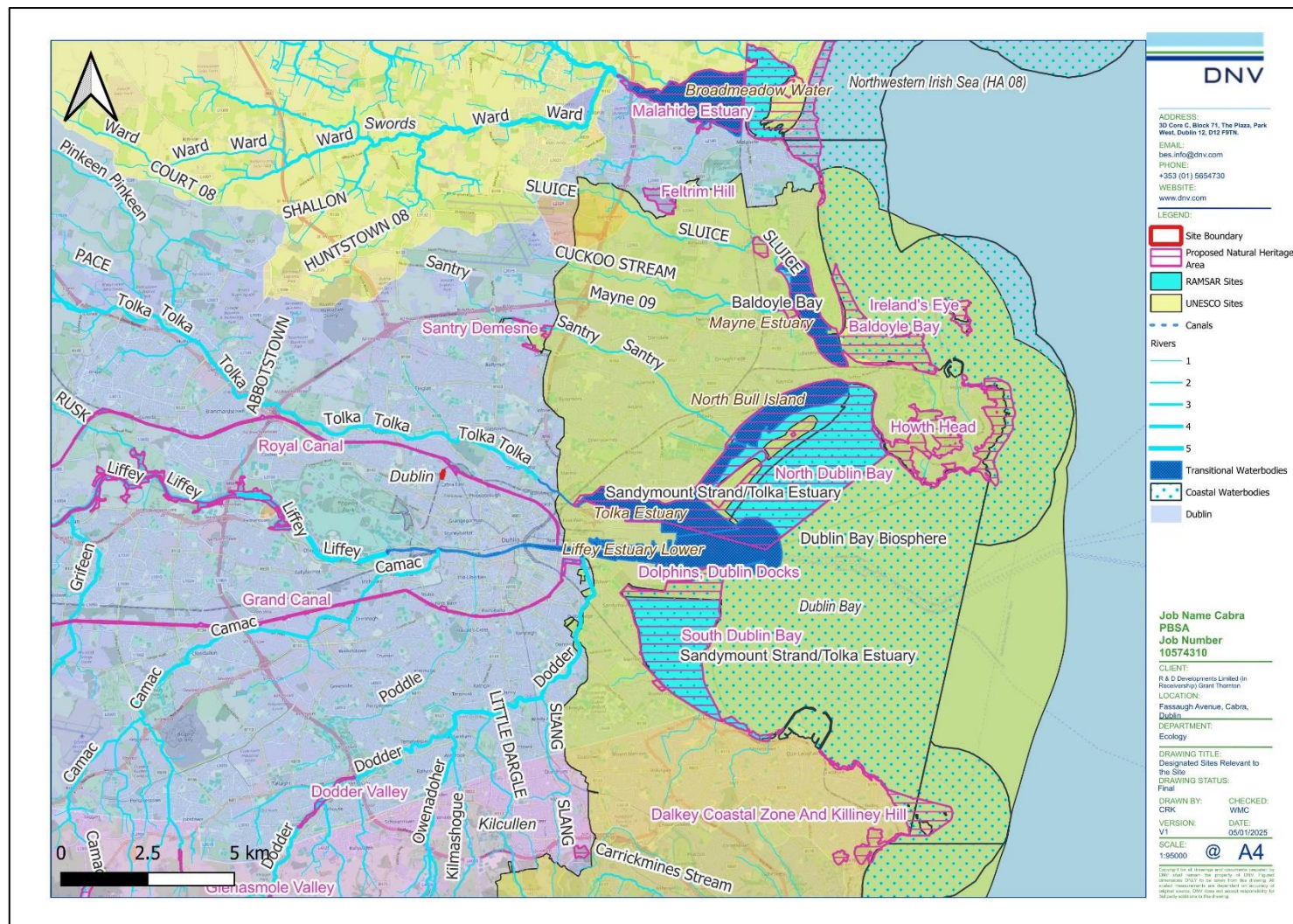


FIGURE 6. LOCATION OF EUROPEAN SITES CONSIDERED WITH THE SOURCE-PATHWAY-PECEPTOR (S-P-R) METHOD IN RELATION TO THE PROPOSED DEVELOPMENT

4.3 Habitats

The habitats present within the Site, as recorded during the field survey, are described in this section, and summarised below. Site photographs of these habitats are included in section 11 and a map of the habitats is presented in Figure 7.

The majority of the Site consists of recolonising bare ground (ED3) habitat, followed by the scrub (WS1) habitat. Amongst the aforementioned habitats, two sections of the dry meadows and grassy verges (GS2) habitat have been identified, which consist of herb dominated plant species. There is a mound within the eastern extent of this habitat. The buildings and artificial surfaces (BL3) habitat is found in the southern section of the Site. Additionally, there is a directly structure within the BL3 habitat, formerly a local pub 'Matts of Cabra', which is in a state of ruin. Along the eastern boundary of the Site, the stone wall and other stonework (BL1) habitat is located.

4.3.1 Recolonising Bare Ground (ED3)

ED3 was the dominant habitat present on Site. This habitat is found along the central section of the Site, with the southern extent of the habitat stretching as far as the eastern and western boundary. The floral composition of this habitat is characterised by pioneer species that are usually found in areas of disturbed ground such as moss cover, curly dock (*Rumex crispus*), perennial ryegrass (*Lolium perenne*), Yorkshire fog (*Holcus lanatus*), creeping buttercup (*Ranunculus repens*), dandelion (*Taraxacum officinale*), daisy (*Bellis perennis*), common yarrow (*Achillea millefolium*), red clover (*Trifolium pratense*), white clover (*Trifolium repens*), pink sorrel (*Oxalis articulata*), birds foot trefoil (*Lotus corniculatus*), fleabane (*Erigeron sp.*), common groundsel (*Senecio vulgaris*), common ragwort (*Jacobaea vulgaris*), bramble (*Rubus fruticosus*), common burdock (*Arctium minus*), weld (*Reseda luteola*), field thistle (*Cirsium discolor*), nettle (*Urtica dioica*), and white mustard (*Sinapis alba*). Much of the floral species found in this habitat was consistent with the floral composition of the GS2 habitat, but distinct due to the presence of more exposed dry soil surfaces with rocks. Therefore, the recolonising bare ground habitat for this Site has been assigned as **local importance (lower value)**.

4.3.2 Scrub (WS1)

The WS1 habitat on Site is the second most common habitat on Site. The floral composition of this habitat included species such as curly dock (*Rumex crispus*), nettle (*Urtica dioica*), bramble (*Rubus fruticosus*), ivy (*Hedera Hibernica*), creeping buttercup (*Ranunculus repens*), white mustard (*Sinapis alba*), bindweed (*Convolvulus arvensis*), purple dead nettle (*Lamium purpureum*), and juvenile elder (*Sambucus nigra*). This habitat is not common in the greater area and is limited to the Site and green spaces to its north. Given the tall vegetation and its predominant extent at the Site, this habitat not only offers foraging opportunities for birds and bats by supporting notable invertebrate populations but also functions as suitable nesting habitats for birds and refugia for small mammals. Therefore, the scrub habitat for this Site has been assigned as **local importance (higher value)**.

4.3.3 Dry Meadows and Grassy Verges (GS2)

This habitat is found in land parcels amongst the WS1 and ED3 habitats on the Site of the Proposed Development. Along the eastern extent of this habitat, a mound is located which was formed as a result of infill. The floral composition of this habitat is the same as the ED3 habitat; however, the plant species are more successfully established in the GS2 habitat than in the ED3 habitat. This habitat is not common in the greater area and is limited to the Site and green spaces to its north. Additionally, this mosaic habitat offers structural diversity and supports a range of invertebrates, which in turn provide foraging opportunities for birds and bats. Therefore, the dry meadows and grassy verges habitat for this Site has been assigned as **local importance (higher value)**.

4.3.4 Buildings and Artificial Surfaces (BL3)

The BL3 habitat was found along the southern section of the Site, where artificial surfaces of paving stone and/or cement and an existing derelict building are found. The habitat was very low in quality and is distinct from the other habitats due to the limited floral presence. Floral species recorded in this habitat include nettle (*Urtica dioica*), tall fleabane (*Conyza sumatrensis*), bramble (*Rubus fruticosus*), and curly dock (*Rumex crispus*). Therefore, the buildings and artificial surfaces habitat for this Site has been assigned as **local importance (lower value)**.

4.3.5 Stone Wall and Other Stonework (BL1)

Stonewalls encompassed the boundaries of the Site to the east. The predominant stretch of this habitat is covered by vegetation with little to no gaps for animals or insects refuge. Furthermore, this habitat is predominant in the greater area surrounding the Site. Therefore, the stone wall and other stonework habitat for this Site has been assigned as **local importance (lower value)**.

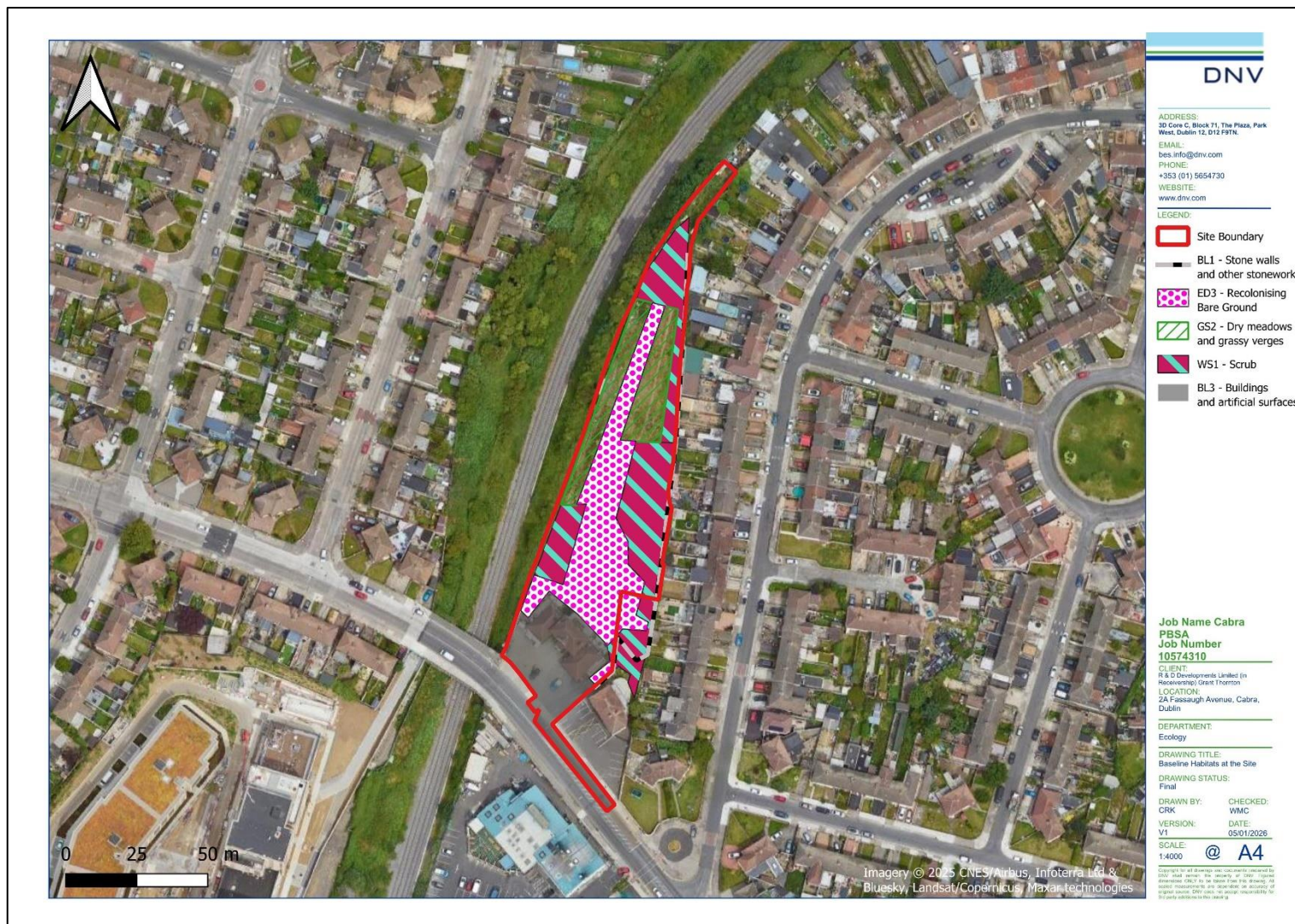


FIGURE 7. MAP OF BASELINE HABITATS PRESENT AT THE PROPOSED DEVELOPMENT SITE.

4.4 Species and Species Groups

4.4.1 Flora

4.4.1.1 Rare and Protected Flora

Desk Study Results

The Site of the Proposed Development is located within the Ordnance Survey 10km Grid Square (O13), 2km Grid Square (O13I), and 1km Grid Square (O1336). Species records from the NBDC online database show these grid squares were studied for the presence of rare and/or protected species within the last 20 years. This database contains 24 records of protected flora within the last 20 years (Table 7).

The FPO Bryophytes database was also checked for rare and protected flora records within the vicinity of the Proposed Development. No rare and/or protected bryophyte records exist within the immediate vicinity of the Proposed Development with the nearest listed record of a protected bryophyte was Many-seasoned Thread-moss (*Bryum intermedium*) occurring 6km west of the Proposed Development Site. The table below presents details of rare and protected flora records within the above databases.

TABLE 7. RECORDS OF RARE OR PROTECTED FLORA FOR THE SURROUNDING 10KM (O13) GRID SQUARES ASSOCIATED WITH THE SITE FROM THE NBDC.

Name	Grid Square	Date of last record	Database	Designation
Betony (<i>Stachys officinalis</i>)	O13	18/05/2012	Ireland's BioBlitz	Protected Species: Flora Protection Order Threatened Species: Near threatened
Black Horehound (<i>Ballota nigra</i>)	O13	14/07/2018	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	N/A
Blue Fleabane (<i>Erigeron acris</i>)	O13	29/07/2016	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	N/A
Common Gromwell (<i>Lithospermum officinale</i>)	O13	14/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	N/A
Corn Marigold (<i>Glebionis segetum</i>)	O13	12/08/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	N/A
Cornflower (<i>Centaurea cyanus</i>)	O13	06/06/2018	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	N/A
Dwarf Mallow (<i>Malva neglecta</i>)	O13	08/08/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	N/A
Great Burnet (<i>Sanguisorba officinalis</i>)	O13	30/09/2016	Ireland's BioBlitz	N/A

Name	Grid Square	Date of last record	Database	Designation
Greater Knapweed (<i>Centaurea scabiosa</i>)	O13	09/07/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	N/A
Green Field-speedwell (<i>Veronica agrestis</i>)	O13	03/06/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	N/A
Hairy St John's-wort (<i>Hypericum hirsutum</i>)	O13	23/07/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	Protected Species: Flora Protection Order Threatened Species: Endangered
Hairy Violet (<i>Viola hirta</i>)	O13	18/05/2012	Ireland's BioBlitz	Protected Species: Flora Protection Order Threatened Species: Endangered
Meadow Barley (<i>Hordeum secalinum</i>)	O13	31/12/2007	Irish Crop Wild Relative Database	Protected Species: Flora Protection Order Threatened Species: Endangered
Meadow Crane's-bill (<i>Geranium pratense</i>)	O13	20/07/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	N/A
Milk Thistle (<i>Silybum marianum</i>)	O13	10/10/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	N/A
Nettle-leaved Bellflower (<i>Campanula trachelium</i>)	O13	04/07/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	N/A
Pale Flax (<i>Linum bienne</i>)	O13	27/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	N/A
Purple Spurge (<i>Euphorbia peplis</i>)	O13	30/09/2016	Ireland's BioBlitz	N/A
Round-leaved Crane's-bill (<i>Geranium rotundifolium</i>)	O13	14/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	N/A
Slender Thistle (<i>Carduus tenuiflorus</i>)	O13	16/08/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	N/A

Name	Grid Square	Date of last record	Database	Designation
Small Cudweed (<i>Filago minima</i>)	O13	12/07/2012	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	N/A
Spring Vetch (<i>Vicia lathyroides</i>)	O13	18/05/2012	Ireland's BioBlitz	N/A
Strawberry-tree (<i>Arbutus unedo</i>)	O13	29/11/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	N/A
Upright Brome (<i>Bromopsis erecta</i>)	O13	20/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	N/A

Field Survey Results

No rare or protected flora were observed during the Site walkover on 17th June 2025. Therefore, these species are of **local importance (lower value)** and are not considered further in this report.

4.4.1.2 Invasive Species

Desk Study Results

There are records for 32 species of flora considered to be invasive within the grid squares which encompass the Site of the Proposed Development. Details of these records are listed in Table 8.

TABLE 8. RECORDS OF INVASIVE SPECIES OF INVASIVE PLANT FOR THE SURROUNDING 10KM (O13) GRID SQUARE ASSOCIATED WITH THE SITE FROM THE NBDC

Species	Grid square	Date of last record	Source	Designations
American Skunk-cabbage (<i>Lysichiton americanus</i>)	O13	29/03/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	• Medium Impact Invasive Species • Regulation S.I. 477 (Ireland)
Brazilian Giant-rhubarb (<i>Gunnera manicata</i>)	O13	29/03/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	• Medium Impact Invasive Species • Regulation S.I. 477 (Ireland)
Butterfly-bush (<i>Buddleja davidii</i>)	O13	07/11/2024	National Invasive Species Database	Medium Impact Invasive Species
Canadian Fleabane (<i>Conyza canadensis</i>)	O13	26/10/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Canadian Waterweed (<i>Elodea canadensis</i>)	O13	25/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)
Cherry Laurel (<i>Prunus laurocerasus</i>)	O13	26/01/2023	Vascular plants: Online Atlas of	High Impact Invasive Species

Species	Grid square	Date of last record	Source	Designations
			Vascular Plants 2012 Onwards	
Common Broomrape (<i>Orobanche minor</i>)	O13	26/06/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Evergreen Oak (<i>Quercus ilex</i>)	O13	01/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
<i>Fallopia japonica</i> x <i>sachalinensis</i> = <i>F.</i> x <i>bohemica</i>	O13	17/06/2015	National Invasive Species Database	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)
False-acacia (<i>Robinia pseudoacacia</i>)	O13	20/06/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Giant Hogweed (<i>Heracleum mantegazzianum</i>)	O13	07/05/2025	National Invasive Species Database	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)
Giant Knotweed (<i>Fallopia sachalinensis</i>)	O13	03/08/2017	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)
Giant-rhubarb (<i>Gunnera tinctoria</i>)	O13	26/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)
Himalayan Balsam (<i>Impatiens glandulifera</i>)	O13	09/05/2025	National Invasive Species Database	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)
Himalayan Honeysuckle (<i>Leycesteria formosa</i>)	O13	14/08/2024	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Japanese Knotweed (<i>Reynoutria japonica</i>)	O13	09/05/2025	National Invasive Species Database	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)
Japanese Rose (<i>Rosa rugosa</i>)	O13	29/07/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Narrow-leaved Ragwort (<i>Senecio inaequidens</i>)	O13	07/07/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species

Species	Grid square	Date of last record	Source	Designations
New Zealand Pigmyweed (<i>Crassula helmsii</i>)	O13	31/07/2009	National Invasive Species Database	- High Impact Invasive Species - Regulation S.I. 477 (Ireland)
Nuttall's Waterweed (<i>Elodea nuttallii</i>)	O13	10/05/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	- High Impact Invasive Species - Regulation S.I. 477 (Ireland)
Pampas-grass (<i>Cortaderia selloana</i>)	O13	15/01/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Parrot's-feather (<i>Myriophyllum aquaticum</i>)	O13	31/07/2009	National Invasive Species Database	- High Impact Invasive Species - EU Regulation No. 1143/2014 - Regulation S.I. 477 (Ireland)
Ragweed (<i>Ambrosia artemisiifolia</i>)	O13	16/09/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Sea-buckthorn (<i>Hippophae rhamnoides</i>)	O13	31/08/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	- Medium Impact Invasive Species - Regulation S.I. 477 (Ireland)
Spanish Bluebell (<i>Hyacinthoides hispanica</i>)	O13	30/03/2021	National Invasive Species Database	Regulation S.I. 477 (Ireland)
Sycamore (<i>Acer pseudoplatanus</i>)	O13	28/11/2024	National Invasive Species Database	Medium Impact Invasive Species
Three-cornered Garlic (<i>Allium triquetrum</i>)	O13	03/03/2025	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	- Medium Impact Invasive Species - Regulation S.I. 477 (Ireland)
Traveller's-joy (<i>Clematis vitalba</i>)	O13	07/09/2024	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Tree-of-heaven (<i>Ailanthus altissima</i>)	O13	25/10/2009	Heritage Trees of Ireland	Medium Impact Invasive Species
Turkey Oak (<i>Quercus cerris</i>)	O13	09/05/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Wall Cotoneaster (<i>Cotoneaster horizontalis</i>)	O13	30/11/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species

Species	Grid square	Date of last record	Source	Designations
Wild Parsnip (<i>Pastinaca sativa</i>)	O13	09/07/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species

4.4.1.3 Evaluation

No 'High Impact' invasive species or Third Schedule species were recorded on Site during the field surveys. One 'Medium Impact' species was recorded at several locations of the Site. Strands of butterfly bush (*Buddleja davidii*) were observed on the Buildings and artificial surfaces (BL3) habitat of the Site, along the southern boundary. Additionally, scattered populations of butterfly bush were also recorded along the eastern and western boundaries of the Site, where large individuals of butterfly bush were observed. Butterfly bush is classified as a 'Medium' impact invasive species (Kelly et al. 2013). It is a very fast-growing shrub that can reach 2m in its first year of growth, producing flowers and setting seeds prolifically.

4.4.2 Bats

4.4.2.1 Desk Study Results

A total of eight bat species have been recorded within the 10km (O13) grid square which encompasses the Site (Table 9).

TABLE 9. RECORDS OF BATS FOR THE SURROUNDING 10KM GRID SQUARE (O13) ASSOCIATED WITH THE SITE FROM THE NBDC.

Species	Date of last record	Database	Designation
Brown Long-eared Bat (<i>Plecotus auritus</i>)	08/07/2021	National Bat Database of Ireland	• EU Habitats Directive - Annex IV • Wildlife Act 1976 (as amended)
Common Pipistrelle (<i>Pipistrellus pipistrellus sensu stricto</i>)	08/08/2023	National Bat Database of Ireland	• EU Habitats Directive - Annex IV • Wildlife Act 1976 (as amended)
Daubenton's Bat (<i>Myotis daubentonii</i>)	08/08/2023	National Bat Database of Ireland	• EU Habitats Directive - Annex IV • Wildlife Act 1976 (as amended)
Leisler's Bat (<i>Nyctalus leisleri</i>)	08/08/2023	National Bat Database of Ireland	• EU Habitats Directive - Annex IV • Wildlife Act 1976 (as amended)
Nathusius's Pipistrelle (<i>Pipistrellus nathusii</i>)	15/09/2020	National Bat Database of Ireland	• EU Habitats Directive - Annex IV • Wildlife Act 1976 (as amended)
Natterer's Bat (<i>Myotis nattereri</i>)	06/06/2021	National Bat Database of Ireland	• EU Habitats Directive - Annex IV • Wildlife Act 1976 (as amended)
Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	08/08/2023	National Bat Database of Ireland	• EU Habitats Directive - Annex IV • Wildlife Act 1976 (as amended)

Species	Date of last record	Database	Designation
Whiskered Bat (<i>Myotis mystacinus</i>)	13/08/2007	National Bat Database of Ireland	- EU Habitats Directive - Annex IV - Wildlife Act 1976 (as amended)

The Proposed Development Site (indicated in the black box in Figure 8) is located in an area with an overall Low-Medium (18.89) suitability for bats in general. The suitability index for specific bat species is presented in Table 10. The landscape suitability index is high for one species of bat; common pipistrelle (*Pipistrellus pipistrellus*), and medium-high for two species of bats; soprano pipistrelle (*Pipistrellus pygmaeus*), and Leisler's bat (*Nyctalus leisleri*).

TABLE 10. LANDSCAPE SUITABILITY INDEX FOR INDIVIDUAL BAT SPECIES WITHIN THE 2KM GRID SQUARE (SOURCE: NBDC). THOSE SPECIES THAT HAVE BEEN RECORDED IN THE NBDC DATABASE WITHIN THE (O13) 10KM GRID SQUARE ARE HIGHLIGHTED IN GREEN.

Bat Species	Suitability Index (2km Grid Square)
Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)	29 (Medium-High)
Brown Longed-eared bat (<i>Plecotus auritus</i>)	17 (Low-Medium)
Common pipistrelle (<i>Pipistrellus pipistrellus</i>)	40 (High)
Lesser horseshoe bat (<i>Rhinolophus hipposideros</i>)	0 (Low)
Leisler's bat (<i>Nyctalus leisleri</i>)	33 (Medium-High)
Whiskered bat (<i>Myotis mystacinus</i>)	11 (Low)
Daubenton's bat (<i>Myotis daubentonii</i>)	9 (Low)
Nathusius' pipistrelle (<i>Pipistrellus nathusii</i>)	16 (Low-Medium)
Natterer's bat (<i>Myotis nattereri</i>)	15 (Low-Medium)



FIGURE 8. BAT LANDSCAPE SUITABILITY MODEL (ALL BATS) SURROUNDING THE PROPOSED DEVELOPMENT SITE (ADAPTED FROM NBDC).

4.4.2.2 Field Survey Results

Bat Roost Assessment and Habitat Suitability

The ground-based preliminary bat roost assessment identified that the existing structures are not considered suitable for significant roosting communities. Several smaller potential roost features (PRFs) such as loose roof tiles, cracks in the masonry and detached roofing were noted along the structures on Site which are suitable for individual roosting bats. Therefore, the existing buildings on Site were precautionary deemed to be of 'Low' roosting potential and two emergence surveys were undertaken.

There are sparse and immature scrub and low-quality habitats present on the Site that offer 'low' potential for commuting and foraging bats, and gaps in the existing building that offer 'low' roosting potential for bats. Additionally, given the wider context of the Site, which is bounded by well lit urban areas to the east, south and west, and all greenspace to the west and north are further bounded by the existing trainline running along the north and northeast of the Site boundary, it is unlikely that any notable bat populations would be using the Site.

Bat Emergence Surveys

Two bat emergence surveys conducted at the Site on 22nd July 2025 and 12th August 2025. Weather conditions were suitable for these surveys according to the guidance outlined in Collins (2023). Three vantage points were selected at the eastern, western, and southern extent of the existing building at the Site, where PRFs in the form of gaps and breaks in the existing structure were observed for bat emergence. During these emergence surveys, although weather conditions were suitable for bat emergence, no bats were recorded emerging from any of the identified PRFs of the existing building.

Bat Activity Surveys

Two dusk activity surveys were conducted at the Site on 23rd July 2025 and 12th August 2025. Weather conditions were suitable for these surveys according to the guidance outlined in Collins (2023).

During the bat activity surveys, three species of bat were recorded. These include the common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and Leisler's Bat (*Nyctalus leisleri*). All three species were primarily recorded along the western, eastern and northern sections of the Site, with a few individuals recorded along the central section of the Site, and far fewer recorded along the southern section of the Site.

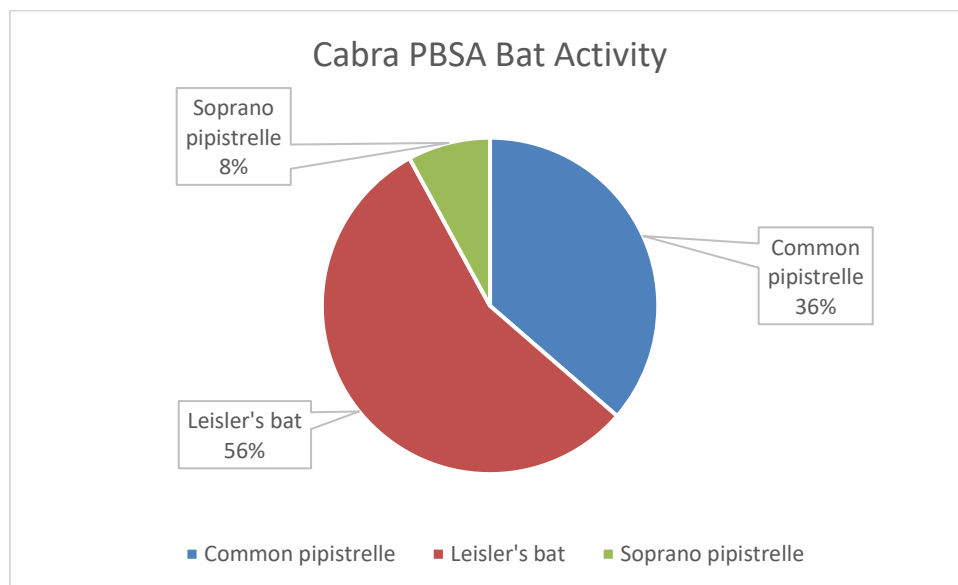


FIGURE 9. SPECIES COMPOSITION OF BAT RECORDS (ALL TRANSECTS)

Bat Static Surveys

Two static surveys were conducted at the Site between 22nd to 28th July 2025 and 12th to 18th August 2025 respectively. For the first survey, common pipistrelle (n=367) was the most frequently recorded species, comprising 85.4% of bat passes. Leisler's bat (n=52) followed at 12.1%, with soprano pipistrelle (n=10; 2.3%) recorded less frequently (see Figure 10). It is to be noted that no bat calls were recorded on the Site for the night of 26th and 27th July 2025 in light of the bad weather conditions for those days.

Bat activity peaked on 22nd July with 250 passes, dominated by common pipistrelle which accounted for 96.4% of records that night. Activity declined sharply on 23rd July, with a reduced common pipistrelle count and a proportionally higher presence of Leisler's bat activity. A slight increase was recorded on 24th July, although not reaching the levels of activity observed on the 22nd, driven mainly by common pipistrelle, while soprano pipistrelle reached its highest nightly count, albeit only four passes which is an insignificant increase. The lowest overall

activity occurred on 25th July, when Leisler's bat accounted for over 60% of all bat passes despite low bat passes overall. Overall, common pipistrelle was the most frequently recorded species across the period (85.5%), followed by Leisler's bat (12.1%) and soprano pipistrelle (2.3%).

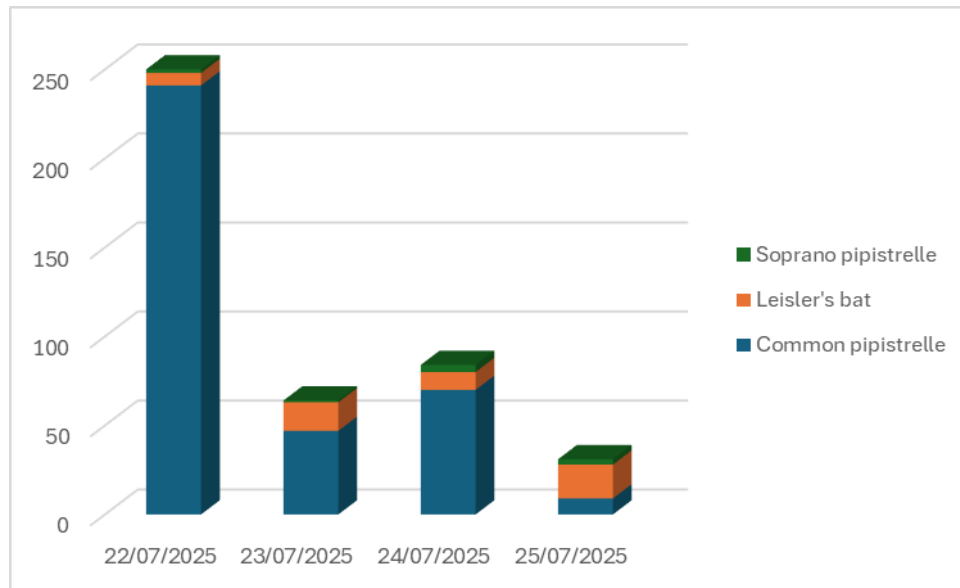


FIGURE 10. SPECIES COMPOSITION PER DAY FOR THE 1ST STATIC SURVEY

For the second survey, common pipistrelle (n=430) was the most frequently recorded species, comprising 64.6% of bat passes. Leisler's bat (n=175) followed at 26.3%, with soprano pipistrelle (n=53; 0.08%) and myotis species (n=8; 0.01%) recorded less frequently (see Figure 11).

Bat activity was lowest on the 12th of August with 58 passes, dominated by Leisler's bat which accounted for 71.0% of records that night. Activity increased sharply on the 13th of August, which saw the greatest bat activity with 146 passes. Increased common pipistrelle and soprano pipistrelle (*Pipistrellus pygmaeus*) activity was primarily responsible for the greater number of passes, with the common pipistrelle making up 44.5% of records, and the soprano pipistrelle making up 18.5%. A slight decrease in bat activity was recorded on the 14th. From the 15th to the 17th of August, bat activity remained consistently lower than what was recorded on the 13th and 14th. The common pipistrelle continued to dominate over this three day period, and never accounted for less than 76.2% of the observed bat activity per day. In conclusion, the common pipistrelle was the most frequently recorded species across the period (64.6%), followed by Leisler's bat (26.3%), soprano pipistrelle (0.08%), and myotis species (0.01%).

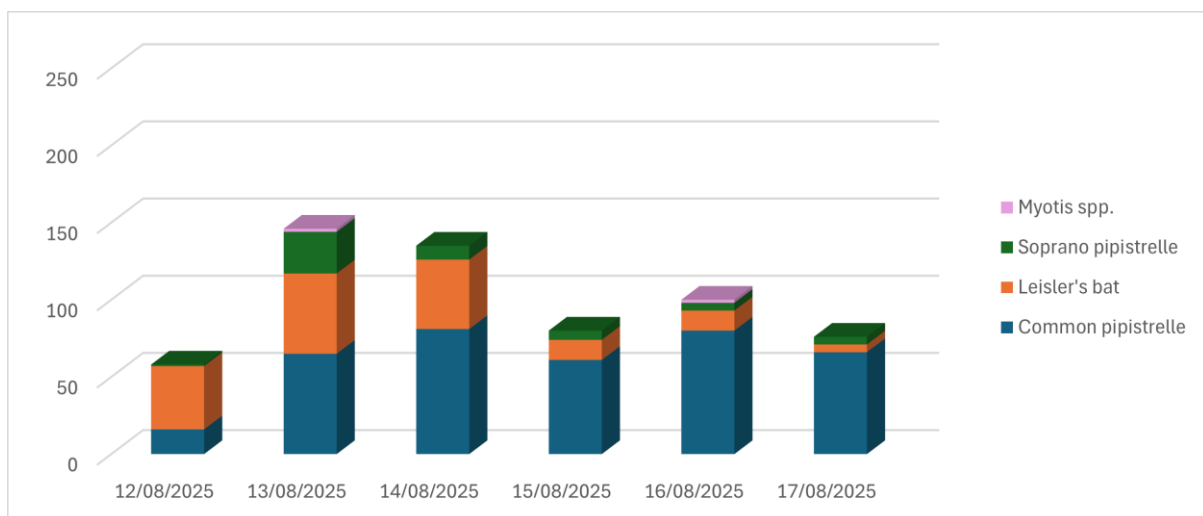


FIGURE 11. SPECIES COMPOSITION PER DAY FOR THE 2ND STATIC SURVEY

4.4.2.3 Evaluation

The full suite of bat surveys at the Site revealed valuable information in relation to bat usage of the Site. The static detector data recorded a high number of bat recordings on some nights, suggesting that a large number of bats utilized the Site. However, the transect surveys recorded only low levels of commuting and foraging activity for every night that the survey was conducted. Typically, single bats or small groups (up to three individuals) were observed foraging for extended periods, often flying along boundary vegetation. Notably, activity north of the existing building was associated with foraging near tall scrub in that section of the Site. The most frequently used features were concentrated along scrub (WS1) and dry meadow (GS2) habitats located in the eastern, western, and northern sections of the Site. These habitats supported species commonly recorded in Ireland, where most commonly occurring species in Ireland were recorded. Given that common pipistrelle, soprano pipistrelle, and Leisler's bat were also recorded within the 10km grid square encompassing the Site, it is considered that the Site may support locally important populations of these common bat species for commuting and foraging, and of no importance to roosting populations of bat species in the local area. For these reasons, the bats at the Site of the Proposed Project have been assigned **local importance (higher value)** for commuting and foraging bats, and **local importance (lower value)** for roosting bats.



FIGURE 12. BAT TRANSECT ROUTE FOLLOWED FOR THE BAT ACTIVITY TRANSECT SURVEYS AT THE SITE

4.4.3 Birds

4.4.3.1 Desk study Results

A total of 71 bird species have been recorded within the (O13) 10 km grid square. Of these, 39 are amber listed birds and 23 are red listed birds as identified on the Birds of Conservation Concern in Ireland (BoCCI) (Gilbert et al. 2021). Details of amber and red listed species are detailed in Table 11. The remaining eight species are all green listed.

TABLE 11. DETAILS OF AMBER AND RED LISTED BIRD SPECIES WITHIN THE 10KM GRID SQUARE (N81)

Species	Date of record	BoCCI Status	Annex Species (EU Birds Directive)
Arctic Tern (<i>Sterna paradisaea</i>)	31/12/2011	Amber	Annex I
Barn Owl (<i>Tyto alba</i>)	06/03/2021	Red	
Barnacle Goose (<i>Branta leucopsis</i>)	15/02/2015	Amber	
Bar-tailed Godwit (<i>Limosa lapponica</i>)	23/03/2023	Red	Annex I
Black Guillemot (<i>Cepphus grylle</i>)	27/08/2024	Amber	
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	27/12/2024	Amber	
Black-tailed Godwit (<i>Limosa limosa</i>)	15/03/2023	Red	
Brent Goose (<i>Branta bernicla</i>)	19/12/2024	Amber	
Common Guillemot (<i>Uria aalge</i>)	09/03/2009	Amber	
Common Gull (<i>Larus canus</i>)	07/06/2024	Amber	
Common Tern (<i>Sterna hirundo</i>)	14/07/2023	Amber	Annex I
Coot (<i>Fulica atra</i>)	17/10/2024	Amber	Annex II & III
Cormorant (<i>Phalacrocorax carbo</i>)	18/03/2024	Amber	
Curlew (<i>Numenius arquata</i>)	06/02/2023	Red	Annex II
Dunlin (<i>Calidris alpina</i>)	31/12/2011	Red	Annex I
Gadwall (<i>Mareca strepera</i>)	31/12/2011	Amber	Annex II
Golden Plover (<i>Pluvialis apricaria</i>)	31/12/2011	Red	Annex I, II & III
Goldeneye (<i>Bucephala clangula</i>)	31/12/2011	Red	Annex II
Great Crested Grebe (<i>Podiceps cristatus</i>)	30/07/2020	Amber	
Great Northern Diver (<i>Gavia immer</i>)	3/12/2011	Amber	Annex I
Grey Plover (<i>Pluvialis squatarola</i>)	31/12/2011	Red	

Species	Date of record	BoCCI Status	Annex Species (EU Birds Directive)
Hen Harrier (<i>Circus cyaneus</i>)	31/12/2011	Amber	Annex I
Herring Gull (<i>Larus argentatus</i>)	30/12/2024	Amber	
House Martin (<i>Delichon urbicum</i>)	17/06/2024	Amber	
House Sparrow (<i>Passer domesticus</i>)	31/12/2024	Amber	
Kestrel (<i>Falco tinnunculus</i>)	27/11/2022	Red	
Kingfisher (<i>Alcedo atthis</i>)	27/07/2024	Amber	Annex I
Kittiwake (<i>Rissa tridactyla</i>)	01/03/2018	Red	
Knot (<i>Calidris canutus</i>)	23/03/2023	Red	
Lapwing (<i>Vanellus vanellus</i>)	31/12/2011	Red	Annex II
Lesser Black-backed Gull (<i>Larus fuscus</i>)	21/08/2024	Amber	
Linnet (<i>Linaria cannabina</i>)	20/06/2024	Amber	
Mallard (<i>Anas platyrhynchos</i>)	08/12/2024	Amber	Annex II & III
Mediterranean Gull (<i>Ichthyaetus melanocephalus</i>)	15/03/2023	Amber	Annex I
Mute Swan (<i>Cygnus olor</i>)	13/12/2024	Amber	
Oystercatcher (<i>Haematopus ostralegus</i>)	23/03/2023	Red	
Pheasant (<i>Phasianus colchicus</i>)	21/05/2020	N/A	Annex II & III
Pochard (<i>Aythya ferina</i>)	27/04/2024	Red	Annex II & III
Red-breasted Merganser (<i>Mergus serrator</i>)	02/03/2021	Amber	Annex II
Redshank (<i>Tringa totanus</i>)	16/04/2023	Red	
Red-throated Diver (<i>Gavia stellata</i>)	31/12/2011	Amber	Annex I
Ringed Plover (<i>Charadrius hiaticula</i>)	11/02/2024	Amber	
Sand Martin (<i>Riparia riparia</i>)	20/06/2024	Amber	
Sandwich Tern (<i>Thalasseus sandvicensis</i>)	30/07/2020	Amber	Annex I
Scaup (<i>Aythya marila</i>)	27/10/2017	Red	Annex II & III
Shelduck (<i>Tadorna tadorna</i>)	15/03/2023	Amber	
Shoveler (<i>Spatula clypeata</i>)	25/02/2019	Red	Annex II & III

Species	Date of record	BoCCI Status	Annex Species (EU Birds Directive)
Skylark (<i>Alauda arvensis</i>)	29/03/2023	Amber	
Snipe (<i>Gallinago gallinago</i>)	15/03/2023	Red	Annex II & III
Spotted Flycatcher (<i>Muscicapa striata</i>)	25/05/2023	Amber	
Starling (<i>Sturnus vulgaris</i>)	19/12/2024	Amber	
Stock Dove (<i>Columba oenas</i>)	17/08/2021	Red	
Swallow (<i>Hirundo rustica</i>)	24/04/2024	Amber	
Swift (<i>Apus apus</i>)	15/08/2024	Red	
Teal (<i>Anas crecca</i>)	11/01/2023	Amber	Annex II & III
Tree Sparrow (<i>Passer montanus</i>)	03/03/2018	Amber	
Tufted Duck (<i>Aythya fuligula</i>)	08/12/2024	Amber	Annex II & III
Twite (<i>Linaria flavirostris</i>)	16/01/2019	Red	
Wheatear (<i>Oenanthe oenanthe</i>)	06/05/2019	Amber	
Whooper Swan (<i>Cygnus cygnus</i>)	04/03/2020	Amber	Annex I
Wigeon (<i>Mareca penelope</i>)	31/12/2011	Amber	Annex II & III
Woodcock (<i>Scolopax rusticola</i>)	22/03/2023	Red	Annex II & III
Yellowhammer (<i>Emberiza citrinella</i>)	15/03/2023	Red	

4.4.3.2 Field Survey Results

Bird Scoping Survey

Results from the bird scoping survey carried out on 17th June 2025 are shown in Table 12. A total of 14 species were identified within the entire area surveyed. Of these, three are amber listed and none are red listed on the most recent 'Birds of Conservation Concern Ireland' (BoCCI) (Gilbert et al. 2021). The remaining bird species are green listed bird species and have been included in Table 12 below.

TABLE 12. BIRD SPECIES RECORDED DURING WALKOVER SURVEY ON 17TH JUNE 2025.

Species	BoCCI Status
Rock Dove (<i>Columba livia</i>)	Green
Robin (<i>Erithacus rubecula</i>)	Green
House Sparrow (<i>Passer domesticus</i>)	Amber
Blue Tit (<i>Cyanistes caeruleus</i>)	Green
Wren (<i>Troglodytes troglodytes</i>)	Green

Species	BoCCI Status
Blackcap (<i>Sylvia atricapilla</i>)	Green
Blackbird (<i>Turdus merula</i>)	Green
Jackdaw (<i>Corvus monedula</i>)	Green
Linnet (<i>Linaria cannabina</i>)	Amber
Greater Black-backed Gull (<i>Larus marinus</i>)	Green
Goldfinch (<i>Carduelis carduelis</i>)	Green
Magpie (<i>Pica pica</i>)	Green
House Martin (<i>Delichon urbicum</i>)	Amber
Dunnock (<i>Prunella modularis</i>)	Green

While majority of the recorded species are likely to utilise the habitats adjacent or in the vicinity of the Site for breeding, the rock dove (*Columba livia*) was recorded using the existing buildings on Site for nesting.

4.4.3.3 Evaluation

Considering the variety of bird species recorded both in the historical records and during the bird scoping survey it is considered that the Site contains resident and regularly occurring, locally important populations of bird species protected under the Wildlife Act, where the habitats on Site may provide limited suitable breeding habitats for these species. The scrub (WS1) habitat of the Site provides suitable habitat for these bird species which may be harmed during vegetation clearance in the absence of suitable mitigations or precaution. For this reason, bird species at the Site of the Proposed Development has been assigned **local importance (higher value)**.

4.4.4 Mammals (excl. bats)

4.4.4.1 Desk Study Results

Records for terrestrial mammals were obtained from the NBDC online database. Table 13 lists these species, their date of last record and summarises their protected status/designation. In total, 15 mammal species (eight native and seven non-native or invasive) were recorded within the grid squares which encompass the Proposed Development Site.

TABLE 13. RECORDS OF TERRESTRIAL MAMMALS (NATIVE AND NON-NATIVE) FOR THE SURROUNDING 10KM (O13) GRID SQUARE ASSOCIATED WITH THE SITE FROM THE NBDC.

Species	Date of last record	Source	Designation
NATIVE SPECIES			
Badger (<i>Meles meles</i>)	01/09/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	Wildlife Act 1976 (as amended)
Hedgehog (<i>Erinaceus europaeus</i>)	17/08/2023	Hedgehogs of Ireland	Wildlife Act 1976 (as amended)
Irish Hare (<i>Lepus timidus subsp. hibernicus</i>)	06/12/2022	Mammals of Ireland 2016-2025	- Wildlife Act 1976 (as amended) - EU Habitats Directive – Annex V

Species	Date of last record	Source	Designation
European Otter (<i>Lutra lutra</i>)	16/07/2018	Mammals of Ireland 2016-2025	- Wildlife Act 1976 (as amended) - EU Habitats Directive – Annex II & IV
Pine Marten (<i>Martes martes</i>)	13/12/2021	Mammals of Ireland 2016-2025	- Wildlife Act 1976 (as amended) - EU Habitats Directive – Annex V
Pygmy Shrew (<i>Sorex minutus</i>)	06/01/2023	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended)
Red Squirrel (<i>Sciurus vulgaris</i>)	28/06/2022	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended)
Fallow Deer (<i>Dama dama</i>)	04/12/2022	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended)
NON-NATIVE AND INVASIVE SPECIES			
American Mink (<i>Neovision vison</i>)	15/10/2024	National Invasive Species Database	- High Impact Invasive Species - Regulations S.I. 477 (Ireland)
Brown Rat (<i>Rattus norvegicus</i>)	14/04/2023	Mammals of Ireland 2016-2025	- High Impact Invasive Species - Regulations S.I. 477 (Ireland)
Ferret (<i>Mustela putorius subsp. furo</i>)	12/08/2018	Mammals of Ireland 2016-2025	High Impact Invasive Species
Greater White-toothed Shrew (<i>Crocidura russula</i>)	19/06/2017	National Invasive Species Database	Medium Impact Invasive Species
Grey Squirrel (<i>Sciurus carolinensis</i>)	29/03/2025	National Invasive Species Database	- High Impact Invasive Species - EU Regulation No. 1143/2014 - Regulations S.I. 477 (Ireland)

Species	Date of last record	Source	Designation
House Mouse (<i>Mus musculus</i>)	25/07/2018	Mammals of Ireland 2016-2025	• High Impact Invasive Species
Rabbit (<i>Oryctolagus cuniculus</i>)	15/06/2020	Aras an Uachtaráin Biodiveristy Audit 2019-2020	Medium Impact Invasive Species

4.4.4.2 Field Survey Results

There was no evidence of mammal activity observed on Site during the walkover on 17th June 2025. The absence of badger setts or other field signs (e.g., latrines, prints, etc.) on Site of the Proposed Development indicated that badgers (*Meles meles*) are not present on the Site. Additionally, no riparian habitats or watercourses are present within the Site and no signs of otters were recorded during the field survey. No aquatic or semi aquatic habitats suitable for otters were recorded within and in the immediate vicinity of the Site.

Smaller terrestrial mammals such as west European hedgehog (*Erinaceus europaeus*), and pygmy shrew (*Sorex minutus*) could potentially utilise the Site, specifically the scrub and meadow sections of the Site which could offer some cover to these mammals. However, no footprints or droppings of these mammals were recorded on Site during the surveys conducted in 2025.

4.4.4.3 Evaluation

Given the absence of large mammals recorded at the Site and the lack of suitable habitats for badgers and otter, it is concluded that the Proposed Development is unlikely to be of significant importance to badger and otter populations in the greater area. Therefore, badgers and otters at the Site is considered to be of **local importance (lower value)**.

Although no direct evidence of hedgehogs and pygmy shrew was recorded during the Site walkover, the range of habitats present within the Site, including the scrub and grassland habitats are considered to be suitable habitat for these species, even within an urban context. Given the timid, nocturnal or cyptic behaviour of some of the aforementioned species, it can be considered that these species may utilise the Site now and in the future. Therefore, it can be concluded that the Site has the potential to provide suitable commuting, foraging and resting habitats for smaller mammals, which may be significantly impacted during the Construction and/or Operational Phases of the Proposed Development in the absence of mitigation. For these reasons, small mammal species at the Site of the Proposed Development have is considered to be of **local importance (higher value)**.

4.4.5 Amphibians

Both Common Frog (*Rana temporaria*) and Smooth Newt (*Lissotriton vulgaris*) have been recorded in the 10km (O13) grid squares encompassing the Site of the Proposed Development.

No amphibians were observed on Site during the field surveys, and it is unlikely they would utilise the Site due to the lack of suitable breeding habitats such as watercourses, drainage ditches or pooling within or adjacent to the Site. The habitats observed on Site were not suitable for breeding smooth newt as it typically prefers more established watercourses, particularly small, vegetated, non-linear ponds of less than 200m² between 0.5m – 1.0m deep. Therefore, amphibians at the Site of the Proposed Development is considered to be of **negligible importance**.

4.4.6 Common Lizard

There are records of common lizard (*Zootoca vivipara*) for the relevant 10km grid square. While this species was not observed during the Site walkover, there is suitable habitat for this species within the Site of the Proposed Development, particularly within the scrub habitat and stonewall along the eastern boundary of the Site, which could provide some suitable sheltering habitat for this species. As no targeted surveys for lizard were carried out, it is assumed under the precautionary principle that a locally important population of this species may be present at the Site. Therefore, common lizards at the Site is considered to be of **local importance (higher value)**.

4.4.7 Marsh Fritillary (*Euphydryas aurinia*)

The marsh fritillary butterfly is the only insect in Ireland that is listed on Annex II of the Habitats Directive, which makes it the only insect protected by law in Ireland. There are records from 2019 of marsh fritillary within the 10km grid square which encompass the Proposed Development, however none have been recorded within the Site or its immediate vicinity. No individuals of this species or its associated food plant; devil's bit scabious (*Succisa pratensis*), were recorded during the field survey in June 2025. It should be noted that devil's bit scabious is an autumn flowering plant and as such was not recorded during the summer survey. The recommended survey period for Marsh Fritillary is in September and October when the caterpillars can be found within silken webs on the leaves of the foodplant. Despite the lack of autumn survey, it can be confirmed with relatively confidence that the Marsh Fritillary is unlikely to be present at the Site due to the limited habitats currently present, and the lack of suitable environmental conditions to support the growth of devil's bit scabious, thereby ruling out the presence of marsh fritillary.

4.4.8 Other Fauna

Irish Stoat

The Irish Stoat (*Mustela erminea hibernica*) has not been historically recorded within the 10km grid square associated with the Site, and given the urban nature of the Site, is not considered likely to be present or utilise the Site. It is therefore not considered further in this assessment.

Fish

There are no waterbodies within the Site of the Proposed Development, and as such, there are no waterbodies present which could support notable fish species such as salmonids or lampreys, nor are there records of notable fish species within the 10km grid square. Therefore, fish assemblages at the Site of the Proposed Development is considered to be of **negligible importance**.

4.4.9 Protected and/or Notable Species Unlikely to Occur at the Site

Other notable and/or rare species and species listed on Annex IV of the Habitats Directive that were considered but that are unlikely to occur at the Site include:

- **Flora**
 - Marsh Saxifrage (*Saxifraga hirculus*) – Known populations only in Co. Mayo.
 - Killarney Fern (*Vandenboschia speciosa*) – Nearest known populations in Co. Wicklow, not recorded at the Site, no suitably sheltered and moist habitats available.
 - Slender Naiad (*Najas flexilis*) – A clear water, lowland lake species. No suitable habitat available at the Site.
- **Fauna**
 - White-clawed Crayfish (*Austropotamobius pallipes*) – Not present in the Liffey, adjacent ditches and streams not considered suitable for this species due to low quality. This species has not been recorded upstream or downstream of the Royal Canal relative to the Site.
 - Freshwater Pearl Mussel (*Margaritifera margaritifera*) – Nearest known records from River Aughrim, Wicklow to the South of the Site, no hydrological connection to this catchment. Liffey is not listed as a *M. margaritifera* sensitive area .
 - Natterjack Toad (*Epidalea calamita*) – Distribution restricted to few coastal sites.
 - Kerry Slug (*Geomalacus maculosus*) – Distribution restricted to south and west of Ireland.

4.5 Summary of Evaluation of Ecological Features

Habitats have been evaluated for their conservation importance, based on the NRA evaluation scheme (NRA, 2009b). Those selected as KERs are those which are evaluated to be of at least local importance (higher value).

Fauna that has the potential to utilise the Site and immediate area of the Proposed Development, or for which records exist in the wider area, have been evaluated for their conservation importance. This evaluation follows the Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009b).

The impacts of the Proposed Development on the identified KERs are assessed in section 5. Table 14 below summarises the evaluation rating assigned to each ecological feature and the rationale behind these evaluations is also provided.

TABLE 14. EVALUATION OF DESIGNATED SITES, HABITATS, FLORA AND FAUNA RECORDED WITHIN THE SITE AND THE SURROUNDING AREA. THOSE IDENTIFIED AS KEY ECOLOGICAL RECEPTORS (KERs) ARE HIGHLIGHTED IN GREEN.

Species / Species Group	Evaluation	Rationale	Key Ecological Receptor (KER)
DESIGNATED SITES			
European Sites	International Importance	No significant S-P-R pathways to European Sites. Mitigations have been included in this report to rule out any potential significant effects on any European sites because of the Proposed Development.	No
Nationally Designated Sites (pNHAs, NHAs)	National Importance		No
International Sites (Ramsar, UNESCO)	International Importance		No
HABITATS			
Recolonising bare ground (ED3)	Local Importance (Lower Value)	The loss of this low value habitat will not be significant. This habitat type is also abundant in the wider area east of the Proposed Development.	No
Scrub (WS1)	Local Importance (Higher Value)	Habitat covers majority of Site. May provide suitable nesting and foraging habitat for breeding birds, commuting habitat for bats, and cover for small mammals. The scrub habitat will be removed to facilitate the Proposed Development. This habitat is also scarce in the immediate area surrounding the Site.	Yes
Dry meadows and grassy verges (GS2)	Local Importance (Higher Value)	Habitat covers small sections of the Site. May provide suitable nesting and foraging habitat for breeding birds, commuting habitat for bats, and cover for small mammals. The dry meadow habitat will be removed to facilitate the Proposed Development.	Yes
Buildings and artificial surfaces (BL3)	Local Importance (Lower Value)	The loss of this low value habitat will not be significant. This habitat type is also abundant in the wider area east of the Proposed Development.	No
Stone wall and other stonework (BL1)	Local Importance (Lower Value)	The loss of this low value habitat will not be significant. This habitat type is also abundant in the wider area east of the Proposed Development.	No
FLORA			

Species / Species Group	Evaluation	Rationale	Key Ecological Receptor (KER)
Rare & protected flora	Local Importance (Lower Value)	No rare or protected flora were recorded during the field surveys. Unlikely to be present in notable numbers/densities.	No
NATIVE FAUNA			
Bat assemblage	Roosting Importance (Lower Value) Local	PRF-I potential for roosting bats at the existing buildings on Site. Bat emergence survey did not record any bats emerging or re-entering this structure. Not considered to be suitable for roosting bats and may be opportunist used by individual bats. Therefore, it is presumed that the Site does not have the capacity to support locally important populations of roosting bat species.	No
	Commuting and Foraging: Importance (Higher Value) Local	Habitats such as scrub (WS1) and dry meadows and grassy verges (GS2) habitats at the Site offer low potential for commuting and foraging bats. The loss of these habitats has the potential to significantly affect commuting and foraging bat populations in the absence of mitigation.	Yes
Large mammals (badgers and otters)	Local Importance (Lower Value)	No resting sites, and foraging or commuting habitats for mammals such as badger or otter were identified at the Site. Therefore, it is presumed that the Site does not have capacity to support locally important populations of these species.	No
Small mammals (hedgehog and pygmy shrew)	Local Importance (Higher Value)	Suitable habitats present for some of the small native mammals, such as hedgehog and pygmy shrew at the Site, which may be more timid and less likely to be recorded during surveys. Hedgehog specifically hibernate and may be susceptible to injury during vegetation clearance during hibernation in the absence of mitigation	Yes
Bird assemblages	Local Importance (Higher Value)	Only green and three amber listed bird species were recorded at the Site with suitable breeding habitats for a few notable species. Limited nesting habitats present in the scrub and dry meadow habitats that have tall vegetation. Bird species utilising the Site have the potential to be significantly affected by the Proposed Development in the absence of mitigation and precaution.	

Species / Species Group	Evaluation	Rationale	Key Ecological Receptor (KER)
Reptiles (common lizard)	Local Importance (Higher Value)	Suitable habitats present particularly within stone walls and other vegetated habitats of the Site that may provide basking spots, and adjacent scrub that may provide refugia.	
Amphibians	Negligible Importance	No suitable habitats on Site to support amphibian populations.	No
Fish assemblages	Negligible Importance	No suitable watercourses within or in the immediate vicinity of the Site to support fish assemblages.	No
Other fauna	Local Importance (Lower Value)	Very limited habitats at the Site to support these species and poor connectivity with the wider area. No field signs of presence and confirmed to be absent.	No

5 ECOLOGICAL IMPACT ASSESSMENT

5.1 Avoidance and Mitigation Embedded in Project Design

The Proposed Development includes several embedded design features that may act to avoid or mitigate negative impacts that would likely occur in the absence of these features. However, as opposed to typical mitigation measures, the implementation of these features is integral to the design and completion of the Proposed Development, and as such the impact assessments are performed with consideration of these features as integrated parts of the Proposed Development. All considered embedded design features that may act to mitigate negative impacts on local ecology and environment are listed in Table 15.

TABLE 15. EMBEDDED DESIGN FEATURES AND THEIR POTENTIAL TO ACT TO AVOID OR MITIGATE NEGATIVE IMPACTS ON THE LOCAL ECOLOGY AND ENVIRONMENT.

Embedded Design Feature	Avoidance / Mitigation Potential
SUDS: - permeable parking; - Hydrobrakes - Green-blue roofs	The SUDS features included in the Project Design will ensure the surface water discharge from the Proposed Development is reduced to greenfield runoff rates. These features will be implemented as part of the surface water drainage design.
CEMP	Standardised international best practice measures as per the accompanying CEMP will be applied during the Construction Phase
Landscape Design: - Green wall on eastern boundary. - Green wall on western corner. - Native sanctuary woodland. - Supplementary planting of trees and other green areas.	Slightly offsets the loss of habitats at the Site. Green walls along the eastern and western boundary provide connectivity between the Site and the wider area during the operational lifetime. Additional habitats for nesting birds and habitat connectivity for foraging and/or commuting bats provided due to landscaping design.
Lighting Design - Public lighting will adhere to best practice guidance - Light spill controlled through a combination of directional lighting and luminaire optics design. - No floodlighting will be used on the scheme.	The lighting design will reduce light spill into adjacent habitats to maintain dark corridors along the boundaries at the Site and reduce overall artificial lighting impacts to any nocturnal wildlife active within or adjacent to the Site during peak active times at night.

5.2 Construction Phase

5.2.1 Impacts on Habitats and Flora

5.2.1.1 Scrub (WS1)

All scrub habitat on Site will be lost during the Construction Phase. This would constitute a *negative, permanent* and *slight* impact at a local scale.

5.2.1.2 Dry meadows and grassy verges (GS2)

All dry meadow and grassy verges habitats on Site will be lost during the Construction Phase. This would constitute a *negative, permanent* and *slight* impact at a local scale.

5.2.1.3 Spread of Invasive Species

Medium impact butterfly bush have been recorded at the Site. In the absence of appropriate treatment of these invasive species prior to the commencement of works, further spread within and outside of the Site as a result of

the Construction Phase is possible. This would constitute a *negative, long-term* and *significant* impact on habitats at the local scale.

5.2.2 Impacts on Native Fauna

5.2.2.1 Bats

The activity transect survey revealed low foraging and commuting activity at the Site. Therefore, potential impacts resulting from the Proposed Development comprise loss of foraging and commuting habitat, and disturbance from artificial light.

In the absence of mitigation, the temporary loss of foraging and commuting habitat would constitute a *negative, temporary* impact of *slight* significance on the local bat population, in the context of the low activity levels (and high disturbance in the area), and the presence of similar linear habitat in the wider area.

Bats have the potential to be disturbed by Construction Phase lighting. While light levels around much of the boundary habitats (excluding the southern boundary) is currently at a low level. Although it will not be required year-round, construction lighting may be required when the days begin getting shorter. Lighting will be directed towards the works area though some light spill to boundary features used by commuting/foraging bats has the potential to occur. This may represent a *negative, temporary, and slight* impact at a local level.

5.2.2.2 Birds

While no birds were observed breeding at the Site (likely due to late survey timing), there is potential for commonly occurring urban bird species to utilise habitats on Site for breeding and nesting. As such, vegetation removal to facilitate the Proposed Development could result in direct mortality of adult birds, chicks and eggs if undertaken during the breeding bird season (March to August inclusive). This would constitute a *negative, permanent, and significant* impact on local breeding birds.

Furthermore, the removal of scrub to facilitate the Proposed Development will result in a decrease in the available nesting habitat for breeding birds, constituting a *negative, permanent, and slight* impact on local breeding birds in the context of the wider area of alternative suitable habitat.

5.2.2.3 Small Mammals (excl. bats)

Should smaller mammals such as hedgehog or pygmy shrew be utilising the Site during Construction, there is the potential for entrapment within pipes, wires or other building materials if not properly stored. This could lead to direct mortality in the absence of mitigation, which would constitute a *negative, permanent, and significant* impact at the local level.

Should vegetation clearance be undertaken during the hibernation season from November to March, there is the potential for direct mortality of any hibernating individuals present on the Site. This could constitute a *negative, permanent and significant* impact on local populations of small mammals.

In addition, disturbance in the form of dust, noise and/or lighting generated during the Construction Phase has the potential to displace these species either from the Site (should they be present) or from its vicinity in the absence of mitigation, which would constitute *negative, short-term, and slight* impacts at the local level.

5.2.2.4 Common Lizard

Common lizard in Ireland is widespread, utilising stone walls or vegetated areas for basking in sunlight. The boundaries of the Site along the northern, eastern and western extents comprise of stone wall and vegetated habitats which may be used by common lizard for basking or as refugia.

During the Construction Phase, vegetation clearance may place lizards potentially present at risk of injury and mortality. Additionally, lizards may become trapped in inappropriately stored plastic sheeting and other construction wastes, as well as in dig holes and trenches. In the absence of any mitigation or precaution, this risk represents a potential *significant, negative, and permanent* impact on the Common Lizard at a local scale.

5.3 Operational Phase

5.3.1 Impacts on Habitats and Flora

5.3.1.1 Spread of Invasive Species

While butterfly bush has been recorded at the Site and will be treated prior to the proposed landscaping, there is potential for negative impacts on the surrounding environment through the introduction of invasive species during landscaping, should invasive species be inadvertently introduced via imported soils or as part of the planting schedule. If allowed to establish, this risk represents a potential *negative, long-term, and slight* impact on the local environment.

5.3.2 Impacts on Native Fauna

5.3.2.1 Bats

Operational Phase lighting could potentially have a negative impact on local bat populations, as most bat species avoid strongly lit areas when foraging and/or commuting. However, the lighting plan for the Proposed Development has taken into consideration the bat foraging and commuting potential of hedgerow habitats along the boundaries of the Site, and as such as such incorporates measures to limit light spill into these areas. Therefore, the potential impacts from the Operational Phase of the Proposed Development are considered to be *negative, permanent* and *slight* significance in the absence of mitigation at a local scale

5.3.2.2 Birds

Given that the Operational Phase of the Proposed Development will incorporate additional habitats on Site as part of the landscaping plan, these habitats will provide more opportunities for breeding birds at the Site. Therefore, the potential impacts from the Operational Phase of the Proposed Project are considered to be *positive, permanent*, and *moderate* significance at a local scale.

5.3.2.3 Small Mammals(excl. bats)

Given the green corridors connecting the Site to larger green areas north of the Site, should hedgehog and/or, pygmy shrew be utilising the Site's green infrastructure during the Operational Phase, there is potential to disturb these species due to the increase human activity at the Site. This could lead to a reduction in the presence of these species in the absence of mitigation, which would constitute a *negative, permanent, and slight* impact at the local scale.

5.3.2.4 Common Lizard

As additional habitats will be made available for common lizards, there is potential to disturb these species due to the increase human activity at the Site. This could lead to a reduction in the presence of these species in the absence of mitigation, which would constitute a *negative, permanent, and slight* impact at the local scale.

5.4 Do Nothing Impact

Under the do-nothing scenario, most of the habitats at the Site of the Proposed Development would continue to undergo succession. The habitats on Site will continue to serve as low value biodiversity corridors, providing habitat connectivity, along with nesting/roosting and foraging habitat for birds and mammals. The grassland and scrub habitats would also continue to provide foraging and commuting habitat for local wildlife and pollinators, with potential for scrub species to further encroach into the grassland area. The floral composition of recolonising bare ground habitats will continue to increase in the absence of disturbance. Thus, in the absence of development, the Site would continue to provide low ecological value to local fauna.

5.5 Potential for In-Combination Effects

5.5.1 Relevant Plans and Policies

The following plans and policies were reviewed and considered for possible in-combination effects with the Proposed Development.

- Dublin City Development Plan 2022-2028
- Dublin City Biodiversity Action Plan 2021-2025

No specific projects or plans within the South Dublin County Development Plan (CDP) 2022- 2028 were identified that could act in-combination with the Proposed Development and cause adverse effects on the KERs identified in this report. Additionally, the CDP has directly addressed the protection, enhancement and incorporation of biodiversity through specific Policies and Objectives, as well as through its Development Management Standards (see Appendix I for details).

Therefore, on examination of the above it is considered that there are no means for the Proposed Development to act in-combination with any plans or projects that would cause any likely significant effects to nearby ecological sensitivities.

5.5.2 Existing Planning Permissions

There are several existing planning permissions on record in the area ranging from small-scale extensions and alterations to existing residential properties to some larger-scale developments. The larger existing developments identified within 2km of the Site and along the same impact pathways as the Proposed Development are identified below in Table 16 and the potential for possible in-combination effects with the Proposed Development are assessed.

TABLE 16. ASSESSMENT OF POTENTIAL IN-COMBINATION EFFECTS OF THE PROPOSED DEVELOPMENT AND OTHER DEVELOPMENTS PENDING OR GRANTED PERMISSION IN THE LAST 5 YEARS (2018-2023). DEVELOPMENTS ALONG THE SAME IMPACT PATHWAYS AS PROPOSED DEVELOPMENT WERE CONSIDERED WITHIN A 2KM RADIUS.

Planning Reference	Planning Authority	Status	Location
300492 (or SHD0027/19)	Dublin City Council	Granted and Implemented	Southwest of the Proposed Development. (67m away)
Development Description Seven Cabra Real Estate Limited intend to apply to An Bord Pleanála for permission for a strategic housing development at former CIE Lands, 2-4 Carnlough Road, Cabra, Dublin 7. The site is located to the south of Faussagh Avenue, to the north of Cabra Road, to the west of a rail line and to the east of Carnlough Road. The development also includes works to the road junction at Carnlough Road and Cabra Road. The proposed development will consist of: Construction of 485 no. residential units (484 no. apartments and 1 no. house) comprising of 33 no. studios, 137 no. 1 bed, 271 no. 2 bed and 44 no. 3 bed units and a neighbourhood centre. The proposed development will comprise of 9 no. Blocks (A-I) ranging in height from part single / part 2 no. storeys to 8 no. storeys. • Block A will comprise of 89 no. apartment units, consisting of 22 no. 1 bed and 67 no. 2 bed units and a neighbourhood centre comprising of 4 no. units, comprising of Unit 1, retail/café/restaurant use (120.6sq.m.), Unit 2 a convenience supermarket with ancillary off licence (1627sq.m.), and Unit 3 retail/café/restaurant use (230sq.m.), and 1 no. gym unit (617.9sq.m.), • Block B will comprise of 24 no. apartment units, consisting of 24 no. 2 beds and the provision of residential amenity space and a creche facility (351.9sq.m.) at ground floor level, • Block C will comprise of 24 no. apartment units, comprising of 1 no. 1 bed, 15 no. 2 bed and 8 no. 3 beds.			

- Block D will comprise of 120 no. apartment units, comprising of 17 no. studios, 44 no. 1 beds, 53 no. 2 beds and 6 no. 3 beds and the provision of resident lounges and communal terraces at roof level.
- Block E will comprise of 24 no. apartment units, comprising of 5 no. 1 bed, 11 no. 2 beds and 8 no. 3 beds.
- Block F will comprise of 123 no. apartment units, comprising of 16 no. studios, 49 no. 1 beds, 52 no. 2 beds and 6 no. 3 beds and the provision of resident lounges and communal terraces at roof level.
- Block G will comprise of 80 no. apartments, comprising of 16 no. 1 beds, 49 no. 2 beds and 15 no. 3 beds.
- Block H will comprise of resident amenity space including meeting rooms, postal storage, reception, co working space and cinema room (382.2sq.m),
- Block I will comprise of 1 no. 3 bed two storey house at No. 2 Carnlough Road.

The proposed development will also include 403 no. car parking spaces (375 no. at basement level (305 no. to serve the residential units and 70 no. to serve the retail units) and 28 no. at surface level (20 no. to serve the residential units and 8 no. to serve the retail units) and 488 no. bicycle parking spaces (368 no. at basement level and 120 no. at surface level), public and communal open space, private open space associated with each residential unit, landscaping, children's play area, fascia signage associated with each retail unit, resident amenities including gym, meeting rooms, postal storage centre, and reception, co working spaces, resident lounges and roof top terraces, a service/loading bay located to the rear of Block A along the western boundary of the site, 3 no. substations and switch rooms, pump room, access gates to the north access point off Faussagh Avenue, upgrades to the road junction at Carnlough Road and Cabra Road, provision of PV Panels at roof level of all blocks and all associated ancillary site development works necessary to facilitate the development. The proposed development will amend and supersede the development currently being undertaken on site, pursuant to and in accordance with Strategic Housing Planning Permission Ref: ABP-300492-17. The site is zoned Z1 - Sustainable Residential Development and Z3 - Neighbourhood Centre in the Dublin City Development Plan 2016- 2022 under which the proposed uses are permitted in principle. The application contains a statement setting out how the proposal is consistent with the objectives of the Dublin City Development Plan 2016-2022. The application contains a statement indicating why permission should be granted for the proposed development, having regard to a consideration specified in section 37(2)(b) of the Planning and Development Act, 2000, as amended, notwithstanding that the proposed development materially contravenes a relevant development plan or local area plan other than in relation to the zoning of the land.

Potential for In-combination effects

This development has been implemented at the time of this report. An Appropriate Assessment report dated October 2019 concluded that this development and any associated project activities would not have significant impacts on the conservation objectives of Natura 2000 sites for the following reasons – proximity to the nearest European site, urbanised area of this development, and lack of significant impact pathways from the development to any European site. As such, potential for in-combination effects to arise are not foreseen. Furthermore, a PEA or EclA report was not prepared for this development.

4295/23	Dublin City Council	Granted	Northwest of the Proposed Development. (215m away)
---------	---------------------	---------	--

Development Description

Permission for the installation of solar photovoltaic array to the existing roofs of a tram depot (Luas Broombridge - Hamilton Depot) and sanding shed, located within a solar safeguarding zone (SSZ), that will measure greater than 300 sqm in area and include all ancillary works and services.

Potential for In-combination effects

An Appropriate Assessment report dated 02/08/2022 concluded that this development and any associated project activities would not have significant impacts on the conservation objectives of Natura 2000 sites for the following reasons – Lack of significant impact pathways from the development to any European site, and urbanised area of this development.

316119-23	Dublin City Council South Dublin City Council Kildare County Council	Granted	West of the Proposed Development (7m away)
-----------	--	---------	--

Development Description

The DART+ South West Project will require modernisation and modifications to the existing railway line. There is a range of general linear works required along the full length of the proposed Project to enable the electrification of the line and the upgrade of the existing network.

Potential for In-combination effects

An Appropriate Assessment report dated February 2023 concluded that this development and any associated project activities would have a significant impact on a number of European sites and was therefore brought forward to Stage 2 and a NIS was prepared. The NIS report dated February 2023 concluded that this development and any associated project activities would not have a significant impact on any European sites provided that mitigation measures are fully implemented during the duration of the works.

The Proposed Development is estimated to provide an increase in the variability of available habitats for local wildlife, offsetting some of the loss accrued by nearby developments (both permitted and planned).

It is considered that there is no potential for the Proposed Development to act in-combination with other permitted developments in the vicinity that could cause likely significant effects on any nearby KERs.

6 AVOIDANCE, MITIGATION, COMPENSATION AND ENHANCEMENT MEASURES

6.1 Avoidance By Design

The Proposed Development design does not implement any specific avoidance measures.

6.2 Construction Phase

Table 17 gives a summary of the best practice development standards and mitigation measures to be implemented during the Construction Phase of the Proposed Development. The measures listed are outlined in more detail in the Construction and Environmental Management Plan (CEMP) (AWN, 2025) accompanying this application under separate cover.

TABLE 17. SUMMARY OF BEST PRACTICE STANDARDS AND MITIGATION OUTLINED IN THE OUTLINE CONSTRUCTION AND ENVIRONMENTAL MANAGEMENT PLAN (DBFL 2023). WHERE SPECIFIC DETAILS RELATING TO PROTECTION OF KEY ECOLOGICAL RECEPTORS IS REQUIRED UNDER THESE MEASURES, REFERENCE IS MADE TO THE APPROPRIATE SECTION IN THIS REPORT.

Theme	Best Practice Standards and Mitigation	Ecology Specific Mitigation
Soils and Geology	Appropriate measures to store and handle stripped topsoil and subsoil; consideration of weather conditions to minimise silt/sediment entering surface water network and dust control; and appropriate fill material import, storage and handling away from surface water features. Surface water discharge points for rain and groundwater pumped from excavations and directed to settlement ponds during Construction to be agreed with DCC prior to works. Appropriate storage of fuels, oils and other chemicals, designated refuelling and maintenance area, and preparation of emergency response procedure.	Yes – see section 6.5 of CEMP.
Water - Hydrogeology	Measures for erosion and sediment control (i.e., settlement ponds), prevention and control of accidental spills and leaks, concrete handling.	Yes – See section 8.6 of CEMP.
Water - Water Supply, Drainage & Utilities	Appropriate use of settlement ponds, foul water to be tankered off site for treatment until connection to foul network made, and all connections (waste water, water supply, electrical, gas and telecommunications) to be made by authorized and qualified people.	No.
Pest Control	Vermin control layout plan with bait traps in strategic locations.	Yes – See Section 8.5.3 of CEMP

Theme	Best Practice Standards and Mitigation	Ecology Specific Mitigation
Site Compound Facilities and Parking	Location to be agreed with DCC prior to works. Appropriate measures to handle foul water generated, protect potable water supply, health and safety, separate areas for (i) machinery and plant; (ii) concrete batching; and (iii) staff parking.	Yes - See section 7.1 and 7.2 of CEMP.
Construction Waste Management	Managed according to the Department of the Environment, Heritage and Local Government's 2006 Publication – ' <i>Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects</i> '.	Yes – See section 8.5 of the CEMP
Landscape and Visual Impact	Appointment of an Arborist to oversee works relating to trees, establishment on Tree Protection Zones in accordance with BS 5837:2012 ' <i>Trees in Relation to Design, Demolition and Construction – Recommendations</i> '; and post-construction tree assessment.	No.
Noise and Vibration	To comply with the requirements of BS 5228-1:2009+A1:2014 and BS 5228-2:2009+A1:2014 (Code of Practice for Noise and Vibration Control on Construction and Open Sites) as well as Safety, Health and Welfare at Work (General Application) Regulations 2007, Part 5 Noise and Vibration.	Yes – See section 8.4 of CEMP.
Air Quality	Dust Management Plan to include suppression via watering of areas identified as potential dust source; road sweeping to remove aggregate materials; appropriate cover of transported materials; wheel washing; maintenance of public roads in relation to dust; and appropriate monitoring.	Yes – See section 8.2 of CEMP

Additional mitigation measures required for sufficient protection of the KERs identified in this report, and/or details for the specific implementation of the mitigation measures as per the above table are given in the below sections.

6.2.1 Protection of Fauna

6.2.1.1 Mitigation 1: Construction Phase Lighting

As a precautionary measure, no overnight lighting will be directed to the natural habitats bounding the Site. Where overnight lighting cannot be avoided in these areas due to health and safety concerns, the lighting within the Proposed Development will be designed and installed to minimise the impact on local wildlife as agreed with the Ecologist and in accordance with the Bat Conservation Trust guidelines on artificial lighting and bats (Collins, 2023)

- There will be no light spill to the boundary habitats.
- All luminaires used will lack UV/IR elements to reduce impact.
- LED luminaires will be used due to the fact that they are highly directional, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (3000 Kelvins will be used to reduce the blue light component of the LED spectrum).

- Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Column heights should be carefully considered to minimise light spill. The shortest column height allowed should be used where possible.
- Only luminaires with an upward light ratio of 0% and with good optical control will be used.
- Luminaires will be mounted on the horizontal, i.e., with no upward tilt.
- Any external security lighting will be set on motion-sensors and short (1min) timers.
- As a last resort, accessories such as baffles, hoods or louvres will be used to reduce light spill and direct it only to where it is needed.

6.2.1.2 Mitigation 2: Vegetation Clearance

Vegetation clearance at the Site will need to be cognisant of any potentially present fauna. Table 18 provides guidance for when vegetation clearance is permissible in relation to wintering, hibernating and breeding fauna. Information sources include British Hedgehog Preservation Society's *Hedgehogs and Development* and *The Wildlife (Amendment) Act, 2000*. The preferred period for vegetation clearance is within the months of September and October to avoid the main breeding bird season and bat maternity and roosting season as well as mammal hibernation.

Where this seasonal restriction cannot be observed, a check for active nests will be carried out immediately prior to any Site clearance by an Ecological Clerk of Works (ECoW) and repeated as required to ensure compliance with legislative requirements. Where a breeding bird and an active nest is found, the nest will be protected, and no further works will take place in the vicinity of the nest until the young have fledged.

TABLE 18. SEASONAL RESTRICTION ON VEGETATION REMOVAL. RED BOXES INDICATE PERIODS WHEN CLEARANCE/WORKS ARE NOT ADVISED

Ecological Features	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Breeding birds	Vegetation clearance permissible		<u>Nesting bird season</u> No clearance of vegetation or works to relevant structures permitted unless confirmed to be devoid of nesting birds by an ecologist						Vegetation clearance permissible			
Hibernating mammals (namely hedgehog)	<u>Mammal hibernation season</u> No clearance of vegetation or works to relevant structures permitted unless confirmed to be devoid of hibernating mammals by an ecologist		Vegetation clearance permissible							<u>season</u> No clearance of vegetation or works to relevant structures permitted unless confirmed to be devoid of hibernating mammals by an ecologist		
Common lizard	<u>Lizard hibernation season</u> No habitat clearance permissible		Active period Habitat (scrub, tall sward grass) clearance permissible							<u>Lizard hibernation season</u> No habitat clearance permissible		

Additionally, all vegetation clearance will be carried out in sections working in a consistent direction to prevent entrapment of protected fauna potentially present (e.g., hedgehog, pygmy shrew). A phased cutting approach under the supervision of a suitably qualified ECoW will be used to allow wildlife (small mammals, reptiles and amphibians) to move away from any suitable habitat that will be removed:

- Phase 1 – Cutting vegetation to 150-200 mm and removing the arisings;

- Phase 2 – After a minimum of one hour, hand-searching the cut areas (conducted by an ECoW) and removing any sheltering habitat (e.g. logs or debris) then cutting vegetation to ground level and removing the arisings; and
- Phase 3 – Soil scrape.

Should any suitable refugia or day nesting habitats need to be removed, this will be carried out outside the most vulnerable breeding periods for hedgehogs wherever practicable (main hedgehog birthing months June and July) and will be supervised by the ECoW.

6.2.1.3 Mitigation 3: Avoidance of Accidental Trapping of Fauna

In order to avoid accidental harm/injury or mortality to mammals during construction all excavations shall have a wooden plank, sloping edge or other means of escape to avoid accidental trapping of mammals. All pipes shall be covered at night.

6.2.1.4 Mitigation 4: Removal of Invasive Species and Biosecurity

An Invasive Species Management Plan (ISMP) will be prepared for butterfly bush (*Buddleja davidii*) that has been recorded at the Site. The following measures are extracted from TII (2020a) for the chemical and physical control of butterfly bush:

Chemical control

“Foliar application of herbicide is capable of providing control with young plants and small infestations but should be followed up at six-monthly intervals as regrowth is common”.

Physical control

“Removal of the flower heads before seed set (June or even July) is an important control method as it reduces the volume of seeds that are available to spread. Hand-picking of young plants will provide control, but it is very tedious and should be undertaken with care to avoid soil disturbance, which can give rise to a flush of new seedling growth. Digging out plants is only practical with relatively minor infestations, at the initial stage of invasion, or where a site is to be excavated for development or road construction purposes. Mowing of young plants does not provide effective control as they re-sprout with vigour. The physical removal of mature stands is not recommended for the same reason. After uprooting, it is essential to plant the ground in order to prevent a flush of new seedling growth. When *Buddleja* plants are cut, regrowth from the stump can be very vigorous”.

Combined chemical and physical control

“Effective control can be achieved by cutting *Buddleia* plants to a basal stump during active growth (late spring to early summer) and immediately treating the total cut surface with herbicide concentrate. Monitoring will be required and retreatment, as necessary. Do not leave cut stems and branches on the ground as they will re-root and produce new plants.”

Recommended Management

Physical removal and off-site disposal of butterfly bush is recommended where it occurs throughout the Site. This will be detailed in the ISMP.

The following best practice site hygiene and biosecurity measures will be in place to avoid the potential introduction of invasive floral species at the Site and offsite via movement of materials/staff:

- All soils/materials being introduced to the Site will be sourced from a certified invasive flora-free source site, to ensure no introduction of invasive plant materials to the Site occurs.
- Personnel working on or between sites will ensure their clothing and footwear are cleaned, ensuring they are visually free from soil and organic debris, in order to prevent inadvertent spread of invasive plant material.
- All vehicles entering or leaving the Site will have been suitably checked and pressure washed to ensure no introduction of invasive flora to and from the Site. Measures such as a drive through hygiene bath or footbaths will be considered where appropriate.

- Material/water left after vehicles have been pressure-washed must be contained, collected and disposed of appropriately.

6.3 Operational Phase

6.3.1 Protection of Habitats

6.3.1.1 Mitigation 5: Invasive Species Management

Certain plant species and their hybrids are listed as Invasive Alien Plant Species in Part 1 of the Third Schedule of the *European Communities (Birds and Natural Habitats) Regulations 2011* (SI 477 of 2011, as amended). In addition, soils and other material containing such invasive plant material, are classified in Part 3 of the Third Schedule as vector materials and are subject to the same strict legal controls.

Despite the measures identified in the OCEMP for the importation of only clean materials, there is the potential for the inadvertent import of invasive species to the Site. If established, there is a risk of further spread both within and out of the Site.

As such, it is recommended that any newly landscaped areas, particularly where infill materials and soils have been imported for soft landscaping, are assessed during the Operational Phase within the next botanical season for the presence of any inadvertently introduced invasive species, with particular focus on those listed on Schedule III of SI 477 of 2011. If invasive species are detected, an Invasive Species Management Plan will be prepared, agreed with the Local Authority and implemented at the earliest possibility to limit the potential for further spread.

6.3.2 Protection of Fauna

6.3.2.1 Mitigation 6: Wildlife Friendly Lighting

In accordance with the best practise bat-friendly lighting guidelines (ILP, 2023), the below measures will be incorporated as part of the Lighting Design of the Proposed Development:

- All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used.
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white light source (3000 Kelvin or lower) should be adopted to reduce blue light component.
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill.
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards.
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered.
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt.
- Where appropriate, external security lighting should be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate.
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

6.4 Biodiversity Enhancement Measures

6.4.1 Biodiversity Enhancement by Design

The landscape plan for the Proposed Development incorporates native planting and non-native planting mix throughout the open green spaces of the Proposed Development. This will take the form of street tree planting,

hedgerow planting, woodland and scrub planting. The planting schedule will be informed prior to the commencement of the construction phase and will be agreed with inputs by a qualified ecologist. A more general planting plan have been included in the Landscape Plans for the respective plots, which detail the specifications for plant material, the requirements of the Landscape contractor, and proposals for monitoring establishment of green spaces across the Site. The proposed landscape plan for the Site has been designed to enhance biodiversity by introducing a greater variety of habitats than those that are currently present on Site.

6.4.2 Enhancement 1: Pollinator Habitat

Pollinator/insect habitat, as seen in Figure 13 below, can be created on Site by:

- Creating an earth bank.
- Scraping back some bare earth.
- Leaving some areas to grow wild, and/or
- By drilling holes 10cm deep in unvarnished wood for solitary bees.



FIGURE 13: EXAMPLE OF SOLITARY BEE HABITAT. EXTRACTED FROM HOW-TO-GUIDE: CREATING WILD POLLINATOR NESTING HABITAT (NBDC, 2016)

Large bee or insect hotels will not be installed. Guidance from the All -Ireland Pollinator Plan states “*Don’t install a large bee or insect hotel. Large bee hotels are attractive to humans, but not great for pollinators. They can encourage the spread of disease and attract predators. Avoid anything bigger than an average-sized bird box. There are many other ways to provide nesting habitats for pollinators, such as providing wild areas of undisturbed long grass, and scraping back some bare earth. If you want to make a bee hotel, make sure it is small, and position it away from bird feeders so the insects aren’t easy targets.*” A link to a “How-to-guide Creating wild pollinator nesting habitat” is provided for the development management company to put these habitats in place: Pollinator-Nesting-How-to-Guide-2022-WEB.pdf (pollinators.ie). An appointed ecologist will oversee the creation of these habitats.

6.4.3 Enhancement 2: Bat Boxes

Six summer bat boxes (e.g., Woodcrete 1FF design) will be erected in the woodland area located along the northern extent of the Proposed Development. The boxes will be installed as part of the landscaping works, so as to not delay their deployment and potential positive impacts.

Bat boxes will be sited carefully, and this will be undertaken by a bat specialist. The bat ecologist will denote the locations, orientation and height of the bat boxes to be erected with assistance from the contractor. Some general points that will be followed include:

- Bat boxes will be erected on trees (or telegraph poles) with no crowding branches or other obstructions for at least 1 metre above and below the bat box.
- The diameter of the tree should be wide and strong enough to hold the required number of boxes.
- Locate bat boxes in areas where bats are known to forage or adjacent to suitable foraging areas. Locations will be sheltered from prevailing winds.

- Bat boxes will be erected at a height of 4-5 metres to reduce the potential for vandalism and predation of roosting bats.
- The recommended Woodcrete 1FF design is open at the bottom, allowing the droppings to fall out, and so does not need cleaning.

6.4.4 Enhancement 3: Bird Boxes

To enhance the value of the Site for birds, four artificial nest boxes (for passerine species) are recommended to be placed within the newly planted woodland along the northern extent of the Site and treelines along the boundaries of the Site, where both lighting and human activity will be limited. The boxes should be placed out of reach from wild predators. Final nest box placement and design will be informed by a suitably qualified Ecologist (or ECoW) and agreed with the Local Authority.

6.4.5 Enhancement 4: Long Term Management of Hedgerows

For the long term management of hedgerows during the Operational Phase of the Proposed Development, relevant guidance has been sourced from Hedgerows Ireland (HE, 2025), and (LAHO, 2016), to inform best practice and optimal enhancement of hedgerows at Plot 1 and plot 2 of the Site.

As per the guidance provided in Hedgerows Ireland (HE,2025), it is recommended that cutting/flailing of hedgerows is not undertaken annually. This is because annual cutting has been associated with reducing local biodiversity benefits that the hedgerows may offer to flowering species within the hedgerow itself, as well as the pollinators that rely on these floral species. Furthermore, the annual cutting of hedgerows can also diminish food resources in the form of berries or fruits for birds thereby depleting resources that the bird species may rely on. Cutting can also directly impact the nesting behaviour of birds in the locality, therefore, all cutting must take place outside of the breeding bird season (March to August).

Additionally, as per the (LAHO, 2016), it is recommended that proper maintenance of hedgerows should be established to encourage flowering, fruiting and growth to boost wildlife potential in hedgerows. This is to be accomplished by ensuring that mature hedgerows are in good condition and must be allowed to grow naturally, and maintenance is confined to essential practices such as stock proofing, inplanting, and the control of invasive species. Weak hedgerows, which have lost their vigour, will require more intervention such as laying or coppicing. Any established hedgerows will need cutting every two to three years, and the maintenance is to be done on a rotational basis around the Site to ensure that there is growth at all stages.

7 MONITORING

Table 19 below provides a summary of the required monitoring and pre-works inspections during the Construction Phase, as well as any surveys that should be completed during the Operational Phase. The monitoring, inspections and surveys will ensure that the identified mitigation measures are implemented and maintained efficiently and have the desired effect of protecting the local ecology from adverse impacts.

TABLE 19. MONITORING AND PRE-WORKS INSPECTIONS FOR THE IDENTIFIED MITIGATION MEASURES DURING CONSTRUCTION PHASE OF THE PROPOSED DEVELOPMENT. TO BE CARRIED OUT BY A SUITABLY QUALIFIED ECOLOGIST OR ECOLOGICAL CLERK OF WORKS (HIGHLIGHTED IN GREEN) OR BY THE DEVELOPMENT CONTRACTOR (NO HIGHLIGHT).

Measure	Monitoring
CONSTRUCTION PHASE	
Mitigation 1: Construction Phase Lighting	To be monitored by contractor.
Mitigation 2: Vegetation Clearance	Any Site vegetation clearance is subject to supervision by an Ecologist and a phased approach.
Mitigation 3: Avoidance of Accidental Trapping of Fauna	To be monitored by contractor.
Mitigation 4: Removal of Invasive Species and Biosecurity.	To be carried out under the supervision of a qualified ecologist.

Enhancement 1: Pollinator Habitat	The placement and construction of these structures should be carried out under supervision of an Ecologist to ensure they are fit for purpose.
Enhancement 2: Bat Boxes	The placement and installation of these structures should be carried out under the supervision of an Ecologist to ensure they are fit for purpose.
Enhancement 3: Bird Boxes	The placement and installation of these structures should be carried out under the supervision of an Ecologist to ensure they are fit for purpose.
OPERATIONAL PHASE	
Mitigation 5: Invasive Species Management	An Invasive Species Survey will be carried out by a qualified Ecologist during the next botanical season after soft landscaping has been completed.
Mitigation 6: Wildlife Friendly Lighting.	To be monitored by contractor and/or suitably qualified ecologist.
Enhancement 4: Long Term Management of Hedgerows	To be monitored by contractor, qualified arborist and/or suitably qualified ecologist

8 RESIDUAL IMPACTS

Residual impacts are impacts that remain once mitigation has been implemented or impacts that cannot be mitigated. Table 20 below provides a summary of the impact assessment for the identified KERs and details the nature of the impacts identified, the mitigation measures proposed, and the classification of any residual impacts.

Both standard Construction Phase control measures, and specific mitigation measures, have been outlined to ensure that the Proposed Development does not impact on any species, habitats or designated sites of conservation importance. It is essential that these measures are complied with, in order to ensure that the Proposed Development complies with National conservation legislation.

Provided all recommended measures are implemented in full and remain effective throughout the lifetime of the Proposed Development, slight or imperceptible negative residual impacts on the local ecology, or on any designated nature conservation sites, will occur as a result of the Proposed Development.

TABLE 20. SUMMARY OF POTENTIAL IMPACTS ON KER(S), MITIGATION PROPOSED AND RESIDUAL IMPACTS. [INSERT NEW HEADERS FOR THE GROUPINGS AS APPROPRIATE EG., HABITATS, NON-VOLANT FAUNA, ETC, AS PER THE SPLIT YOU DID FOR DESCRIBING IMPACTS]

Key Ecological Resource	Evaluation	Potential Impact	Impact Without Mitigation				Proposed Mitigation / Mitigating Factors	Proposed Enhancements	Residual Impact
			Quality	Magnitude / Extent	Duration	Significance			
DESIGNATED SITES									
No impacts to any designated sites will occur as a result of the Proposed Development and therefore no mitigation measures are recommended.									
HABITATS & FLORA									
Scrub (WS1)	Local Importance (Higher Value)	<u>Construction Phase:</u> Loss of habitat	Negative	Local	Permanent	Slight	None identified.	Biodiversity Enhancement by Design. Additional landscaping at the Site.	Imperceptible
		<u>Operational Phase:</u> None identified.	none	none	none	none	None identified		
Dry Meadows and Grassy Verges (GS2)	Local Importance (Higher Value)	<u>Construction Phase:</u> Loss of habitat	Negative	Local	Permanent	Slight	None identified.	Biodiversity Enhancement by Design. Additional landscaping at the Site.	Imperceptible
		<u>Operational Phase:</u> None identified.	none	none	none	none	None identified		
Invasive Species	Local Importance (Higher Value)	<u>Construction Phase:</u> Removal of invasive floral species (butterfly bush).	Negative	Local	Long-term	Significant	Mitigation 4: Removal of Invasive Species and Biosecurity. Mitigation 5: Invasive Species Management.	None	Imperceptible
		<u>Operational Phase:</u> Inadvertent introduction of invasive species as part of the landscaping.	Negative	Local	Long-term	Slight			

Key Ecological Resource	Evaluation	Potential Impact	Impact Without Mitigation				Proposed Mitigation / Mitigating Factors	Proposed Enhancements	Residual Impact	
			Quality	Magnitude / Extent	Duration	Significance				
FAUNA										
Bat Assemblage	Local Importance (Higher Value)	Construction Phase: Loss of foraging/commuting habitats	Negative	Local	Temporary	Slight	Mitigation 1: Construction Phase Lighting.	Enhancement 2: Bat Boxes	Negative, Local, Permanent, Slight	
		Increased lighting during construction works.	Negative	Local	Temporary	Slight		Mitigation 6: Wildlife Friendly Lighting.		Biodiversity Enhancement by Design. Green walls and additional planting along the eastern, northern and western boundary of Site.
		Operational Phase: Increased lighting.	Negative	Local	Permanent	Slight				
Bird Assemblages	Local Importance (Higher Value)	Construction Phase: Risk of injury or death during vegetation clearance.	Negative	Local	Permanent	Significant	Mitigation 2: Vegetation Clearance	Enhancement 3: Bird Boxes	Positive, Local, Permanent, Slight	
		Loss of nesting habitats.	Negative	Local	Permanent	Slight	Best practice development standards outlined in various sections of the CEMP.	Biodiversity Enhancement by Design. Additional habitats provided by proposed landscaping at the Site.		
		Operational Phase: Additional habitats provided by the Proposed Development..	Positive	Local	Permanent	Slight				
Small Mammals (excl. bats)	Local Importance	Construction Phase:	Negative	Local	Permanent	Significant	Mitigation 2: Vegetation Clearance.	Biodiversity Enhancement by Design. Additional	Imperceptible	

Key Ecological Resource	Evaluation	Potential Impact	Impact Without Mitigation				Proposed Mitigation / Mitigating Factors	Proposed Enhancements	Residual Impact
			Quality	Magnitude / Extent	Duration	Significance			
	(Higher Value)	Risk of injury or death during vegetation clearance. Entrapment in construction-related rubbish. Disturbance from noise, dust and/or lighting Operational Phase: Disturbance due to increased human activity.	<i>Negative</i> <i>Negative</i> <i>Negative</i>	<i>Local</i> <i>Local</i> <i>Local</i>	<i>Permanent</i> <i>Short-term</i> <i>Permanent</i>	<i>Significant</i> <i>Slight</i> <i>Slight</i>	Best practice development standards outlined in various sections of the CEMP. Mitigation 3: Avoidance of Accidental Trapping of Fauna.	habitats provided by proposed landscaping at the Site.	
Common Lizard	Local Importance (Higher Value)	Construction Phase: Risk of injury or death during vegetation clearance and/or entrapment in construction related rubbish. Operational Phase: Disturbance due to increased human activity.	<i>Negative</i> <i>Negative</i>	<i>Local</i> <i>Local</i>	<i>Permanent</i> <i>Permanent</i>	<i>Significant</i> <i>Slight</i>	Mitigation 2: Vegetation Clearance	Biodiversity Enhancement by Design. Additional habitats provided by proposed landscaping at the Site.	Imperceptible

9 CONCLUSION

It is considered that, provided the mitigation measures proposed within this report together with all best practice development standards as outlined in the OCEMP are carried out in full, there will be no significant negative impact to any KER habitat, species group or biodiversity as a result of the Proposed Development.

Additionally, the landscaping plan for the Proposed Development was designed to offset some of the habitat loss that will result from the Proposed Development. Furthermore, the woodlands proposed for the northern extent of the Site provide new habitats to the Site, further enhancing the connectivity of the Site to larger green-spaces to the north.

10 REFERENCES

- Ait. (2025a). Landscape Report for Cabra PBSA. ait urbanism + landscape.
- Ait. (2025b). Landscape Plan for Cabra PBSA. ait urbanism + landscape. Drawing no. 25D06-DR-1000.
- AWN. (2025). Construction Environmental Management Plan for Cabra Residential Development, Faussagh Avenue, Cabra West, Dublin 7. AWN Consulting Ltd., the Tecpro building, IDA business & technology park, Clonsaugh, Dublin 17, D17 XD90.
- Bang, P. and Dahlstrom, P. (2001). Animal Tracks and Signs, Oxford University Press, Oxford.
- Bat Conservation Trust and Institute of Lighting Professionals (2018) Guidance Note 08/18: Bats and artificial lighting in the UK. ILP, Rugby
- Bibby, C. J., Burgess, N. D. & Hill, D. A. (1992). Bird Census Techniques. Academic Press, New York.
- Bird Survey & Assessment Steering Group. (2022). Bird Survey Guidelines for assessing ecological impacts, v.1.0.0. <https://birdsurveyguidelines.org> [Accessed October 2025]
- British Standards Institution (2013) BS 42020:2013 Biodiversity: Code of practice for planning and project, BSI, London.
- CIEEM (2015). Guidelines for Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester, UK.
- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins, J. (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4 th Edition). The Bat Conservation Trust, London.
- Curtis, T.G.F. and McGough, H.N. (1988). The Red Data Book 1: Vascular Plants. Dublin: The Stationery Office.
- DNV. (2025). Appropriate Assessment Screening Report for Student Residence, Fassuagh Avenue, Cabra, Dublin. DNV.
- EPA, (2025). Environmental Protection Agency Online Mapping [ONLINE] Available at: <http://www.epa.ie/> [Accessed October 2025].
- EPA. (2022). Guidelines on the information to be contained in Environmental Impact Assessment Reports. Published by the Environmental Protection Agency, Ireland.
- Fossitt, J. A. (2000). A Guide to Habitats in Ireland. Kilkenny: The Heritage Council.
- Foulkes, N., Fuller, J., Little, D., McCourt, S. and Murphy, P. (2013). Hedgerow Appraisal System - Best Practise Guidance on Hedgerow Survey, Data Collation and Appraisal. Woodlands of Ireland, Dublin. Unpublished Report
- Gilbert, G., Gibbons, D.W., and Evans, J. (1998): Bird Monitoring Methods: a manual of techniques for key UK species. Sandy: RSPB.
- Gillings, S., Wilson, A.M., Conway, G.J., Vickery, J.A., Fuller, R.J., Beavan, P., Newson, S.E., Noble, D.G. & Toms, M.P. (2007) Winter Farmland Bird Survey. BTO Research Report No.494.
- GSI, (2025). Geological Survey of Ireland website [ONLINE] Available at: <http://www.gsi.ie/> [Accessed October 2025].

Irish Water. (2018). Ringsend Wastewater Treatment Plant Upgrade Project. Available at: https://epawebapp.epa.ie/licences/lic_eDMS/090151b280877422.pdf

King, J.L., Marnell, F., Kingston, N., Rosell, R., Boylan, P., Caffrey, J.M., FitzPatrick, Ú., Gargan, P.G., Kelly, F.L., O'Grady, M.F., Poole, R., Roche, W.K. and Cassidy, D. (2011). Ireland Red List No. 5: Amphibians, Reptiles and Freshwater Fish. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland

Lighting Reality (2025). Outdoor Lighting Report for Fassuagh Avenue, Cabra, Dublin. Lighting Reality.

Lohan & Donnelly. (2025a). Engineering Service Report for Cabra PBSA. Lohan & Donnelly Consulting Engineers.

Lohan & Donnelly. (2025b). Foul & Surface Water Sewer Layout Plan for Purpose Built Student Accommodation, 2A Faussagh Avenue, Cabra, Dublin. Drawing No. 24227-LDE-ZZ-ZZ-DR-C-1C01.

Lundy M.G., Aughney T., Montgomery W.I., Roche N. (2011) Landscape conservation for Irish bats & species specific roosting characteristics. Bat Conservation Ireland.

Marnell, F., Kelleher, C. & Mullen, E. (2022). Bat mitigation guidelines for Ireland v2. Irish Wildlife Manuals, No. 134. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland

NBDC, (2025). National Biodiversity Data Centre online mapping [ONLINE] Available at: <http://maps.biodiversityireland.ie/Map.aspx>. [Accessed October 2025].

NPWS (2009). pNHA Site Synopsis Portfolio. National Parks and Wildlife Services.

NPWS (2013a) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2013b) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS, (2013a). The Status of EU Protected Habitats and Species in Ireland. Habitats Assessments Volume 2, Version 1.0. Unpublished Report, National Parks & Wildlife Services. Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

NPWS, (2013b). The Status of EU Protected Habitats and Species in Ireland. Species Assessments Volume 3, Version 1.0. Unpublished Report, National Parks & Wildlife Services. Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

NPWS, (2025). National Parks and Wildlife Service website [ONLINE] Available at: <http://www.npws.ie/en/> [Accessed October 2025].

NRA (2009). Guidelines for Assessment of Ecological Impacts of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

NRA. (2005). Guidelines for the Treatment of Badgers Prior to the Construction of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

NRA. (2006). Guidelines for the Treatment of Bats during the Construction of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

NRA. (2008). Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

NRA. (2009a). Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

OCSC. (2025). Site Lighting Report for Cabra PBSA, Grant Thornton Ireland, August 5th 2025. O'Connor Sutton Cronin multidisciplinary consulting engineers.

OPR (2021). Office of the Planning Regulator. Appropriate Assessment Screening for Development Management, OPR Practice Note PN01

Ramsar Sites Information Service (2023). North Bull Island Ramsar Site. [ONLINE]. Available at: <https://rsis.ramsar.org/ris/406?language=en> [Accessed October 2025]

Reddy. (2025). Proposed Site Plan for Student Residence Fassauga Avenue, Cabra, Dublin. reddy a+u. Drawing no. FAC-02-XX-L00-DR-RAU-AR-0003.

Russ, J., (2012). British bat calls: a guide to species identification. Pelagic publishing.

Smith, G.F., O'Donoghue, P, O'Hora K., and Delaney, E. (2010). Best Practice Guidance for Habitat Survey and Mapping. Published by the Heritage Council.

TII (2020a). The Management of Invasive Alien Plant Species on National Roads – Technical Guidance. GE-ENV-01105. December 2020

UNESCO (2025). Dublin Bay Biosphere. [ONLINE] Available at: <https://www.dublinbaybiosphere.ie/> [Accessed October 2025].

11 APPENDICES

Appendix I - Legislation and Policy

International Legislation

EU Birds Directive

The Birds Directive constitutes a level of general protection for all wild birds throughout the European Union. Annex I of the Birds Directive includes a total of 194 bird species that are considered rare, vulnerable to habitat changes or in danger of extinction within the European Union. Article 4 establishes that there should be a sustainable management of hunting of listed species, and that any large scale non-selective killing of birds must be outlawed. The Directive requires the designation of Special Protection Areas (SPAs) for: listed and rare species, regularly occurring migratory species and for wetlands which attract large numbers of birds. There are 25 Annex I species that regularly occur in Ireland.

EU Habitats Directive

The Habitats Directive aims to protect some 220 habitats and approx. 1000 species through-out Europe. The habitats and species are listed in the Directives annexes where Annex I covers habitats and Annex II, IV and V cover species. There are 59 Annex I habitats in Ireland and 33 Annex IV species which require strict protection wherever they occur. The Directive requires the designation of Special Areas of Conservation (SACs) for areas of habitat deemed to be of European interest. The SACs together with the SPAs from the Birds Directive form a network of protected sites called Natura 2000.

Bern and Bonn Convention

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982) was enacted to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) was introduced in order to give protection to migratory species across borders in Europe.

Ramsar Convention

The Ramsar Convention on Wetlands is an intergovernmental treaty signed in Ramsar, Iran, in 1971. The treaty is a commitment for national action and international cooperation for the conservation of wetlands and their resources. In Ireland there are currently 45 Ramsar sites which cover a total area of 66,994ha.

Water Framework Directive

The EU Water Framework Directive (WFD) 2000/60/EC is an important piece of environmental legislation which aims to protect and improve water quality. It applies to rivers, lakes, groundwater, estuaries, and coastal waters. The Water Framework Directive was agreed by all individual EU member states in 2000, and its first cycle ran from 2009 – 2015. The Directive runs in 6-year cycles; the second cycle ran from 2016 – 2021, and the current (third) cycle runs from 2022-2027. The aim of the WFD is to prevent any deterioration in the existing status of water quality, including the protection of good and high-water quality status where it exists. The WFD requires member states to manage their water resources on an integrated basis to achieve at least 'good' ecological status, through River Basin Management Plans (RBMP), by 2027.

National Legislation

Wildlife Act 1976 and amendments

The Wildlife Act 1976 was enacted to provide protection to birds, animals, and plants in Ireland and to control activities which may have an adverse impact on the conservation of wildlife. With regard to the listed species, it is an offence to disturb, injure or damage their breeding or resting place wherever these occur without an appropriate licence from the National Parks and Wildlife Service (NPWS). This list includes all wild birds along with their nests and eggs. Intentional destruction of an active nest from the building stage up until the chicks have fledged is an offence. This includes the cutting of hedgerows from the 1st of March to the 31st of August. The act also provides a mechanism to give statutory protection to Natural Heritage Areas (NHAs). The Wildlife Amendment Act 2000

widened the scope of the Act to include most species, including the majority of fish and aquatic invertebrate species which were excluded from the 1976 Act.

The current list of plant species protected by Section 21 of the Wildlife Act, 1976 (and amendments) is set out in the Flora (Protection) Order, 2015 (S.I. No. 356/2015). The Flora (Protection) Order affords protection to several species of plant in Ireland, including 68 vascular plants, 40 mosses, 25 liverworts, 1 stonewort and 1 lichen. This Act makes it illegal for anyone to uproot, cut or damage any of the listed plant species and it also forbids anyone from altering, interfering, or damaging their habitats. This protection is not confined to within designated conservation sites and applies wherever the plants are found.

EU Habitats Directive 1992 and EC (Birds and Natural Habitats) Regulations 2011

The EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive 1992) provides protection to particular species and habitats throughout Europe. The Habitats Directive has been transposed into Irish law through the EC (Birds and Natural Habitats) Regulations 2011.

Annex IV of the EU Habitats Directive provides protection to a number of listed species, wherever they occur. Under Regulation 23 of the Habitats Directive, any person who, in regard to the listed species, “Deliberately captures or kills any specimen of these species in the wild, deliberately disturbs these species particularly during the period of breeding, rearing, hibernation and migration, deliberately takes or destroys eggs from the wild or damages or destroys a breeding site or resting place of such an animal shall be guilty of an offence.”

Invasive Species Legislation

Certain plant species and their hybrids are listed as Invasive Alien Plant Species in Part 1 of the Third Schedule of the *European Communities (Birds and Natural Habitats) Regulations 2011* (SI 477 of 2011, as amended). In addition, soils and other material containing such invasive plant material, are classified in Part 3 of the Third Schedule as vector materials and are subject to the same strict legal controls.

Failure to comply with the legal requirements set down in this legislation can result in either civil or criminal prosecution, or both, with very severe penalties accruing. Convicted parties under the Act can be fined up to €500,000.00, jailed for up to 3 years, or both.

Extracts from the relevant sections of the regulations are reproduced below.

“49(2) Save in accordance with a licence granted [by the Department of Arts, Heritage and the Gaeltacht], any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow in anyplace [a restricted non-native plant], shall be guilty of an offence.

49(3) ... it shall be a defence to a charge of committing an offence under paragraph (1) or (2) to prove that the accused took all reasonable steps and exercised all due diligence to avoid committing the offence.

50(1) Save in accordance with a licence, a person shall be guilty of an offence if he or she [...] offers or exposes for sale, transportation, distribution, introduction, or release—

(a) an animal or plant listed in Part 1 or Part 2 of the Third Schedule,

(b) anything from which an animal or plant referred to in subparagraph (a) can be reproduced or propagated, or

(c) a vector material listed in the Third Schedule, in any place in the State specified in the third column of the Third Schedule in relation to such an animal, plant or vector material.”

National Biodiversity Action Plan 2023-2030

The National Biodiversity Plan (NBAP) 2023-2030, the fourth such plan for Ireland, captures the objectives, targets and actions for biodiversity that will be undertaken by a wide range of government, civil society and private sectors. Actions required to achieve the strategic objectives as well as the lead and key partners responsible for their implementation are set out for each of the objectives and their outcomes (Table A1).

TABLE A1: OBJECTIVES AND OUTCOMES OF THE NATIONAL BIODIVERSITY ACTION PLAN 2023-2030.

Objective	Outcome
1: Adopt a Whole-of-Government, Whole-of-Society Approach to Biodiversity	1A: Governance structures and reporting outputs have improved.
	1B: Organisational capacity and resources for biodiversity have increased at all levels of Government.
	1C: Responsibility for biodiversity is shared across the whole of government.
	1D: Biodiversity initiatives are supported across the whole of society.
	1E: The legislative framework for biodiversity conservation is robust, clear and enforceable.
2: Meet Urgent Conservation and Restoration Needs	2A: The protection of existing designated areas and protected species is strengthened and conservation and restoration within the existing protected area network are enhanced.
	2B: Biodiversity and ecosystem services in the wider countryside are conserved and restored – agriculture & forestry.
	2C: Biodiversity and ecosystem services in the wider countryside are conserved and restored – peatlands & climate action.
	2D: Biodiversity and ecosystem services in the marine and freshwater environment are conserved and restored.
	2E: Genetic diversity of wild and domesticated species is safeguarded.
	2F: A National Restoration Plan is in place to contribute to the ambition of the EU Biodiversity Strategy 2030 and global restoration targets.
	2H: Invasive alien species (IAS) are controlled and managed on an all-island basis to reduce the harmful impact they have on biodiversity and measures are undertaken to tackle the introduction and spread of new IAS to the environment.
3. Secure Nature's Contribution to People	3A: Ireland's natural heritage and biocultural diversity is recognised, valued, enhanced and promoted in policy and practice.
	3B: The role of biodiversity in supporting wellbeing, livelihoods, enterprise and employment is recognised and enhanced.
	3C: Planning and development will facilitate and secure biodiversity's contributions to people.
4. Enhance the Evidence Base for Action on Biodiversity	4A: Research funding bodies will have an improved understanding of the research and skills required to address biodiversity research gaps.
	4B: Data relevant to biodiversity and ecosystems, including conservation needs, is widely accessible and standardised.
	4C: Long-term monitoring programmes are in place to guide conservation and restoration goals.
	4D: Ireland has prepared national assessments of ecosystem services.
5. Strengthen Ireland's Contribution to International Biodiversity Initiatives	5A: Science, policy and action on biodiversity conservation and restoration is effectively coordinated in an all-island approach.
	5B: Ireland takes action internationally to cooperate with other countries, sectors, disciplines and communities to address the biodiversity crisis.
	5C: Ireland enhances its contributions to the international biodiversity data drive.

Dublin City Development Plan 2022-2028

While the Development Plan in its entirety is relevant to the Proposed Development and can be referred to separately, policies, principles and objectives of the Dublin City Development Plan 2022 – 2028 that are of relevance to this Screening Report are outlined below:

- GI9: “To conserve, manage, protect and restore the favourable conservation condition of all qualifying interest/special conservation interests of all European sites designated, or proposed to be designated, under the EU Birds and Habitats Directives, as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) (European / Natura 2000 sites).”
- GI10: “To adequately protect flora and fauna (under the EU Habitats and Birds Directives, the Wildlife Acts 1976–2021, the Fisheries Acts 1959–2006 and the Flora (Protection) Order 2015 S.I No. 356 of 2015), wherever they occur within Dublin City, or have been identified as supporting the favourable conservation condition of any European sites.”
- GI11: “To protect and enhance the ecological functions and connectivity of habitats and species of proposed Natural Heritage Areas (pNHAs) to be designated by the National Parks and Wildlife Service (NPWS).”
- GI12: “To protect sites for nature conservation as designated under the Ramsar Treaty for wetland sites, National Special Amenity Areas, National Nature Reserves, Important Bird Areas and Flora Protection Order Sites.”
- GI13: “To ensure the protection, conservation and enhancement of all areas of ecological importance for protected species, and especially those listed in the EU Birds and Habitats Directives, including those identified as supporting the favourable conservation condition of any European sites, in accordance with development standards set out in this plan.”
- GI14: “To maintain and strengthen the integrity of the city’s ecological corridors and stepping stones which enable species to move through the city, by increasing their connectivity [to be shown in the proposed Green Infrastructure Strategy] under Article 10 of the EU Habitats Directive. Development proposals should not compromise their ecological functions and should realise opportunities to contribute to enhancing the nature conservation value of them by landscaping that provides complementary habitats. An Ecological Impact Assessment will be required for any proposed development likely to have a significant impact on habitats and species of interest on or adjacent an ecological corridor.”
- GI15: “To protect inland and sea fisheries and take full account of Inland Fisheries Ireland Guidelines ‘Planning for Watercourses in the Urban Environment’ 2020, when undertaking, approving or authorising development or works which may impact on rivers streams, watercourses, estuaries, shorelines and their associated habitats. To protect sea angling sites designated by Inland Fisheries Ireland at the North and South Bull Walls and at Dollymount and Sandymount Strands.”
- GI16: “That new development should provide opportunities to incorporate biodiversity improvements through urban greening and the use of nature based infrastructural solutions that are of particular relevance and benefit in an urban context. Opportunities should be taken as part of new development to provide a net gain in biodiversity.”
- GI17: “To increase the percentage of restored and naturalised areas on public land in the city. That new development on private and public lands should provide opportunities for restoration of degraded habitats and soils where feasible and provide for their long-term maintenance to limit degradation.”
- GI18: “To minimise the environmental impact of external lighting and noise at sensitive locations to achieve a sustainable balance between the needs of an area, the safety of walking and cycling routes and the protection of sensitive species such as bats.”
- GI29: “To protect, maintain, and enhance the watercourses and their river corridors in the city and to ensure that development does not cover or encroach upon rivers and their banks. To maintain natural riverbanks and restore them as part of any new development. The creation and/or enhancement of river corridors will be required and river restoration opportunities where possible will be supported to help improve water quality, and ecology, provide natural flood relief as well as providing amenity and leisure benefits.”
- GI30: “To conserve, maintain and restore freshwater and estuarine habitats which are of importance for species listed in the annexes of the EU Birds and Habitats Directives and to ensure connectivity of these in accordance with Article 10 of the EU Habitats Directive.”
- GI34: “To ensure that new development, in terms of siting and design, responds to the character, importance and setting of the city’s rivers where the context allows, and to require public open space which is to be provided as part of new development, to supplement riparian buffer zones so as to support the attainment of ‘good ecological status’ or higher for water bodies, flood management, the conservation of biodiversity and ecosystem functions.”
- GI40: “To require appropriate and long-term tree and native hedgerow planting in the planning of new development, urban spaces, streets, roads and infrastructure projects. New development should seek to

provide for additional tree planting using a diversity of species including native species as appropriate to the location of the development in the interests of natural heritage, amenity, environmental quality and climate resilience.”

- GI41: “To protect existing trees as part of new development, particularly those that are of visual, biodiversity or amenity quality and significance. There will be a presumption in favour of retaining and safeguarding trees that make a valuable contribution to the environment.”
- GI43: “To protect and enhance the City’s hedgerow network, in particular, hedgerows that form townland, parish and barony boundaries. It is Council policy to increase hedgerow coverage and promote the planting of hedgerows in new developments using native species.”

In addition, the DCDP 2022-2028 provides a suite of objectives to support plans aimed at enhancing and protecting biodiversity at a local and national level, such as the National Biodiversity Action Plan 2017-2021 and the Dublin City Biodiversity Action Plan 2021 – 2025. The biodiversity objectives also outline a number of measures to protect the City’s biodiversity, through helping the management of the North Bull Island Nature Reserve, supporting measures to prevent invasive species introduction and spread, recognising and protecting important County Geological Sites and encouraging the use of the Dublin City Habitat Map Database (2020, and updates) to inform planning decisions.

Dublin City Biodiversity Action Plan 2021-2025

The main function of the Dublin City Biodiversity Action Plan 2021-2025 is to provide a framework and series of actions to conserve, enhance and raise awareness of Dublin City’s rich biodiversity and to maximise the contribution that it makes to social, economic and environmental well-being of the city, taking into account local, national, and international, including European priorities. The Dublin City Biodiversity Action Plan sets forth the principal functions of a biodiversity action plan as being:

- To translate national and international policies and legislation into action on the ground.
- To conserve biodiversity of national and local importance.
- To provide a framework for the conservation of biodiversity and to coordinate existing and new initiatives.
- To assist sustainable planning and development.
- To raise public awareness of and involvement in the conservation of biodiversity.
- To collect and collate information on the biodiversity of an area.
- To provide a basis for monitoring the success of conservation of biodiversity at a local, regional, and national level.

The Dublin City Biodiversity Action Plan is set out to protect and improve biodiversity through the above objectives aimed at protecting biodiversity, and the AA Screening of the plan concluded that *“there is no potential for significant effects by the implementation of the Dublin City Biodiversity Action Plan 2021-2025, either alone or in combination with other plans or projects, on any Natura 2000 site.”*

Appendix II - Value of Ecological Resources

The criteria outlined in the table below, taken from the *Guidelines for Assessment of Ecological Impacts of National Road Schemes* published by the NRA, were used for assigning value to designated sites, habitats and species within the Site of the Proposed Development and surrounding area.

TABLE A2.1. DESCRIPTION OF VALUES FOR ECOLOGICAL RESOURCES BASED ON GEOGRAPHIC HIERARCHY OF IMPORTANCE (NRA, 2009B).

Importance	Criteria
International Importance	- 'European Site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation. - Proposed Special Protection Area (pSPA). - Site that fulfils the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended). - Features essential to maintaining the coherence of the Natura 2000 Network - Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive. - Resident or regularly occurring populations (assessed to be important at the national level) of the following: - o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or - o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive - Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971). - World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972). - Biosphere Reserve (UNESCO Man & The Biosphere Programme) - Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979). - Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979). - Biogenetic Reserve under the Council of Europe. - European Diploma Site under the Council of Europe. - Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).
National Importance	- Site designated or proposed as a Natural Heritage Area (NHA). - Statutory Nature Reserve. - Refuge for Fauna and Flora protected under the Wildlife Acts. - National Park. - Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park. - Resident or regularly occurring populations (assessed to be important at the national level) of the following: - o Species protected under the Wildlife Acts; and/or - o Species listed on the relevant Red Data list. - o Site containing 'viable areas' of the habitat types listed in Annex I of the Habitats Directive
County Importance	- Area of Special Amenity. - Area subject to a Tree Preservation Order. - Area of High Amenity, or equivalent, designated under the County Development Plan. - Resident or regularly occurring populations (assessed to be important at the County level) of the following:

	○ Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; ○ Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; ○ Species protected under the Wildlife Acts; and/or ○ Species listed on the relevant Red Data list. ○ Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance. - County important populations of species; or viable areas of semi-natural habitats; or natural heritage features identified in the National or Local BAP; if this has been prepared. - Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county. - Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.
Local Importance (higher value)	- Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared; - Resident or regularly occurring populations (assessed to be important at the Local level) of the following: ○ Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; ○ Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; ○ Species protected under the Wildlife Acts; and/or o ○ Species listed on the relevant Red Data list. ○ Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality; - Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.
Local Importance (lower value)	- Sites containing small areas of semi-natural habitat that are of some local importance for wildlife; - Sites or features containing non-native species that is of some importance in maintaining habitat links.

Appendix III - Impact Assessment Criteria

In line with the draft EPA Guidelines (EPA 2022), the following terms are defined when evaluating and quantifying the quality, significance, extent/context, probability and duration/frequency of effects.

TABLE A3.1. DEFINITION OF QUALITY, SIGNIFICANCE, EXTENT/CONTEXT, PROBABILITY AND DURATION/FREQUENCY OF EFFECTS.

Term	Definition
Quality of Effects	
Positive	A change which improves the quality of the environment (for example, by increasing species diversity, or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
Neutral	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Negative/Adverse	A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance).
Significance of Effects	
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. No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error
Extent and Context of Effects	
Extent	Describe the size of the area, the number of sites and the proportion of a population affected by an effect.
Context	Describe whether the extent, duration or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)
Probability of Effects	
Likely	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.

Unlikely	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Duration and Frequency of Effects	
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 one to seven years.
Medium-term Effects	Effects lasting seven to fifteen years.
Long-term	Effects lasting fifteen to sixty years.
Permanent	Effects lasting over sixty years.
Reversible	Effects that can be undone, for example through remediation or restoration.
Frequency	Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually).

Appendix IV - Site Photographs

	
Photograph 1. <i>WS1 habitat along the eastern boundary of the Site (17th June 2025)</i>	Photograph 2. <i>Raised mound in the eastern extent of the GS2 Habitat of the Site (17th June 2025)</i>
	
Photograph 3. <i>ED3 habitat transitioning into the GS2 habitat on Site (17th June 2025)</i>	Photograph 4. <i>Existing derelict building and BL3 habitat in the southern section of the Site (17th June 2025)</i>
	
Photograph 5. <i>Invasive butterfly bush recorded on Site (17th June 2025)</i>	Photograph 6. <i>WS1 habitat transitioning into the GS2 habitat on Site (17th June 2025).</i>

Appendix V - Bat Detector Metadata

Recording	Timestamp	Species	Calls [#]	Mean Peak Frequency [kHz]	Mean Max Frequency [kHz]	Mean Min Frequency [kHz]	Mean Call Length [ms]	Mean Call Distance [ms]	Latitude [WGS84]	Longitude [WGS84]
Transect 1										
50530002	23/07/2025 21:55	<i>Nyctalus leisleri</i>	8	21.7	22.9	20.4	14	358	53.36738	-6.2891
50530003	23/07/2025 22:04	<i>Nyctalus leisleri</i>	9	25.3	26.1	24.4	7.8	158	53.36755	-6.28901
50530004	23/07/2025 22:04	<i>Nyctalus leisleri</i>	22	25	27.7	23.2	10	240	53.36755	-6.28901
50530005_1	23/07/2025 22:09	<i>Pipistrelle pipistrelle</i>	10	49.7	57.7	48.6	5	80	53.36727	-6.28909
50530006	23/07/2025 22:10	<i>Pipistrelle pygmaeus</i>	15	50.6	72.2	49.5	3	50	53.36728	-6.28908
50530007	23/07/2025 22:10	<i>Pipistrelle pipistrelle</i>	11	49.3	62.6	48.8	4	95	53.3673	-6.28908
50530008_1	23/07/2025 22:18	<i>Pipistrelle pygmaeus</i>	20	57.1	91	55.4	4	160	53.36686	-6.28918
50530008_2	23/07/2025 22:18	<i>Pipistrelle pipistrelle</i>	19	46.1	68.3	44.4	5	80	53.36686	-6.28918
50530008_3	23/07/2025 22:18	<i>Nyctalus leisleri</i>	11	24.5	26.7	23.6	14	656	53.36686	-6.28918
50530009	23/07/2025 22:19	<i>Pipistrelle pipistrelle</i>	18	46.7	68.5	45	4	80	53.36684	-6.28914

Recording	Timestamp	Species	Calls [#]	Mean Peak Frequency [kHz]	Mean Max Frequency [kHz]	Mean Min Frequency [kHz]	Mean Call Length [ms]	Mean Call Distance [ms]	Latitude [WGS84]	Longitude [WGS84]
50530010	23/07/2025 22:19	<i>Pipistrelle pipistrelle</i>	21	46.8	74.8	45.3	4	60	53.36686	-6.28919
50530012_1	23/07/2025 22:29	<i>Pipistrelle pipistrelle</i>	6	45.1	55	44.4	4	153	53.36688	-6.28926
50530013	23/07/2025 22:29	<i>Pipistrelle pipistrelle</i>	6	49.1	56.1	45.5	3	290	53.36687	-6.2893
50530014	23/07/2025 22:29	<i>Pipistrelle pipistrelle</i>	11	45.7	56.1	44.8	3	90	53.36687	-6.2893
50530015	23/07/2025 22:30	<i>Pipistrelle pipistrelle</i>	3	47.7	57.6	46.7	3.9	267	53.36687	-6.28925
50530016	23/07/2025 22:30	<i>Pipistrelle pipistrelle</i>	9	46.4	53.5	45.6	3	199	53.36687	-6.28926
50530017	23/07/2025 22:31	<i>Pipistrelle pipistrelle</i>	3	47	56.2	45	3	94	53.36688	-6.28926
50530018_1	23/07/2025 22:31	<i>Pipistrelle pipistrelle</i>	4	46.2	53.5	45.5	3.3	87	53.3669	-6.28924
50530020_1	23/07/2025 22:32	<i>Pipistrelle pipistrelle</i>	2	44.8	55.8	43.9	5.9	705	53.36666	-6.28937
Transect 2										
24240000	12/08/2025 20:51	<i>Nyctalus leisleri</i>	3	21.9	22.3	19.5	18	535	53.36613	-6.28976
24240001	12/08/2025 20:54	<i>Nyctalus leisleri</i>	3	22.4	23	21.1	10.1	335	53.36604	-6.28967
24240002	12/08/2025 20:55	<i>Nyctalus leisleri</i>	2	22.1	22.7	21.2	13.3	1242	53.36604	-6.28968

Recording	Timestamp	Species	Calls [#]	Mean Peak Frequency [kHz]	Mean Max Frequency [kHz]	Mean Min Frequency [kHz]	Mean Call Length [ms]	Mean Call Distance [ms]	Latitude [WGS84]	Longitude [WGS84]
24240003	12/08/2025 20:55	<i>Nyctalus leisleri</i>	9	22.7	24.3	21.3	14	238	53.36604	-6.28969
24240004	12/08/2025 20:55	<i>Nyctalus leisleri</i>	6	22	24.3	20.3	12.6	496	53.36604	-6.28969
24240005_1	12/08/2025 20:55	<i>Nyctalus leisleri</i>	1	19.5	23.3	12	4.3	0	53.36604	-6.28969
24240006	12/08/2025 20:56	<i>Nyctalus leisleri</i>	6	24.2	25.9	22.9	14.2	380	53.36604	-6.28966
24240007	12/08/2025 20:56	<i>Nyctalus leisleri</i>	7	22.1	23	20.9	16	514	53.36604	-6.28966
24240008	12/08/2025 20:57	<i>Nyctalus leisleri</i>	6	22.9	24.4	20.8	17.2	368	53.36604	-6.28966
24240009	12/08/2025 20:57	<i>Nyctalus leisleri</i>	3	22.6	23.5	21.9	17.2	775	53.36604	-6.28966
24240010	12/08/2025 20:57	<i>Nyctalus leisleri</i>	4	23.7	24.9	22.2	15.1	454	53.36604	-6.28966
24240011	12/08/2025 20:57	<i>Nyctalus leisleri</i>	16	23.6	25.2	22.5	15	431	53.36604	-6.28966
24240012	12/08/2025 20:57	<i>Nyctalus leisleri</i>	26	22.6	23.5	21.3	17	270	53.36604	-6.28965
24240013	12/08/2025 20:58	<i>Nyctalus leisleri</i>	6	22.9	23.8	22.1	14	334	53.36604	-6.28967
24240014_1	12/08/2025 21:00	<i>Nyctalus leisleri</i>	4	24.3	26.2	22.9	9.6	472	53.36617	-6.28939

Recording	Timestamp	Species	Calls [#]	Mean Peak Frequency [kHz]	Mean Max Frequency [kHz]	Mean Min Frequency [kHz]	Mean Call Length [ms]	Mean Call Distance [ms]	Latitude [WGS84]	Longitude [WGS84]
24240015	12/08/2025 21:00	<i>Nyctalus leisleri</i>	18	23.5	25.3	22.4	13	289	53.36617	-6.2894
24240016	12/08/2025 21:01	<i>Nyctalus leisleri</i>	6	23.3	24.9	21.7	12	365	53.36618	-6.28938
24240017	12/08/2025 21:01	<i>Nyctalus leisleri</i>	6	23	24.5	21.2	14.8	670	53.36618	-6.28939
24240018	12/08/2025 21:01	<i>Nyctalus leisleri</i>	5	22.4	22.9	21.4	13	333	53.36618	-6.2894
24240019	12/08/2025 21:01	<i>Nyctalus leisleri</i>	5	24.1	25.3	22.7	10.7	633	53.36619	-6.28942
24240020	12/08/2025 21:01	<i>Nyctalus leisleri</i>	11	23.3	24.8	21.9	14	240	53.36619	-6.28942
24240021	12/08/2025 21:01	<i>Nyctalus leisleri</i>	4	23.8	25.5	21.8	14.4	296	53.36619	-6.2894
24240022	12/08/2025 21:01	<i>Nyctalus leisleri</i>	9	22.3	23	20.4	12.5	436	53.36619	-6.28938
24240023_1	12/08/2025 21:01	<i>Nyctalus leisleri</i>	2	22.3	23.3	20.6	14.9	905	53.36618	-6.28938
24240024	12/08/2025 21:01	<i>Nyctalus leisleri</i>	3	24.4	24.9	22.1	12	687	53.36618	-6.28938
24240025	12/08/2025 21:01	<i>Nyctalus leisleri</i>	3	23.6	24.8	22.9	15.1	992	53.36618	-6.28938
24240026	12/08/2025 21:01	<i>Nyctalus leisleri</i>	5	22.6	23.6	20.9	14.7	308	53.36618	-6.28939

Recording	Timestamp	Species	Calls [#]	Mean Peak Frequency [kHz]	Mean Max Frequency [kHz]	Mean Min Frequency [kHz]	Mean Call Length [ms]	Mean Call Distance [ms]	Latitude [WGS84]	Longitude [WGS84]
24240027	12/08/2025 21:01	<i>Nyctalus leisleri</i>	2	21.4	22.3	20.1	8.8	766	53.36618	-6.28939
24240028	12/08/2025 21:06	<i>Nyctalus leisleri</i>	21	23.4	26.4	22.1	15	250	53.36639	-6.28942
24240029	12/08/2025 21:06	<i>Nyctalus leisleri</i>	6	22.1	22.8	20	18	285	53.36647	-6.28941
24240031	12/08/2025 21:09	<i>Nyctalus leisleri</i>	4	21.6	22.1	20.7	18	451	53.3665	-6.28941
24240034	12/08/2025 21:15	<i>Nyctalus leisleri</i>	11	22.3	23.1	20.3	15	412	53.36649	-6.28922
24240035	12/08/2025 21:15	<i>Nyctalus leisleri</i>	9	21.8	22.8	19.5	15.6	202	53.36649	-6.28922
24240036	12/08/2025 21:18	<i>Nyctalus leisleri</i>	17	22.3	23.1	21.3	17	264	53.36648	-6.28925
24240037	12/08/2025 21:21	<i>Nyctalus leisleri</i>	3	22.9	26	14	2.7	718	53.36661	-6.2894
24240038	12/08/2025 21:22	<i>Nyctalus leisleri</i>	4	23.7	24.3	21.8	18.1	895	53.36664	-6.28936
24240039	12/08/2025 21:22	<i>Nyctalus leisleri</i>	12	22.5	25.4	18.5	11.5	408	53.36672	-6.28933
24240040	12/08/2025 21:34	<i>Nyctalus leisleri</i>	15	22.1	22.8	20.9	18	404	53.36685	-6.28914
24240041	12/08/2025 21:41	<i>Pipistrelle pipistrelle</i>	8	48.2	56.3	46.7	2	132	53.36728	-6.28906

Recording	Timestamp	Species	Calls [#]	Mean Peak Frequency [kHz]	Mean Max Frequency [kHz]	Mean Min Frequency [kHz]	Mean Call Length [ms]	Mean Call Distance [ms]	Latitude [WGS84]	Longitude [WGS84]
24240042_1	12/08/2025 21:41	<i>Pipistrelle pipistrelle</i>	2	86.1	90.9	81.6	4.5	376	53.36727	-6.28906
24240043	12/08/2025 21:42	<i>Pipistrelle pygmaeus</i>	12	55.6	66.3	54.5	2	80	53.36727	-6.28905
24240049	12/08/2025 21:45	<i>Nyctalus leisleri</i>	2	22.1	22.5	20.3	14.4	1070	53.36749	-6.28896
24240050	12/08/2025 21:45	<i>Nyctalus leisleri</i>	3	22.3	22.9	21.3	14.2	1011	53.36749	-6.28896
24240055	12/08/2025 21:46	<i>Pipistrelle pipistrelle</i>	20	47.7	97.3	46.1	4	90	53.3675	-6.28899
24240058_1	12/08/2025 21:49	<i>Pipistrelle pipistrelle</i>	7	49.1	57.9	46.9	3	215	53.36748	-6.28901
24240058_2	12/08/2025 21:49	<i>Pipistrelle pipistrelle</i>	1	55.5	62.3	47.3	1.6	0	53.36748	-6.28901
24240059	12/08/2025 21:49	<i>Pipistrelle pipistrelle</i>	16	49	86	46.3	3	283	53.36749	-6.28901
24240060	12/08/2025 21:49	<i>Pipistrelle pipistrelle</i>	11	49.2	76.8	46.6	3	80	53.36749	-6.289
24240061	12/08/2025 21:49	<i>Pipistrelle pipistrelle</i>	10	49.1	94.2	46.5	3	60	53.36748	-6.289
24240062	12/08/2025 21:49	<i>Pipistrelle pipistrelle</i>	11	48.5	74.6	47.2	3	80	53.36748	-6.289
24240064	12/08/2025 21:51	<i>Pipistrelle pipistrelle</i>	7	45.4	84.6	43.9	5.1	233	53.36745	-6.28901

Recording	Timestamp	Species	Calls [#]	Mean Peak Frequency [kHz]	Mean Max Frequency [kHz]	Mean Min Frequency [kHz]	Mean Call Length [ms]	Mean Call Distance [ms]	Latitude [WGS84]	Longitude [WGS84]
24240065	12/08/2025 21:51	<i>Pipistrelle pygmaeus</i>	8	60.3	79	57.6	3	101	53.36741	-6.28904
24240066	12/08/2025 21:54	<i>Pipistrelle pipistrelle</i>	13	48.1	58.9	47.3	4	90	53.3673	-6.28911
24240067	12/08/2025 21:55	<i>Pipistrelle pygmaeus</i>	23	57.2	102	55.5	4	80	53.36731	-6.28911
24240068_1	12/08/2025 21:59	<i>Pipistrelle pipistrelle</i>	4	50	60.2	48.7	4	509	53.36706	-6.28929
24240068_2	12/08/2025 21:59	<i>Pipistrelle pipistrelle</i>	1	23.3	27.4	12.4	1.1	0	53.36706	-6.28929
24240069	12/08/2025 21:59	<i>Pipistrelle pipistrelle</i>	22	49.2	72.1	47.9	4	80	53.36704	-6.28931
24240070	12/08/2025 22:00	<i>Pipistrelle pipistrelle</i>	10	46.8	59.7	45.6	3	102	53.36702	-6.28935
24240071_1	12/08/2025 22:02	<i>Pipistrelle pipistrelle</i>	13	48.1	87.7	46.6	4	136	53.36702	-6.28941
24240072_1	12/08/2025 22:03	<i>Pipistrelle pipistrelle</i>	15	48.9	90.7	47.3	4	85	53.36702	-6.2894
24240072_2	12/08/2025 22:03	<i>Pipistrelle pipistrelle</i>	1	53.3	72.4	47.3	4.3	0	53.36702	-6.2894
24240072_3	12/08/2025 22:03	<i>Pipistrelle pipistrelle</i>	1	60.4	84.8	48	4.3	0	53.36702	-6.2894
24240073	12/08/2025 22:05	<i>Nyctalus leisleri</i>	2	22.7	22.9	21.9	7.2	2153	53.36701	-6.28939

Recording	Timestamp	Species	Calls [#]	Mean Peak Frequency [kHz]	Mean Max Frequency [kHz]	Mean Min Frequency [kHz]	Mean Call Length [ms]	Mean Call Distance [ms]	Latitude [WGS84]	Longitude [WGS84]
24240074	12/08/2025 22:05	<i>Nyctalus leisleri</i>	2	21.2	21.6	20.3	14.9	1342	53.36701	-6.28939
24240077	12/08/2025 22:09	<i>Nyctalus leisleri</i>	6	22.6	23.1	21.8	14	360	53.36639	-6.2898
24240078_1	12/08/2025 22:14	<i>Pipistrelle pygmaeus</i>	13	51.6	58.8	50.8	5	90	53.36637	-6.28983
24240078_2	12/08/2025 22:14	<i>Pipistrelle pygmaeus</i>	1	20.3	27	12	1.6	0	53.36637	-6.28983
24240081	12/08/2025 22:30	<i>Nyctalus leisleri</i>	10	25.3	25.9	24.1	10	360	53.36641	-6.28956
24240082	12/08/2025 22:30	<i>Nyctalus leisleri</i>	11	25	27.4	23.5	11	291	53.36641	-6.28956



About DNV

DNV is the independent expert in risk management and assurance, operating in more than 100 countries. Through its broad experience and deep expertise DNV advances safety and sustainable performance, sets industry benchmarks, and inspires and invents solutions.

Whether assessing a new ship design, optimizing the performance of a wind farm, analyzing sensor data from a gas pipeline or certifying a food company's supply chain, DNV enables its customers and their stakeholders to make critical decisions with confidence.

Driven by its purpose, to safeguard life, property, and the environment, DNV helps tackle the challenges and global transformations facing its customers and the world today and is a trusted voice for many of the world's most successful and forward-thinking companies.