OCSC

O'CONNOR · SUTTON · CRONIN

MULTIDISCIPLINARY CONSULTING ENGINEERS

D805: HILLCREST ROAD IMPROVEMENT SCHEME

ECOLOGICAL IMPACT ASSESSMENT REPORT

For

Dún Laoghaire-Rathdown County Council

5 June 2024

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF PLATES

1 INTRODUCTION

1.1 BACKGROUND

This Ecological Impact Assessment (EcIA) Report has been prepared by O'Connor Sutton Cronin & Associates Ltd. (OCSC) at the request of their Client, Dún Laoghaire-Rathdown County Council. The proposal is for a road improvement scheme at Hillcrest, Sandyford, Dublin 18. The site location is shown in Figure 1.1. The regulatory authority for the site is Dún Laoghaire-Rathdown County Council.

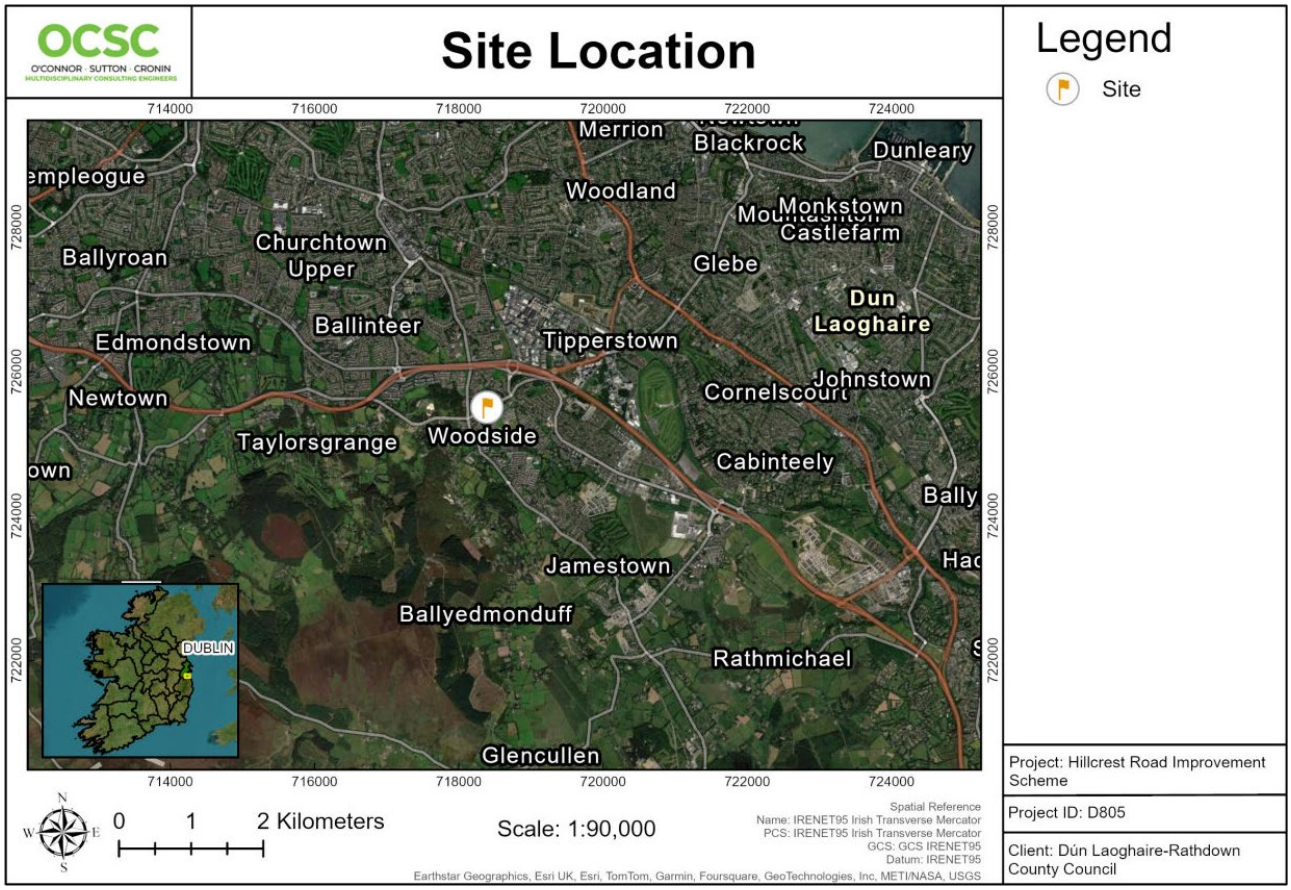

Figure 1.1: Site location (Source: OCSC, 2024)

1.2 AIMS AND APPROACH

The overall purpose of this report is to assess the status of known potential ecological constraints to the construction and/or operation of the completed and proposed works and to identify mitigation requirements to ensure compliance with relevant national and European statutory requirements for ecological protection.

The report provides an assessment of the estimated potential impacts of the completed and proposed development on the ecological environment, i.e., flora and fauna, collectively known as biodiversity. The Assessment follows Guidelines for Ecological Impact Assessment in the UK and Ireland by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018) and guidelines for ecological report writing (CIEEM, 2017). This EcIA process follows the tasks set out in Table 1.1.

Table 1.1: EcIA process, as detailed in CIEEM (2016)

Task	Description
Scoping	Determining the matters to be addressed in the EcIA, including consultation to ensure the most effective input to defining the scope. Scoping is an ongoing process – the scope of the EcIA may be modified following further ecological survey/research and during impact assessment.
Establishing the baseline	Collecting information and describing the ecological conditions, in the absence of the proposed project, to inform the assessment of impacts.
Important ecological features	Identifying important ecological features (habitats and species) that may be affected, with reference to a geographical context in which they are considered important.
Impact assessment	An assessment of whether important ecological features may be subject to potential impacts and characterisation of these impacts and their effects. Assessment of potential residual ecological impacts of the project remaining after mitigation and the significance of their effects, including cumulative effects.
Avoidance, mitigation, compensation, and enhancement	Incorporating measures to avoid, reduce, and/or compensate for potential ecological impacts and the provision of ecological enhancements.
Monitoring	Monitoring impacts of the development and evaluation of the success of proposed mitigation, compensation, and enhancement measures.

1.3 LIMITATIONS

This Ecological Impact Assessment Report has been prepared for the sole use of Dún Laoghaire-Rathdown County Council ("the Client"). No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by OCSC.

This assessment is based on a review of available historical information, environmental records, site visits, consultations, relevant guidance information, and reports from third parties. All information received has been taken in good faith as being true and representative.

This report has been prepared in line with best industry standards. The methodology adopted and the sources of information used by OCSC in providing its services are outlined in this Report. The assessment undertaken by OCSC and described was completed between April and May 2024 and is based on the information available

during that period. The scope of this Report and the services are accordingly factually limited by these circumstances.

OCSC disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report which may come or be brought to OCSC's attention after the date of the Report. The conclusions presented in this report represent OCSC's best professional judgement based on a review of the relevant information available at the time of writing. The opinions and conclusions presented are valid only to the extent that the information provided was accurate and complete.

2 PROJECT DESCRIPTION

2.1 OVERVIEW

This EcIA Report has been prepared by OCSC at the request of their Client, Dún Laoghaire-Rathdown County Council. The study area for assessment comprises Hillcrest Road, Sandyford, Co. Dublin. It is proposed to provide improvement along Hillcrest Road between Lamb's Cross and the Kilgobbin Road Junction (approximately 660m of road). The scheme ties into existing junction improvements at both ends. The improvement includes the provision of footpaths and cycle tracks on both sides of the widened carriageway. This requires land acquisition to the south of the current road, as the current roadway is extremely narrow. The works also include upgrades to public lighting, surface water drainage, road marking and signage and associated works.

2.2 GENERAL DESCRIPTION OF THE SITE

The proposed development site is approximately centred at the Irish Transverse Mercator (ITM) coordinates 318486 E 225503 N and is bounded by Enniskerry Road to the west and Kilgobbin Road to the east. The site consists of Hillcrest Road and land along its length which is currently in use as roadway, footpaths, and gardens associated with houses adjoining the site, primarily to the south.

The site and its surroundings are set in a primarily residential area with some nearby commercial/retail, public amenity, and educational land uses as well as undeveloped lands and forestry. To the north and east of the study area are residential neighbourhoods, open space used for public amenities, and road infrastructure associated with the M50 motorway. To the south are residential neighbourhoods and undeveloped lands. To the west and southwest of the site are Sandyford Community Centre, St. Mary's National School, several shops, residences, and a pitch-and-put course. To the northwest are primarily undeveloped open space and forestry with the National Sport and Science Centre further to the northwest. The study area is shown in Figure 2.1.

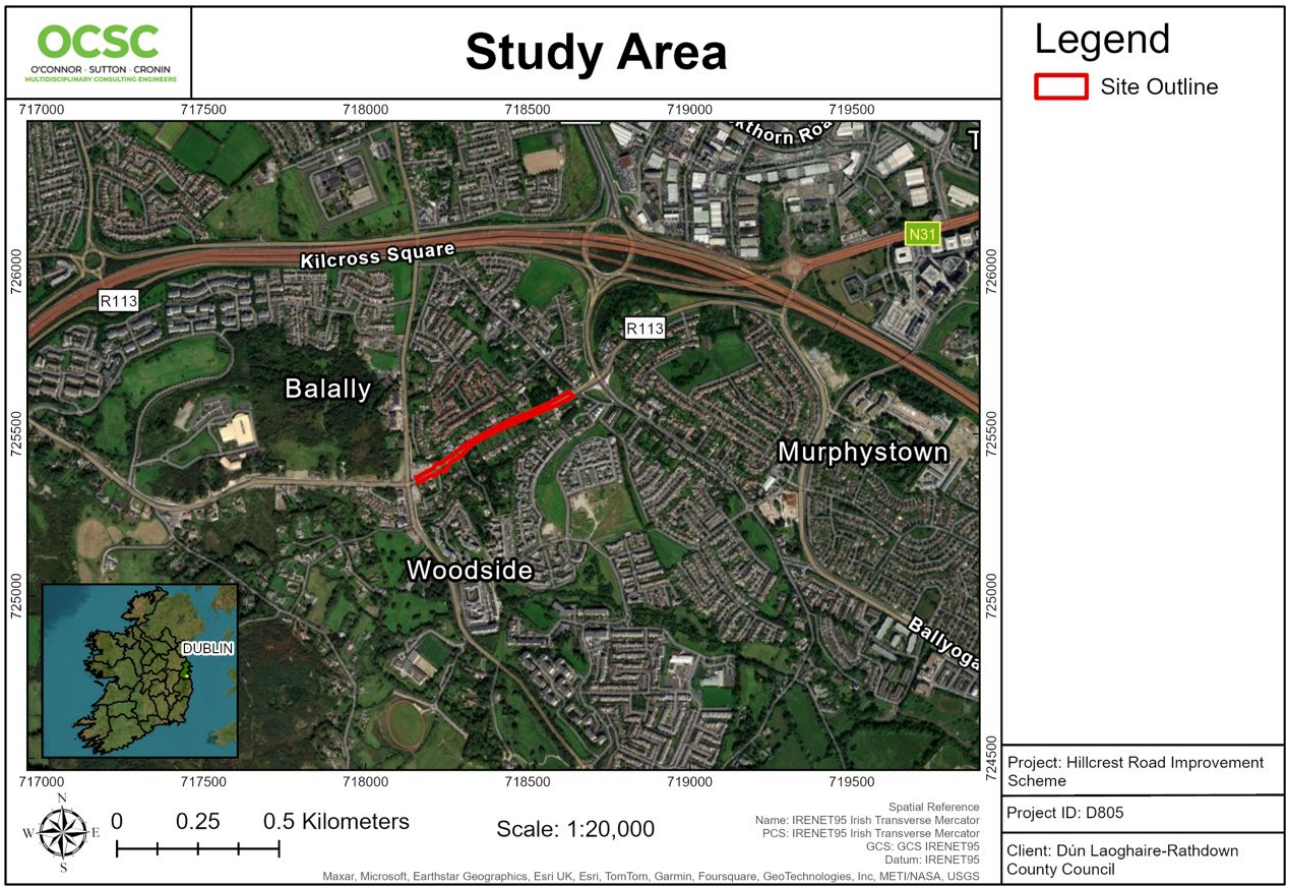

Figure 2.1: Study Area (Source: OCSC, 2024)

2.3 HYDROLOGY

There is one surface water feature mapped within the site area, the Carrickmines Stream (IE_EA_10C040350). This stream runs through a culvert on the western side of the site, flowing eventually to the Irish Sea near Killiney. The next nearest surface water feature is the Barnacullia Stream (IE_EA_10C040350) which merges with the Carrickmines Stream 4.7km downstream of the site.

Based on the most recent water quality information (2016-2021), the Carrickmines Stream has a Water Framework Directive (WFD) status of 'Good' as shown in Figure 2.2.

The EPA spatial dataset indicates that the Carrickmines Stream is not at risk of failing to meet its WFD objectives by 2027 as shown in Figure 2.3 (EPA, 2024). WFD summary information for this river is summarised in Table 2.1.

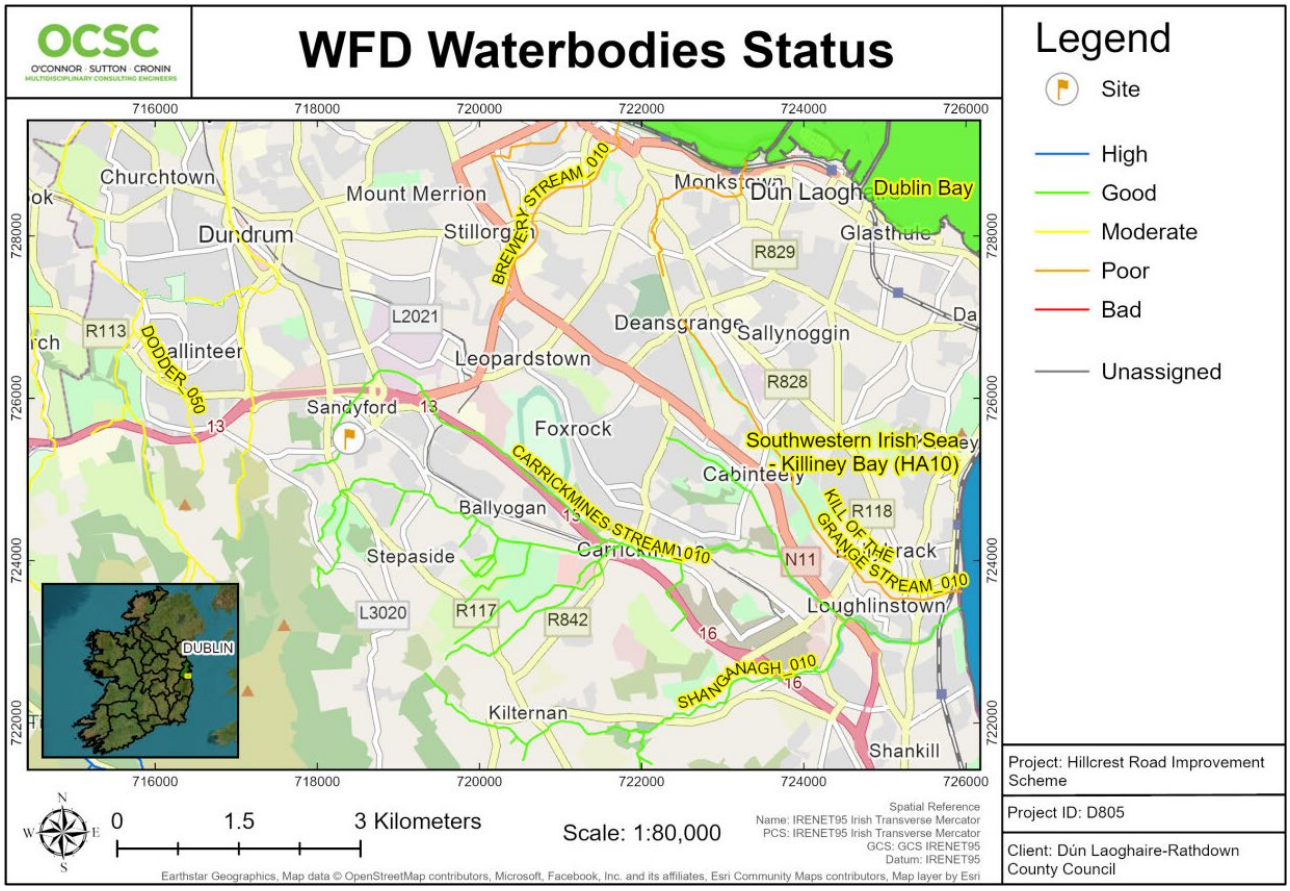

Figure 2.2: WFD River Status (Source: OCSC, 2024)

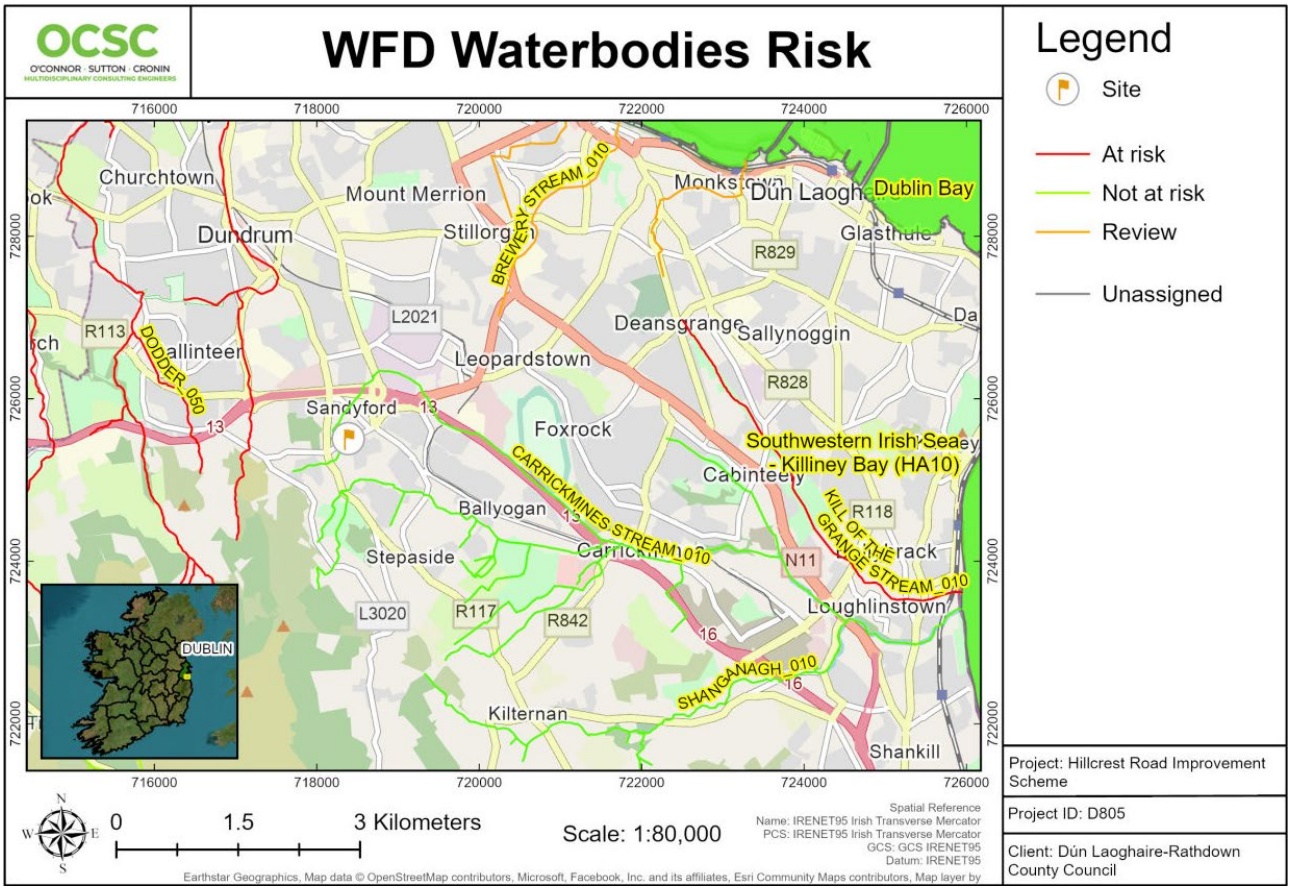

Figure 2.3: WFD River Risk (Source, OCSC, 2024)

Table 2.1: WFD summary information

WFD Summary Information	
Name	Carrickmines Stream
Waterbody Code	IE_EA_10C040350
Waterbody Name	Carrickmines Stream_010
Waterbody Type	River
Iteration	SW 2016-2021
Status	Good
Risk	Not at Risk

2.4 DESIGNATED SITES

Figure 2.4 and Table 2.2 below present locations and details, respectively, of the key ecological features of designated sites located within 15km of the site.

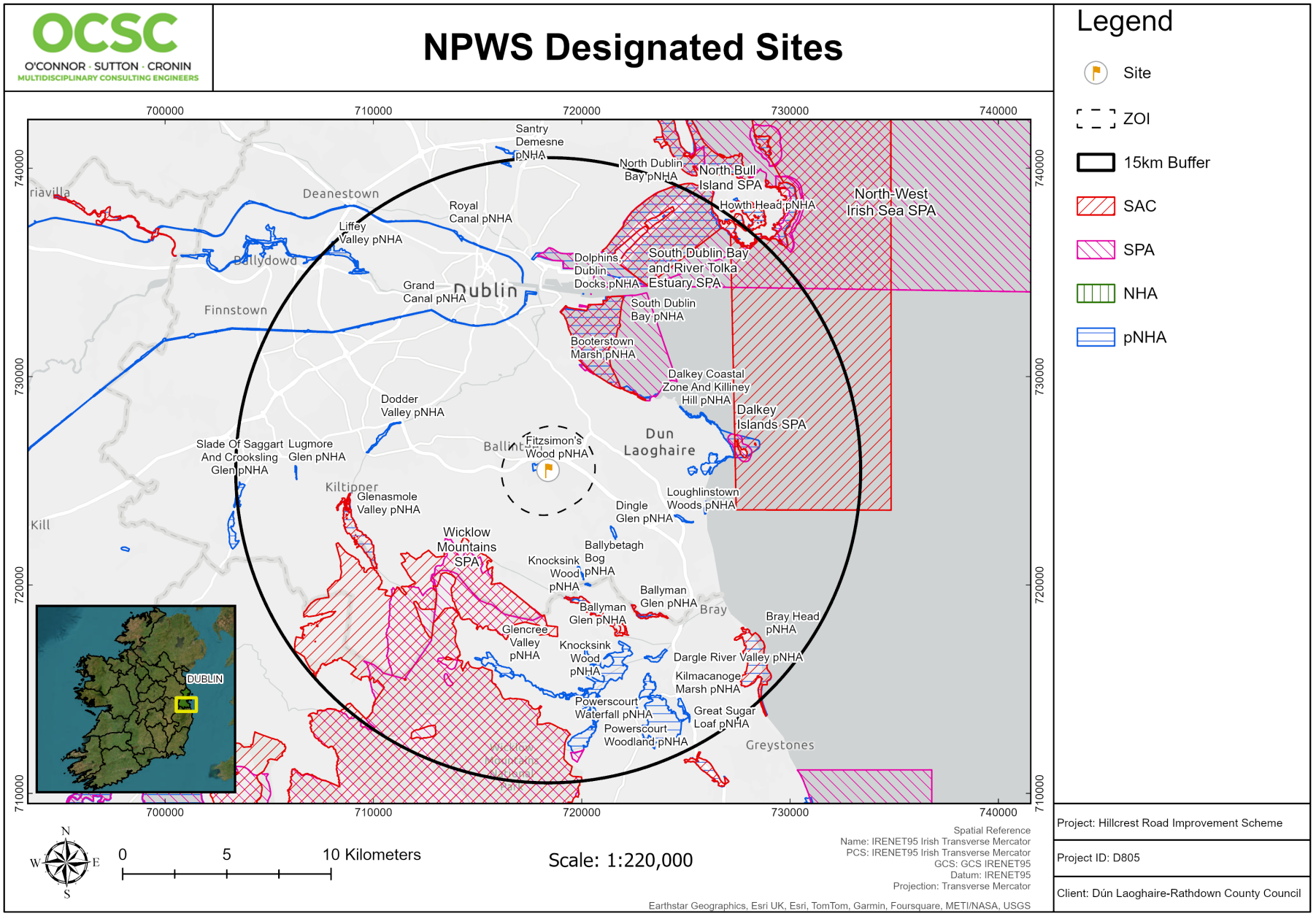

Figure 2.4: Designated sites within 15km of the development (Source: OCSC, 2024)

Table 2.2: European Sites within 15 kilometres (ZOI) of the site

Site Code	Site Name	Distance (km)	Reasons for Designation (*=priority habitats)
Special Areas of Conservation (SAC) and Special Protection Areas (SPA)			
002122	Wicklow Mountains SAC	4.8 SW	[3110] Oligotrophic Waters containing very few minerals [3160] Dystrophic Lakes [4010] Wet Heath [4030] Dry Heath [4060] Alpine and Subalpine Heaths [6130] Calaminarian Grassland [6230] Species-rich Nardus Grassland* [7130] Blanket Bogs (Active)* [8110] Siliceous Scree [8210] Calcareous Rocky Slopes [8220] Siliceous Rocky Slopes [91A0] Old Oak Woodlands [1355] Otter (*Lutra lutra*)
000210	South Dublin Bay SAC	4.8 NE	[1140] Tidal Mudflats and Sandflats [1210] Annual vegetation of drift lines [1310] Salicornia and other annuals colonising mud and sand [2110] Embryonic shifting dunes
004040	Wicklow Mountains SPA	4.9 SW	[A098] Merlin (*Falco columbarius*) [A103] Peregrine (*Falco peregrinus*)
004024	South Dublin Bay and River Tolka Estuary SPA	4.9 NE	[A046] Light-bellied Brent Goose (*Branta bernicla hrota*) [A130] Oystercatcher (*Haematopus ostralegus)* [A137] Ringed Plover (*Charadrius hiaticula)* [A141] Grey Plover (*Pluvialis squatarola)* [A143] Knot (*Calidris canutus)* [A144] Sanderling (*Calidris alba)* [A149] Dunlin (*Calidris alpina)* [A157] Bar-tailed Godwit (*Limosa lapponica)* [A162] Redshank (*Tringa totanus)* [A179] Black-headed Gull *(Chroicocephalus ridibundus)* [A192] Roseate Tern (*Sterna dougallii)* [A193] Common Tern (*Sterna hirundo)* [A194] Arctic Tern (*Sterna paradisaea)* [A999] Wetlands
000725	Knocksink Wood SAC	6 SE	[7220] Petrifying Springs* [91A0] Old Oak Woodlands [91E0] Alluvial Forests*
000713	Ballyman Glen SAC	7.6 SE	[7220] Petrifying Springs* [7230] Alkaline Fens
004172	Dalkey Islands SPA	8.4 E	[A192] Roseate Tern (*Sterna dougallii*) [A193] Common Tern (*Sterna hirundo)* [A194] Arctic Tern (*Sterna paradisaea*)
003000	Rockabill to Dalkey Island SAC	8.7 E	[1170] Reefs [1351] Harbour Porpoise (*Phocoena phocoena*)
001209	Glenasmole Valley SAC	8.9 SW	[6210] Orchid-rich Calcareous Grassland* [6410] Molinia Meadows [7220] Petrifying Springs*
004006	North Bull Island SPA	9.8 NE	[A046] Light-bellied Brent Goose (*Branta bernicla hrota*) [A048] Shelduck (*Tadorna tadorna*) [A052] Teal (*Anas crecca*) [A054] Pintail (*Anas acuta*)

			[A056] Shoveler (*Anas clypeata*) [A130] Oystercatcher (*Haematopus ostralegus*) [A140] Golden Plover (*Pluvialis apricaria*) [A141] Grey Plover (*Pluvialis squatarola*) [A143] Knot (*Calidris canutus*) [A144] Sanderling (*Calidris alba)* [A149] Dunlin (*Calidris alpina*) [A156] Black-tailed Godwit (*Limosa limosa*) [A157] Bar-tailed Godwit (*Limosa lapponica*) [A160] Curlew (*Numenius arquata*) [A162] Redshank (*Tringa totanus*) [A169] Turnstone (*Arenaria interpres*) [A179] Black-headed Gull (*Chroicocephalus ridibundus*) [A999] Wetland and Waterbirds
004236	North-West Irish Sea SPA	9.8 NE	[A065] Common Scoter (*Melanitta nigra*) [A001] Red-throated Diver (*Gavia stellata*) [A001] Great Northern Diver (*Gavia immer*) [A009] Fulmar (*Fulmarus glacialis*) [A013] Manx Shearwater (*Puffinus puffinus*) [A018] Shag (*Phalacrocorax aristotelis*) [A017] Cormorant (*Phalacrocorax carbo*) [A177] Little Gull (*Larus minutus*) [A188] Kittiwake (*Rissa tridactyla*) [A179] Black-headed Gull (*Chroicocephalus ridibundus*) [A182] Common Gull (*Larus canus*) [A183] Lesser Black-backed Gull (*Larus fuscus*)
000206	North Dublin Bay SAC	9.8 NE	[1140] Tidal Mudflats and Sandflats [1210] Annual Vegetation of Drift Lines [1310] Salicornia Mud [1330] Atlantic Salt Meadows [1410] Mediterranean Salt Meadows [2110] Embryonic Shifting Dunes [2120] Marram Dunes (White Dunes) [2130] Fixed Dunes (Grey Dunes)* [2190] Humid Dune Slacks [1395] Petalwort (*Petalophyllum ralfsii*)
000714	Bray Head SAC	11.8 SE	[1230] Vegetated Sea Cliffs [4030] Dry Heath
000202	Howth Head SAC	14 NE	[1230] Vegetated Sea cliffs of the Atlantic and Baltic coasts [4030] European dry heaths

Natural Heritage Areas (NHA) and Proposed Natural Heritage Areas (pNHA)

Site Code	Site Name	Distance (km)
001753	Fitzsimon's Wood pNHA	0.23 NW
001207	Dingle Glen pNHA	4.06 SE
001202	Ballybetagh Bog pNHA	4.76 SE
000210	South Dublin Bay pNHA	5.07 NE
001205	Booterstown Marsh pNHA	5.1 NE
000725	Knocksink Wood pNHA	6.03 SE
001211	Loughlinstown Woods pNHA	6.3 SE
001206	Dalkey Coastal Zone And Killiney Hill pNHA	6.47 E
000991	Dodder Valley pNHA	7.4 W
002104	Grand Canal pNHA	7.55 NW
000713	Ballyman Glen pNHA	7.56 SE

000201	Dolphins, Dublin Docks pNHA	8.4 NNE
001768	Powerscourt Woodland pNHA	8.8 S
001755	Glencree Valley pNHA	9 S
002103	Royal Canal pNHA	9.2 NW
001209	Glenasmole Valley pNHA	9.4 SW
000206	North Dublin Bay pNHA	9.9 NE
001754	Dargle River Valley pNHA	10.1 SE
001769	Great Sugar Loaf pNHA	10.8 SE
000714	Bray Head pNHA	12 SE
001212	Lugmore Glen pNHA	12 W
001767	Powerscourt Waterfall pNHA	12.3 SE
000724	Kilmacanoge Marsh pNHA	12.5 SE
000128	Liffey Valley pNHA	12.9 NW
000202	Howth Head pNHA	14.2 NE
000211	Slade Of Saggart And Crooksling Glen pNHA	14.6 W
000178	Santry Demesne pNHA	14.7 NW

3 METHODOLOGY

The methods used to carry out the survey of the site, to evaluate the habitats and species, and to prepare the report are outlined in this section. The assessment method for this report was developed using the standard professional impact assessment guidance published in 2018 by CIEEM.

3.1 SCOPE OF THE REPORT

The scope of this report is to set out the baseline ecology of the site using the findings of the desk and field studies. The extent of the study area is delineated by the site boundary. The scope of the baseline ecology survey is to classify the habitats present within the site and to evaluate their suitability to support protected species.

3.2 ZONE OF INFLUENCE

Due to the potential impact to runoff resulting from the proposed works, which may cause downstream impacts and alterations in stream flow dynamics, we have taken a precautionary approach by defining the Zone of Influence (ZoI) for this project to a 2km radius. The site location and the potential zone of influence are shown in Figure 3.1.

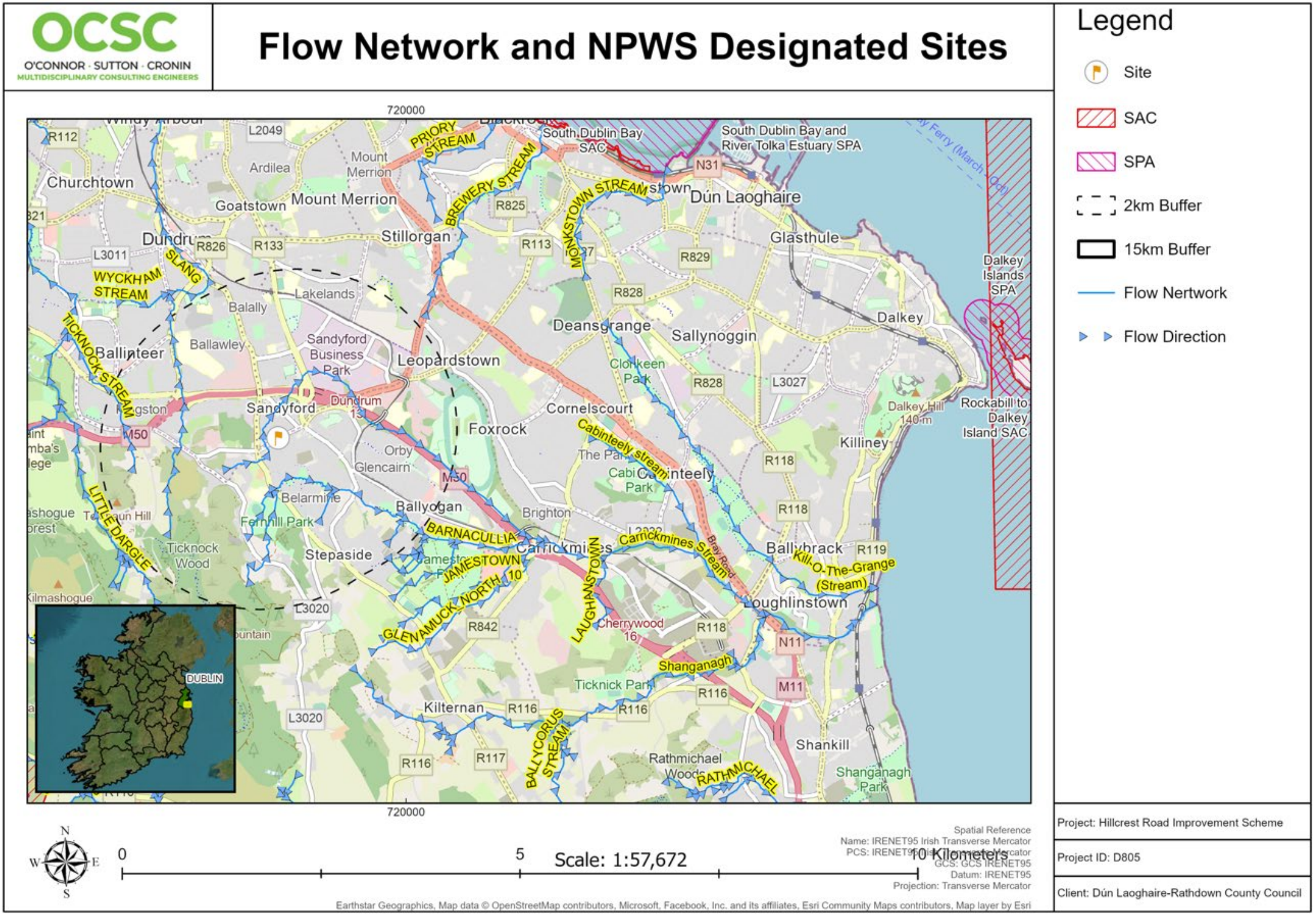

Figure 3.1: Zone of Influence of Proposed Works (Source: OCSC, 2024)

3.3 DESK STUDY

A desk study was carried out to collate the available existing ecological information on the Site and included information available on the National Parks and Wildlife Service (NPWS) and National Biodiversity Data Centre (NBDC) websites. A literature review was also conducted of published information on flora and fauna occurring within the ZoI of likely significant ecological impacts. The site and the surrounding area were viewed using available satellite imagery. Key resources included:

- Information on nationally designated sites available in site synopses available from the NPWS online (www.npws.ie).
- Data on rare/protected/threatened species and designated sites held online by the NPWS (www.npws.ie) and the NBDC (www.biodiversityireland.ie).
- The Dún Laoghaire-Rathdown County Council website was accessed for information on relevant planning policy while the planning portal was accessed for information on other planning applications within the site and the immediate surrounding area.

The conservation status of mammals within Ireland and Europe was evaluated using one or more of the following documents:

- Wildlife Acts (1976 - 2012),
- The Red List of Terrestrial Mammals (Marnell et al., 2009), and
- The EU Habitats Directive 92/43/EEC.

3.4 FIELD SURVEYS

A site walkover was undertaken on the 18th of April 2024 and on the 9th of May of 2024 by OCSC Associate Ecologist Luis Iemma, BSc, MSc, PhD, CEcol, MCIEEM, and Consultant Ecologist Eoin Toomey, BSc. The first site visit was carried out in dry weather conditions with light breezes and cloud cover (8/8 Oktas). The temperature was 10°C. The second visit was carried out in dry weather conditions with light breezes and cloud cover (1/8 Oktas). The temperature was 17°C. The objective of the site visit was to undertake a walkover survey to better understand the ecology of the site and to determine its ecological value.

3.5 HABITATS

Habitats were identified, described, and classified during the walkover survey to level 3 (where possible) in accordance with 'A Guide to Habitats in Ireland' (Fossitt, 2000) produced by the Heritage Council (see Figure 5.1). Features of ecological interest, if present, were noted, and the dominant plant species present in each habitat type were recorded. This is not a comprehensive list of plant species but is sufficient to broadly describe the botanical interest of the site. Species nomenclature follows Parnell & Curtis (2012) for scientific and English names of vascular plants.

3.6 SPECIES

Mammal tracks, signs, or direct observations were recorded during the walkover survey of the site. Incidental sightings of birds, mammals, or amphibians were noted during the walkover survey. The habitats present were also evaluated in terms of suitability to support foraging bats. Trees with features such as areas of loose, flaking bark, splits, cavities, etc. that could provide suitable roost sites for bats, where present, were also noted during the ground-level survey. The suitability of the habitats for roosting, commuting, and foraging bats was evaluated using the Bat Conservation Trust guidelines (Collins 2016).

3.7 IMPACT ASSESSMENT

The ecological evaluation and impact assessment within this report has been undertaken following the CIEEM Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland ("CIEEM guidelines").

3.8 IMPORTANCE OF FEATURES TO BE CONSIDERED

Ecological features should be evaluated within a defined geographical context (CIEEM, 2016). These are based upon criteria identified in the CIEEM (2016) and NRA (2009a) guidances, which categorise the geographic context of ecological importance as within one of the following:

- International and European
- National
- Regional
- County or local authority
- Local Importance (High or Low Value).

Only features deemed "important ecological features" (the term used in CIEEM, 2016) are carried forward into the assessment of potential impacts.

Ecological features valued at Local Importance (Low Value) or of negligible value, as per the valuation criteria in Bat Conservation Trust guidelines (Collins 2016), are not considered significant features and are scoped out of impact assessment. It is not necessary to carry out a detailed assessment of features that are sufficiently widespread, unthreatened, and resilient to project impacts and will remain viable and sustainable (CIEEM, 2016). In some cases, the data collected as part of the scoping process will be sufficient to inform the assessment of effects on a given feature. In other cases, additional surveys will need to be undertaken. Ecological features which are within the ZoI of development but not considered important ecological features can be 'scoped out' (excluded), with justification.

The impact assessment process involves the following steps:

- Identifying and characterising impacts

- Incorporating measures to avoid and mitigate (reduce) these impacts
- Assessing the significance of any residual effects after mitigation
- Identifying appropriate compensation measures to offset significant residual effects (if required)
- Identifying opportunities for ecological enhancement

When describing impacts, reference has been made to the following characteristics, as appropriate:

- Positive or negative
- Extent
- Magnitude
- Duration
- Timing
- Frequency
- 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 occupied by a species during the construction process. Indirect ecological impacts are attributable to an action but 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 the drying out of wet grassland.

3.9 SIGNIFICANT EFFECTS

A significant effect, for the purposes of EcIA, is defined as an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g., for a designated site), broad (e.g., national/local nature conservation policy), or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local.

The nature of the identified impacts on each assessed feature is characterised. Where it is concluded that an effect would be likely to reduce the importance of an assessed feature, it is described as significant. The degree of significance of the effect takes into account the geographic context of the feature's importance and the degree to which its interest is judged to be affected.

3.10 CUMULATIVE 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.

3.11 MITIGATION

Where significant impacts have been identified, the mitigation hierarchy has been taken into account, as suggested in the 2018 CIEEM Guidelines which set out a sequential approach of avoidance of impacts where possible, application of mitigation measures to minimise unavoidable impacts, and then compensation for any remaining impacts. Once avoidance and mitigation measures have been applied, along with any necessary compensation measures, and opportunities for enhancement incorporated, residual impacts have then been identified.

4 RELEVANT PLANNING AND POLICY AND LEGISLATION

An EcIA is a process of identifying, quantifying, and evaluating potential effects of development or other actions on habitats, species, and ecosystems (CIEEM, 2016). When an EcIA is undertaken as part of an EIA process, it is subject to the EIA Regulations (under the EU Planning and Development [Environmental Impact Assessment] Regulations 2001-2018).

An EcIA is not a statutory requirement; however, it is a best-practice evaluation process. This EcIA has been undertaken to support and assess the proposed works as well as to assess the potential impact that the proposed works may have on the ecology of the site and its environs. Where a potential risk to the environment is identified, measures are proposed on the basis that, by deploying such measures, the risk is eliminated or reduced to an insignificant level.

4.1 PLANNING POLICY, GUIDELINE AND LEGISLATION

4.1.1 EUROPEAN UNION HABITATS DIRECTIVE

The "Habitats Directive" (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna) is the main legislative instrument for the protection and conservation of biodiversity within the European Union (EU). The Habitats Directive lists habitats and species that must be protected within Special Areas of Conservation (SAC) in Annexes I and II, respectively, identifies plant and animal species in Annex IV which are subject to strict protection anywhere they occur, and sets out the protocol for the protection and management of SACs.

The closest SACs to the site are the Wicklow Mountains SAC which is located 4.8km southwest of the site and the South Dublin Bay SAC which is located 4.8km northeast of the site. Due to the distance of these SACs from the site and the lack of a direct hydrological link to the site, SACs can be scoped out from further consideration in this EcIA Report.

4.1.2 EUROPEAN UNION BIRDS DIRECTIVE

The "Birds Directive" (Council Directive 2009/147/EC on the Conservation of Wild Birds) provides a network of sites in all member states to protect birds at their breeding, feeding, or roosting areas. The Birds Directive identifies in Annex I species that are rare, in danger of extinction, or vulnerable to changes in habitat and which require special protection (so-called 'Annex I' species). Special Protection Areas (SPA) are designated under the Birds Directive to protect a range of bird populations including those of Annex I species.

The closest SPAs to the site are the Wicklow Mountains SPA, which is located 4.9km southwest of the site, and the South Dublin Bay and River Tolka Estuary SPA, which is located 4.9km northeast of the site. Due to the distances to these SPAs and the lack of a direct hydrological link to the site, SPAs can be scoped out from further consideration in this EcIA Report.

4.1.3 NATIONAL LEGISLATION

The primary domestic statutes in the Republic of Ireland providing for wildlife protection are the Wildlife Acts of 1976 and 2000, as amended (hereafter 'The Wildlife Acts'). All bird species are protected under the Wildlife Acts from offences including intentional killing or injury and disturbance during the breeding season (to include eggs, young, and nests which are also protected). A range of mammal species, two amphibian species, one butterfly species, and one reptile species are all similarly protected from intentional killing or injury, whilst the breeding or resting sites of these species are also protected.

Unless specified otherwise, the term "invasive species" in this report refers to species scheduled to the European Communities (Bird and Natural Habitat) Regulations 2011 and 2015 (hereafter 'the effects Regulations'). The Regulations make it an offence to plant, disperse, allow or cause to disperse, spread, or otherwise cause to grow any of the scheduled species. A number of vascular (i.e., flowering plants) and non-vascular plant species (i.e., non-flowering or 'lower plants') are afforded legal protection under the Flora (Protection) Order, 2022 (hereafter 'The Flora Protection Order'). It is an offence to cut, pick, collect, uproot, or otherwise take, injure, damage, or destroy any specimens of the species listed under the Flora Protection Order.

The fourth National Biodiversity Action Plan (NBAP) (2023-2027) was launched in 2023 and aims to deliver the transformative changes required to the ways in which we value and protect nature. Key considerations in the development of the draft NBAP are set out below:

- Build on the successes of previous NBAPs while addressing shortfalls and implementation challenges
- Expand the governance and oversight of the NBAP and develop a robust Monitoring and Evaluation Framework to track progress
- Achieve buy-in and ownership of the NBAP across all levels of government and society
- Embed biodiversity at the heart of climate action
- Achieve greater coherence between biodiversity policy and other policy areas
- Strengthen compliance and enforcement of existing legislation
- Increase focus on addressing the root causes and drivers of biodiversity loss rather than the consequences of biodiversity loss
- Determine biodiversity priorities, allocate financial and other resources, internalise the value of nature, and recognise the cost of inaction
- Significantly strengthen the science base and enhance data accessibility

The following policies designated at the county scale were also consulted:

- Dún Laoghaire-Rathdown County Biodiversity Action Plan (2021-2025) - particularly "Overview of Habitats" and "Overview of Important and Protected Species;
- Relevant policies in the Dún Laoghaire-Rathdown County Development Plan 2022-2028; and
- Ballyogan and Environs Local Area Plan 2019-2025 in relation to the assessment of potential in-combination impacts.

There are no Natural heritage Areas within 15km of the proposed route; however, there is one proposed Natural Heritage Area within 2km of the site. The Fitzsimon's Wood pNHA (001753) is located 0.23km northwest of the site at its closest point. As such pNHAs cannot be scoped out of this assessment and must be included in further considerations.

5 SURVEY RESULTS (HABITAT, FLORA, FAUNA)

The habitats present within the site are described, classified, and evaluated in this section of the report and shown on Figure 5.1. Figures 5.2, 5.3, and 5.4 include more detailed habitat maps for sections of the site. The site consists primarily of a mix of BL3 (Buildings and Artificial Surfaces), BL1 (Stone walls and other stonework), and GA2 (Amenity Grassland) with small areas of FW2 (Depositing/lowland rivers), WL1 (Hedgerows), WL2 (Treelines), and WS1 (Scrub).

5.1 HABITAT MAP

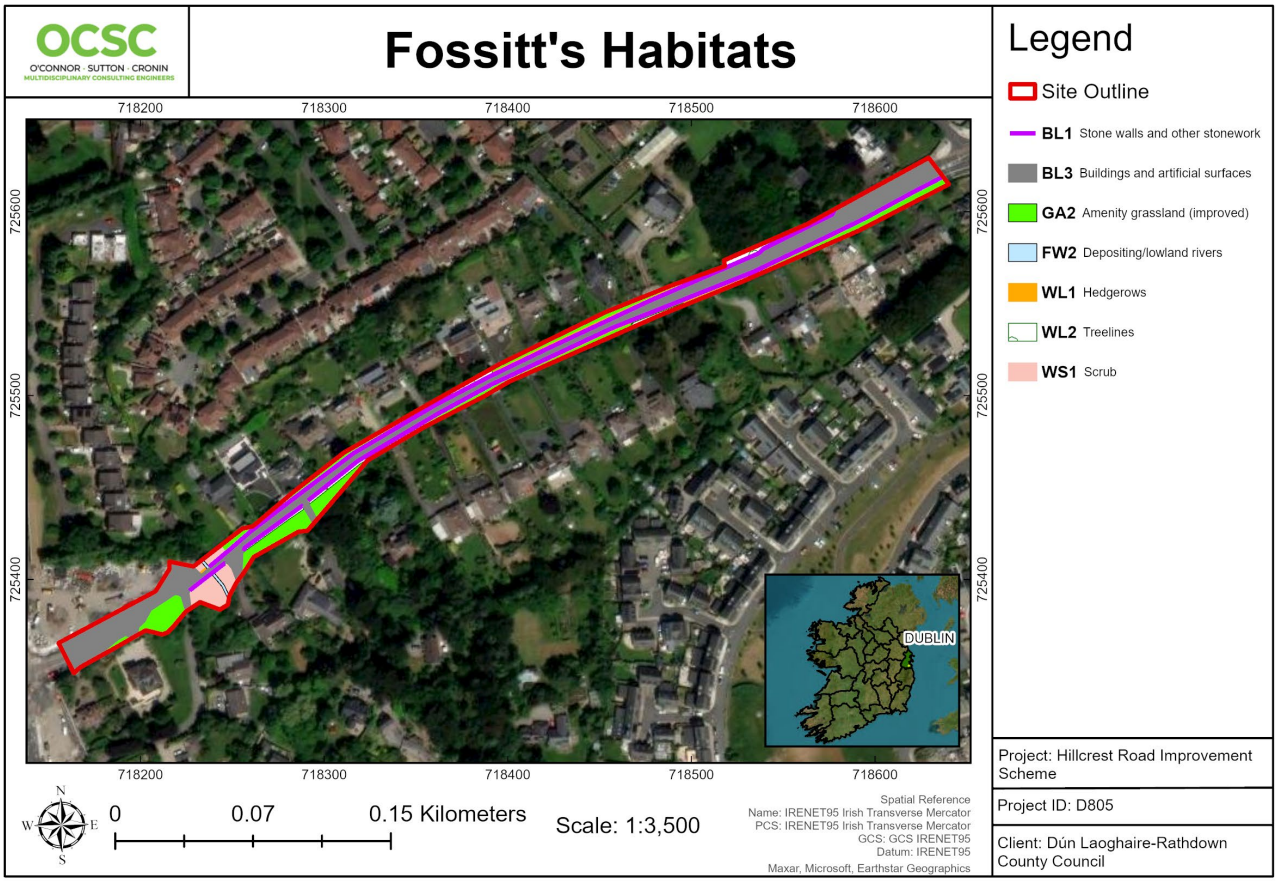

Figure 5.1: Habitat map showing the habitats found on site (Source: OCSC, 2024)

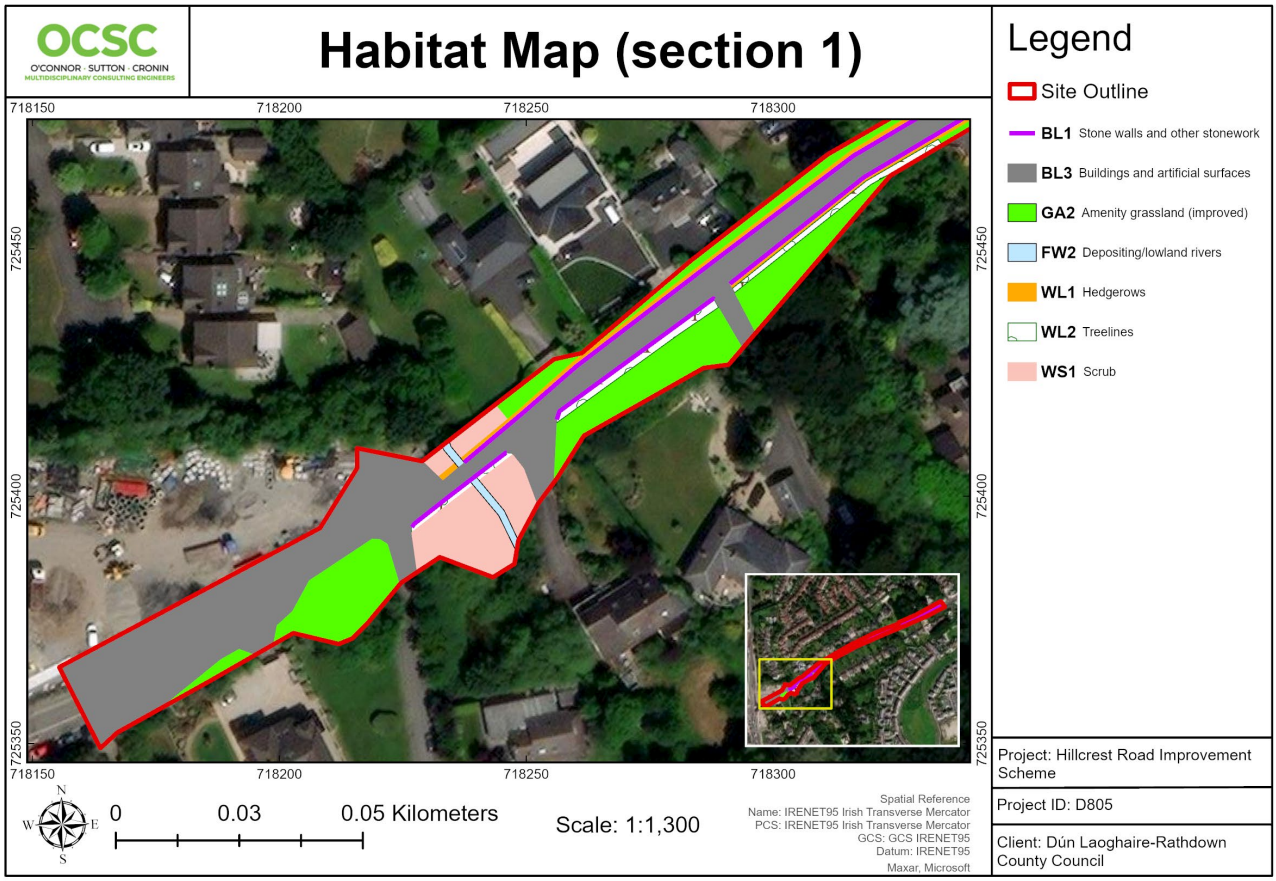

Figure 5.2: Habitat map (section 1) (Source: OCSC, 2024)

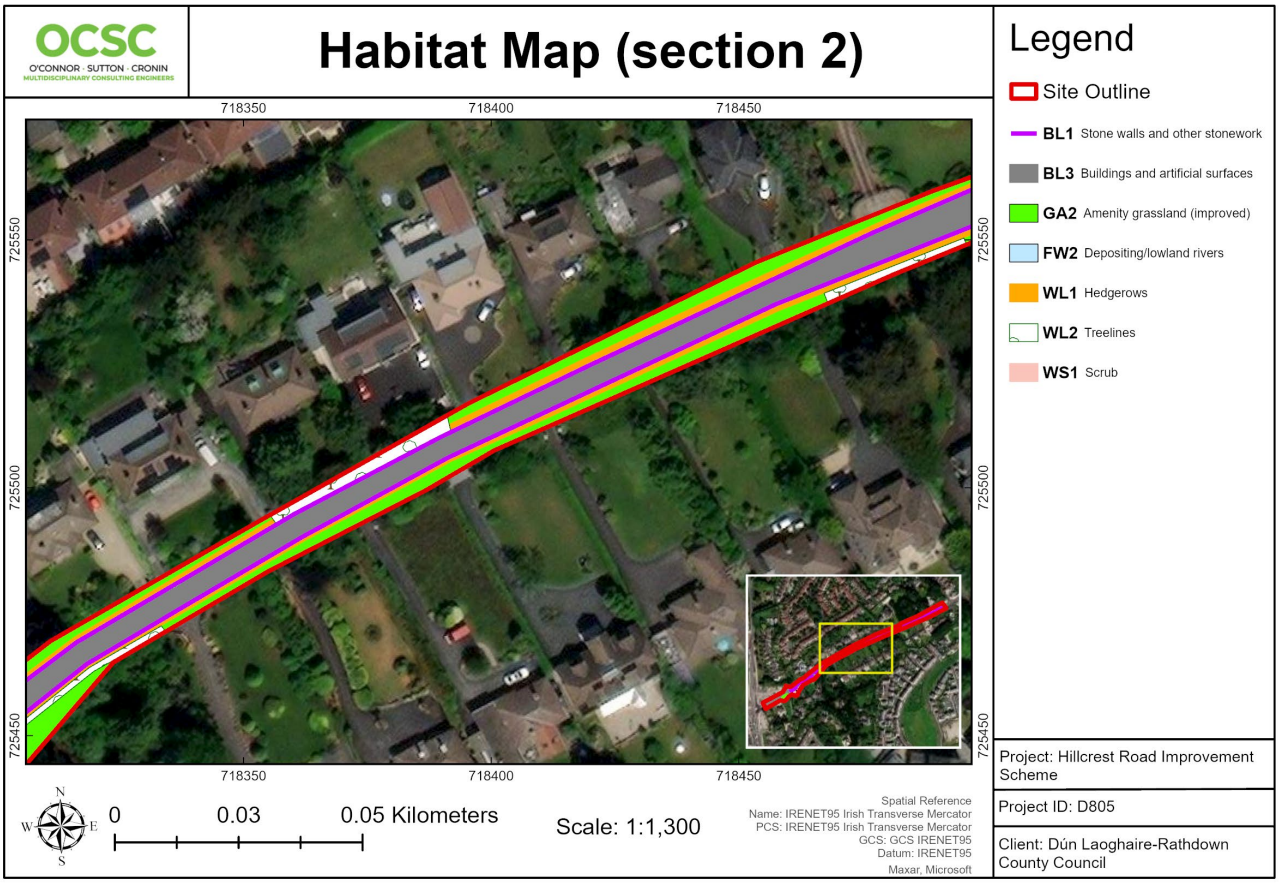

Figure 5.3: Habitat map (section 2) (Source: OCSC, 2024)

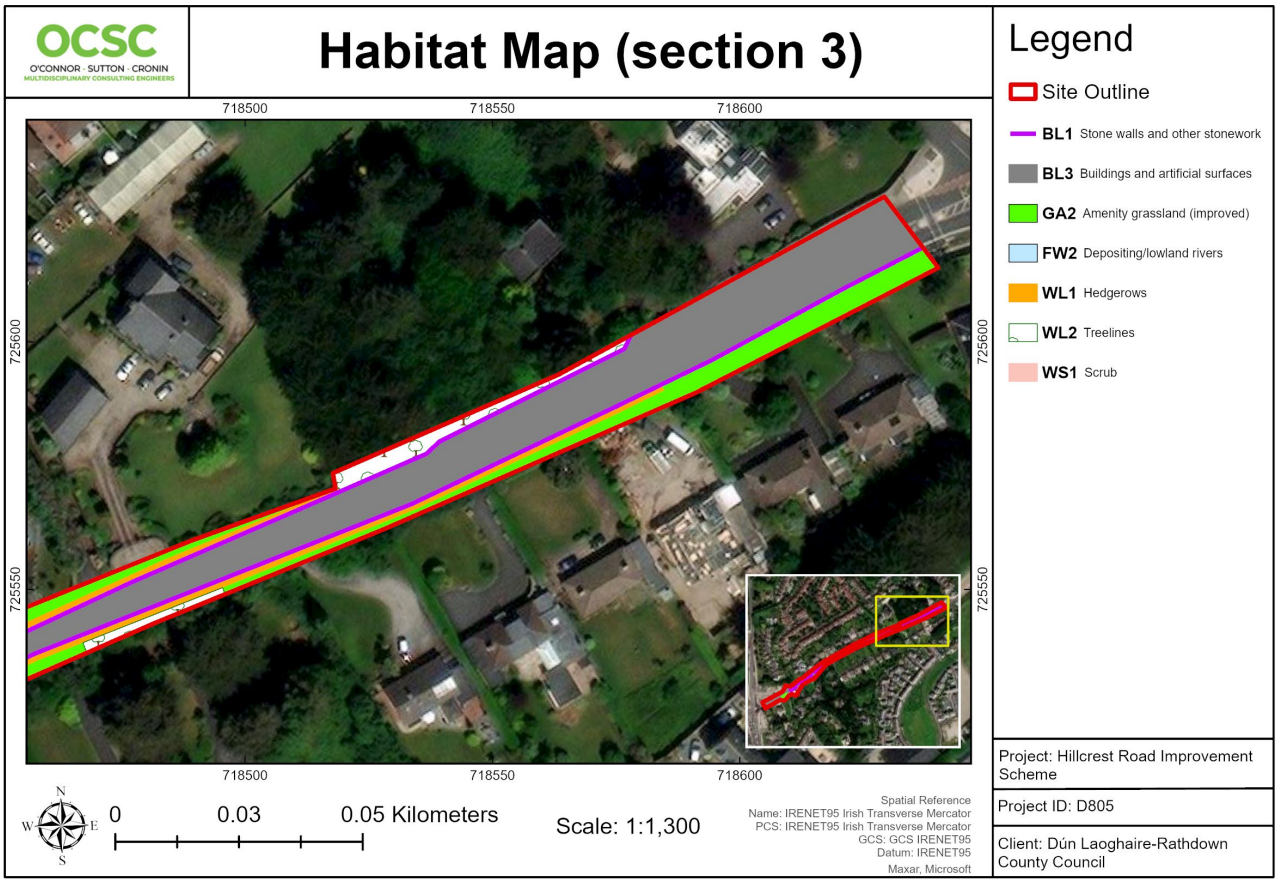

Figure 5.4: Habitat map (section 3) (Source: OCSC, 2024)

❖ Amenity grassland (improved) GA2

This type of grassland is improved, or species-poor, and is managed for purposes other than grass production. It includes amenity, recreational, or landscaped grasslands but excludes farmland. Most areas of amenity grassland have been reseeded and are regularly mown to maintain very short swards. Fertilisers and herbicides are often applied, but there is rarely any grazing by livestock. Amenity grassland is typically associated with lawns and other managed grassland areas in gardens, parks, grounds of various buildings or institutions, golf course fairways, grassy sports fields and racecourses. The majority of this site's grassland consists of garden areas. (Plate 5.1) The main species found within this habitat on the site were: Rye grasses (*Lolium* spp.) and Dandelion (*Taraxacum officinale*).

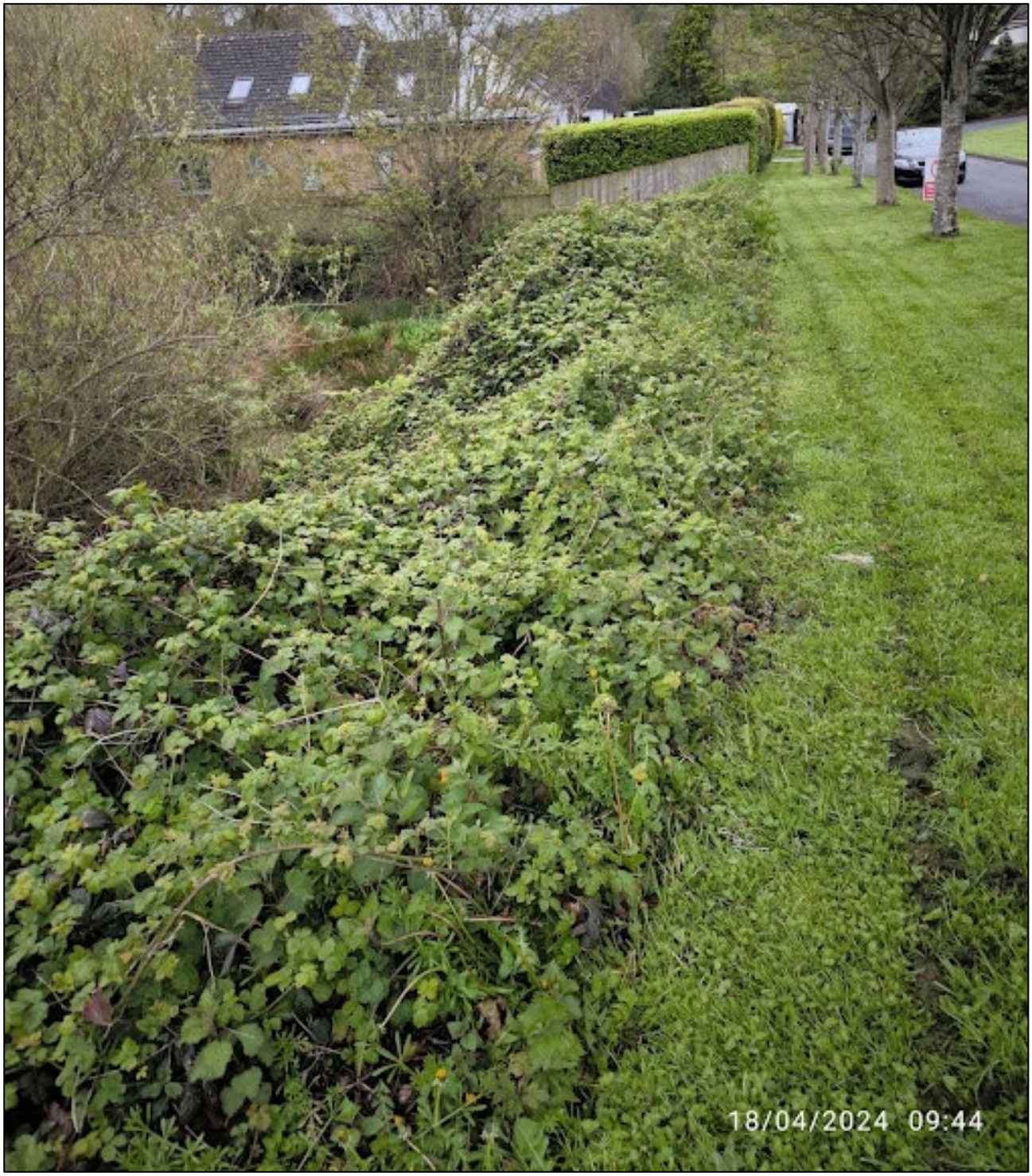

Plate 5.1: Photo showing an area of Amenity grassland (improved) GA2 near the bramble surrounding the stream.

❖ Depositing/lowland rivers FW2

This category includes watercourses, or sections of these where fine sediments are deposited on the riverbed. Depositing conditions are typical of lowland areas where gradients are low and water flow is slow and sluggish.

These rivers vary in size but are usually larger and deeper than upland rivers. In a natural state, these rivers erode their banks and meander across floodplains. Because of this, most have been modified to some extent to control water flow, facilitate navigation or prevent flooding and erosion. Canalised or walled sections of rivers are included here, as are natural watercourses that have been dredged or deepened, and those with artificial earth banks. The Carrickmines stream represents this habitat type on the site and flows through a culvert on the western side of the site (Plate 5.2 and Plate 5.3).

Plate 5.2: Carrickmines stream (Depositing/lowland rivers FW2).

Plate 5.3: Carrickmines stream flowing easterly through a culvert.

❖ Buildings and artificial surfaces BL3

This broad category incorporates areas of built land that do not fit elsewhere in the classification. It includes all buildings (domestic, agricultural, industrial, and community) other than derelict stone buildings and ruins. It also includes areas of land that are covered with artificial surfaces of tarmac, cement, paving stones, bricks, blocks, or AstroTurf (e.g. roads, car parks, pavements, runways, yards, and some tracks, paths, driveways,

and sports grounds). This habitat on the site mainly consists of Hillcrest Road, some sections of minor roads, two junctions, and driveways as well as residential developments (Plate 5.4).

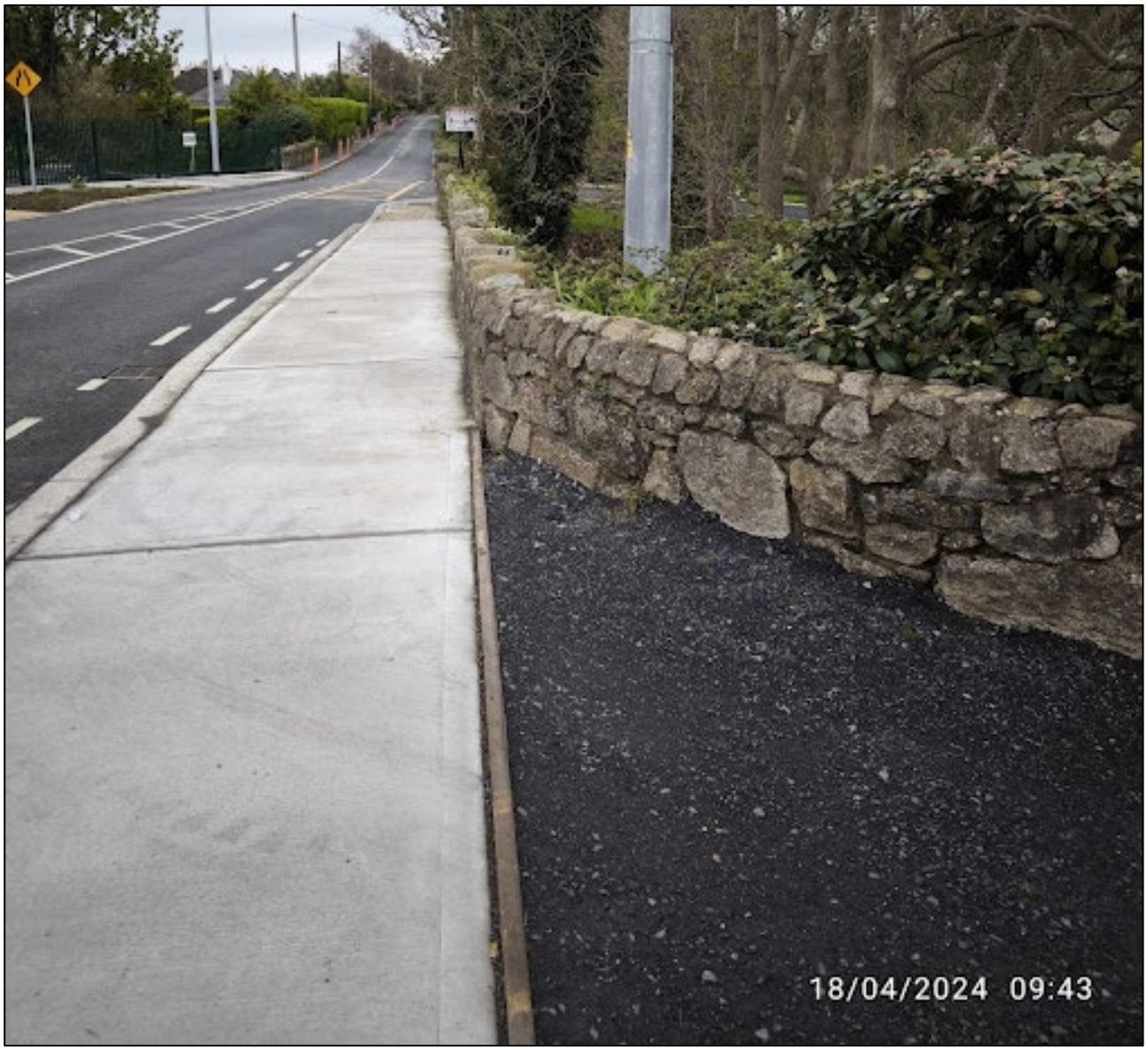

Plate 5.4: Road and sidewalk present on site (Buildings and artificial surfaces BL3).

❖ Stone walls and other stonework BL1

This category incorporates stone walls and most other built stone structures in rural and urban situations, apart from intact buildings and coastal constructions made of stone. It includes dry stone and old mortar walls that occur as field or property boundaries; retaining walls against banks of soil; stone walls that rise from rivers, canals, or moats; stone bridges, viaducts and aqueducts; stone jetties or piers in lakes or rivers; derelict or ruinous buildings made of stone; and old stone monuments, fortifications, or ruins. Note that modern or intact

buildings made of stone are excluded, as are any structures made of bricks, cement blocks, or mass concrete. Many of the residential properties on site are surrounded by stone walls (Plate 5.5).

Plate 5.5: Stone walls (BL1) present on many properties at Hillcrest Road.

❖ Scrubs WS1

This broad category includes areas that are dominated by at least 50% cover of shrubs, stunted trees, or brambles. The canopy height is generally less than 5m, or 4m in the case of wetland areas. Scrub frequently develops as a precursor to woodland and is often found in inaccessible locations or on abandoned or marginal farmland. In the absence of grazing and mowing, scrub can expand to replace grassland or heath vegetation. There is an area of scrub located adjacent to the Carrickmines Stream (Plate 5.6). The predominant species in this area are bramble (*Rubus fruticosus*) and Ivy (*Hedera helix*).

Plate 5.6: Area of Scrub WS1

❖ Hedgerows WL1

Hedgerows include linear strips of shrubs, often with occasional trees, that typically form field or property boundaries. Most hedgerows originate from planting, and many occur on raised banks of earth that are derived from the excavation of associated drainage ditches. Some hedgerows may be overgrown or fragmented if management has been neglected, but they should still be considered in this category unless they have changed beyond recognition. There are small sections of hedgerows on the northern portion of the site along the property boundaries (Plate 5.7) as well as the southern portion of the site. The most common hedgerows species were New Zealand Broadleaf (*Griselinia littoralis*), Cherry Laurel (*Prunus laurocerasus*), Darwin's Barberry (*Berberis darwinii*), and Chinese Barberry (*Berberis julianae*).

Plate 5.7: New Zealand Broadleaf (Griselinia littoralis) hedgerow WL1.

❖ Treelines WL2

A treeline is a narrow row or single line of trees that is greater than 5 m in height and typically occurs along field or property boundaries. This category includes tree-lined roads or avenues, narrow shelter belts with no more than a single line of trees, and overgrown hedgerows that are dominated by trees. Most treelines are planted, and trees are often regularly spaced. There is a large treeline of conifers south of Hillcrest Road at the western end of the site (Plate 5.8) and sections of treeline along the north side of Hillcrest Road in the central and eastern portions of the site.

Plate 5.8: Area of Treelines WL2

5.2 PLANT SPECIES ON SITE

The main species recorded at the time of the site visit are listed in Table 5.1, below.

Table 5.1: Plant species identified on site.

English name	Scientific name
New Zealand Broadleaf	*Griselinia littoralis*
Fuchsia	*Fuchsia magellanica*
Cherry laurel	*Prunus laurocerasus*
Kowhai	*Sophora microphylla*
Darwin's Barberry	*Berberis darwinii*
Chinese Barberry	*Berberis julianae*
Himalayan Cotoneaster	*Cotoneaster simonsii*
Franchet's Cotoneaster	*Cotoneaster franchetii*
Dwarf Cotoneaster	*Cotoneaster nan-shan*
Silk-tassel	*Garrya elliptica*
Portuguese laurel	*Prunus lusitanica*
Purple toadflax	*Linaria purpurea*
Monterey cypress	*Hesperocyparis macrocarpa*
English hawthorn	*Crataegus laevigata*
Highclere holly	*Ilex x altaclerensis*
Common laburnum	*Laburnum anagyroides*
Winter heliotrope	*Petasites fragans*
Hybrid dock	*Rumex x acutus*
David viburnum	*Viburnum davidii*
Bramble	*Prunus fruticosus*
Weigelia	*Weigela florida*
Calycine Hawthorn	*Crataegus rhipidophylla*
Dandelion	*Taraxacum officinale*
Fraser's photinia	*Photinia fraseri*
Garden privet	*Ligustrum ovalifolium*
Honeysuckle	*Lonicera periclymenum*
Cherry plum	*Prunus cerasifera*
Butterfly bush	*Buddleja davidii*
Field mustard	*Brassica rapa*
Sycamore maple	*Acer pseudoplatanus*
Narrow-leaf plantain	*Plantago lanceolata*
Holly	*Ilex aquifolium*
Salix Willow	*Salix sp.*
Cabbage Palm	*Sabal palmetto*
Bay Laurel	*Laurus nobilis*
Hawthorn	*Crataegus monogyna*
Privet	*Ligustrum lucidum*
Lawson Cypress	*Chamaecyparis lawsoniana*
Japanese Maple	*Acer palmatum*
Beech	*Fagus sylvatica*
Cedar	*Cedrus sp.*
Ash	*Fraxinus excelsior*
Silver Birch	*Betula pendula*
Ivy	*Hedera helix*
Cherry	*Prunus avium*
Fir	*Abies sp.*
Rowan	*Sorbus aucuparia*
Juniper	*Juniperus sp.*
Weeping willow	*Salix babylonica*
Larch	*Larix sp.*

5.3 FAUNA

5.3.1 BATS

A preliminary roost assessment was carried out to identify, from ground level in daylight, any potential roost features (PRF) within trees that had suitability to support roosting bats. Trees were studied and assessed for the presence of potential roost features including cavities, frost cracks, trunk and branch splits, rot holes where branches have been removed, and hollow sections of trunk, branches, and roots. The results were used to grade trees as having Negligible, Low, Moderate, or High suitability for roosting bats in accordance with Bat Conservation Trust guidelines (Collins, 2016).

The NBDC holds records of four bat species within the 2km square (O12X) in which the proposed site is located:

- Brown long-eared bat
- Soprano Pipistrelle
- Common Pipistrelle
- Lesser Noctule

The bat suitability index of the area is considered low (17.44 on a scale that ranges from 0 to 100 with 0 being least favourable and 100 most favourable for bats). Species-specific scores are provided in Table 5.2 and Figures 5.2 to 5.11.

Table 5.2: Suitability Index for all bat species

Species		Suitability Index
All Bats		17.44
Soprano Pipistrelle	*Pipistrellus pygmaeus*	30
Brown Long-eared Bat	*Plecotus auritus*	23
Common Pipistrelle	*Pipistrellus pipistrellus*	32
Lesser Horseshoe Bat	*Rhinolophus* hipposideros	0
Leisler's Bat	*Nyctalus leisleri*	34
Whiskered Bat	*Myotis mystacinus*	14
Daubenton's Bat	*Myotis daubentonii*	3
Nathusius's Bat	*Pipistrellus nathusii*	10
Natterer's Bat	*Myotis nattereri*	11

All of the recorded species have an IUCN conservation status of 'least concern'. Although, the site offers low potential for roosting bats and a low potential for use by foraging and/or commuting bats as it is set in a suburban environment along a busy road with streetlights along its length, the site and its boundaries are well connected through treelines and hedgerows. In addition, the walls within the site contained cracks and crevices

and the trees had flaking bark which suggest a suitable habitat for bats. Therefore, there is the potential that the area could be utilised for bats. A standalone Bat Survey Report containing a detailed assessment has been produced by OCSC.

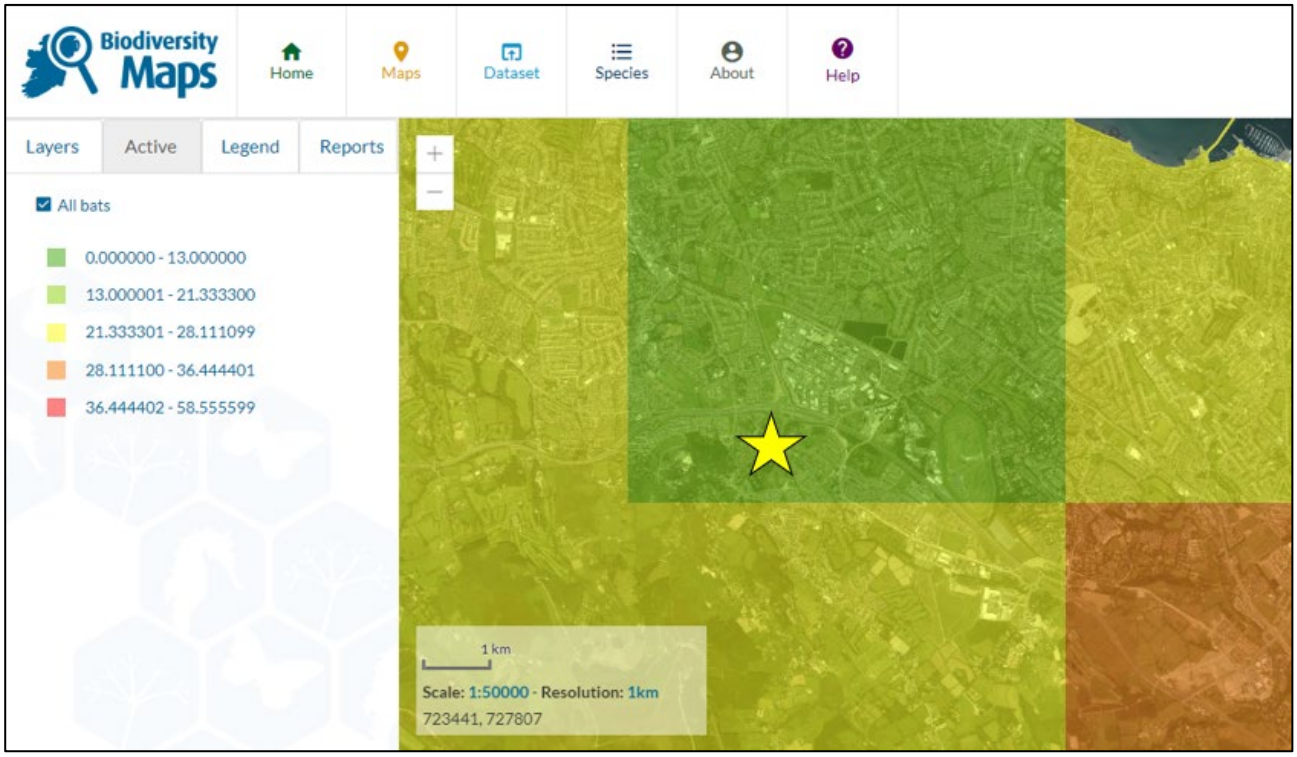

Figure 5.2: Suitability index for all bats in the site and surrounding areas; site location is shown by the yellow star (Source: NBDC, 2024)

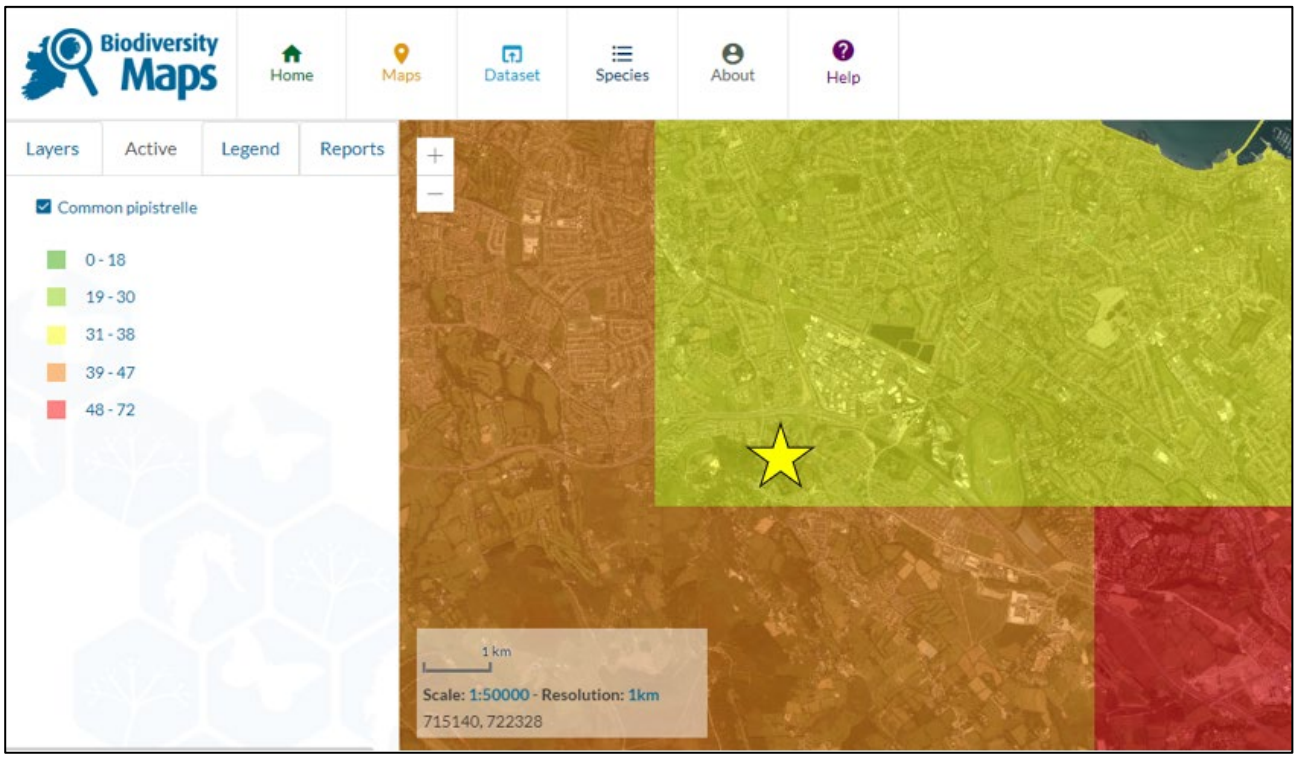

Figure 5.3. Suitability index for Common pipistrelle in the site and surrounding areas; site location is shown by the yellow star (Source: NBDC, 2024)

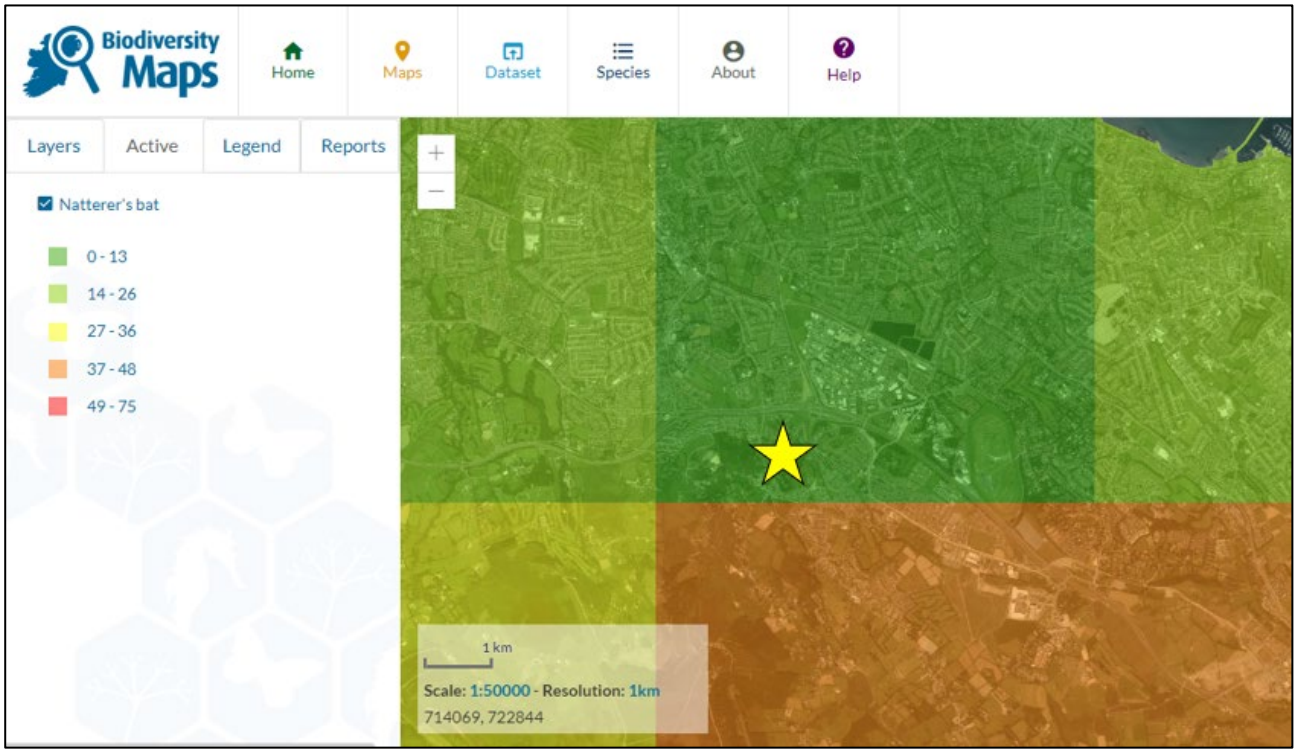

Figure 5.4: Suitability index for Natterer's bat in the site and surrounding areas; site location is shown by the yellow star (Source: NBDC, 2024)

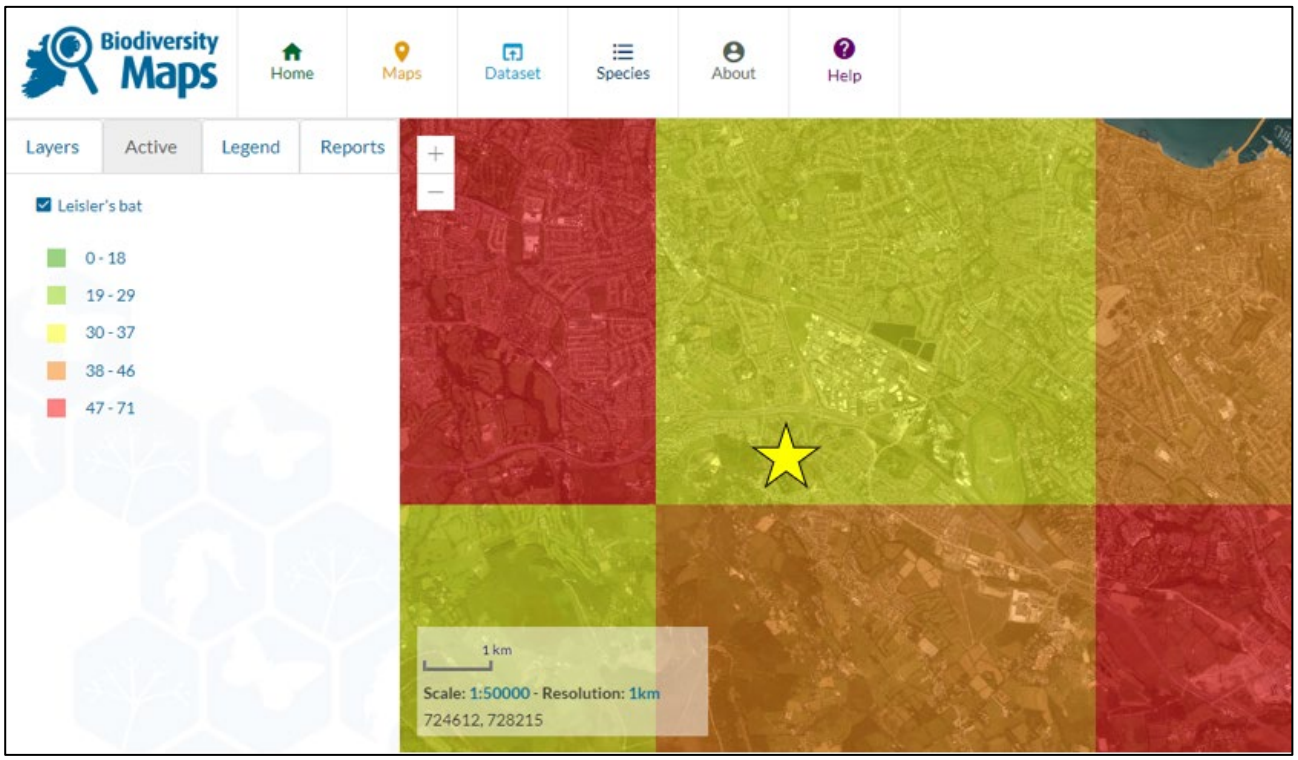

Figure 5.5: Suitability index for Lesser Noctule in the site and surrounding areas; site location is shown by the yellow star (Source: NBDC, 2024)

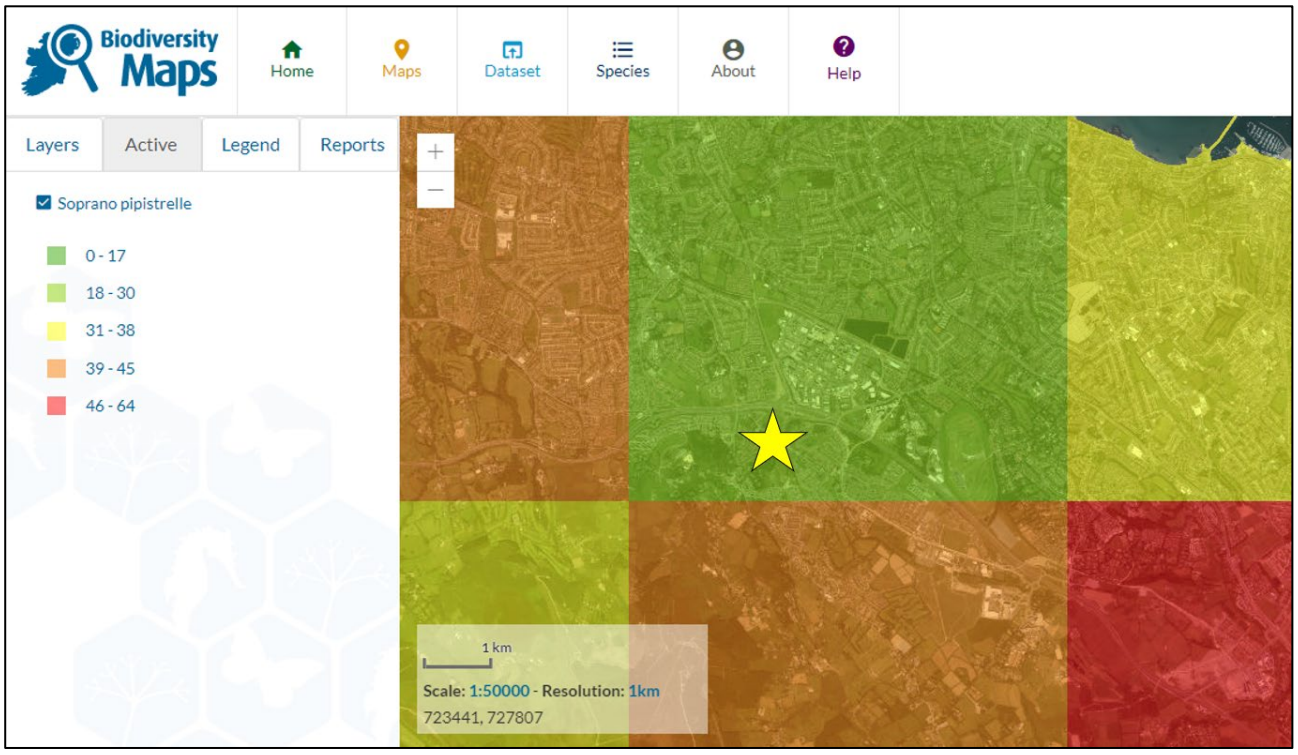

Figure 5.6: Suitability index for Soprano pipistrelle in the site and surrounding areas; site location is shown by the yellow star (Source: NBDC, 2024)

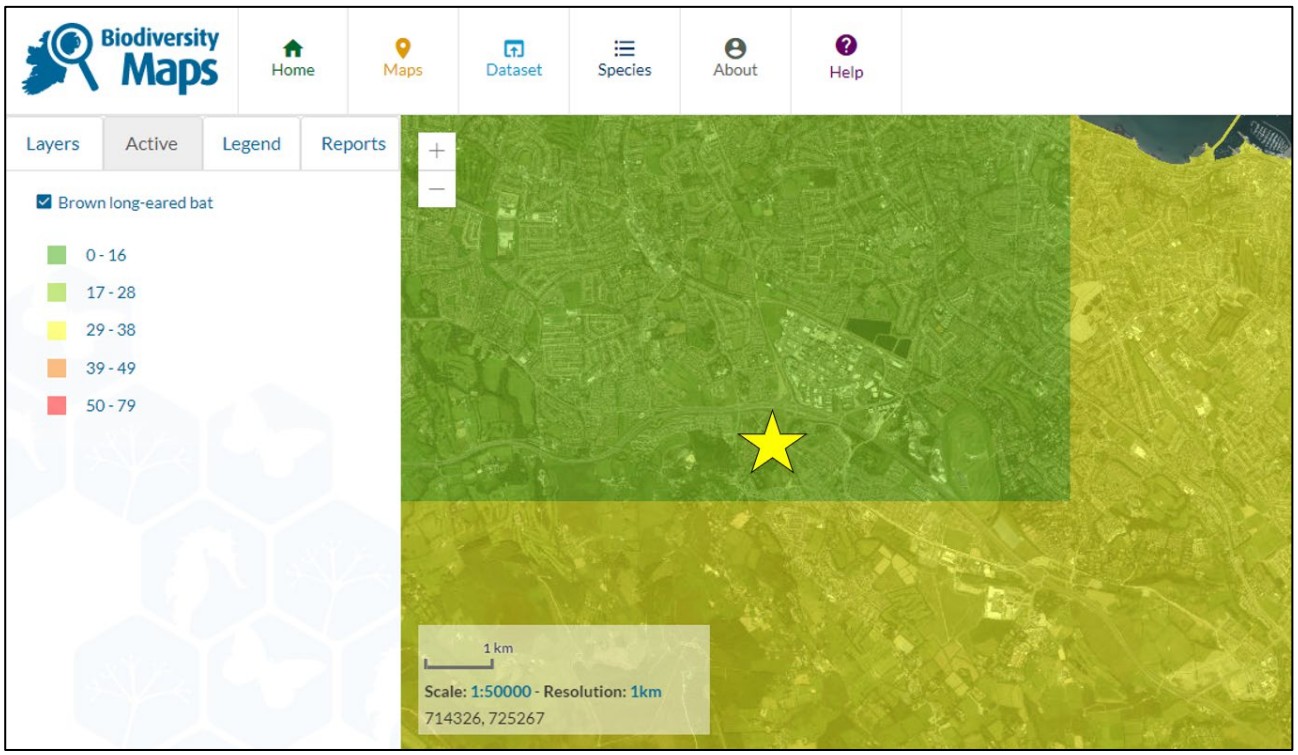

Figure 5.7: Suitability index for Brown long-eared bat in the site and surrounding areas; site location is shown by the yellow star (Source: NBDC, 2024)

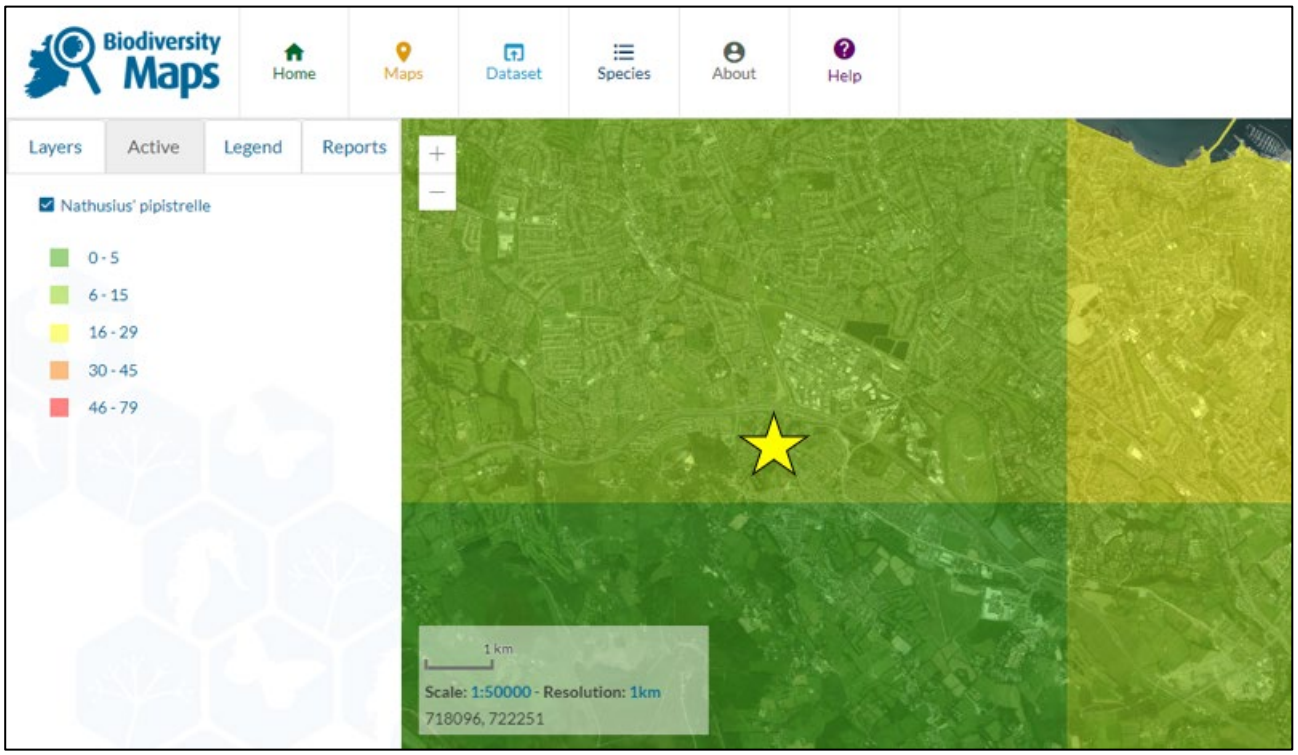

Figure 5.8: Suitability index for Nathusius's pipistrelle bat in the site and surrounding areas; site location is shown by the yellow star (Source: NBDC, 2024)

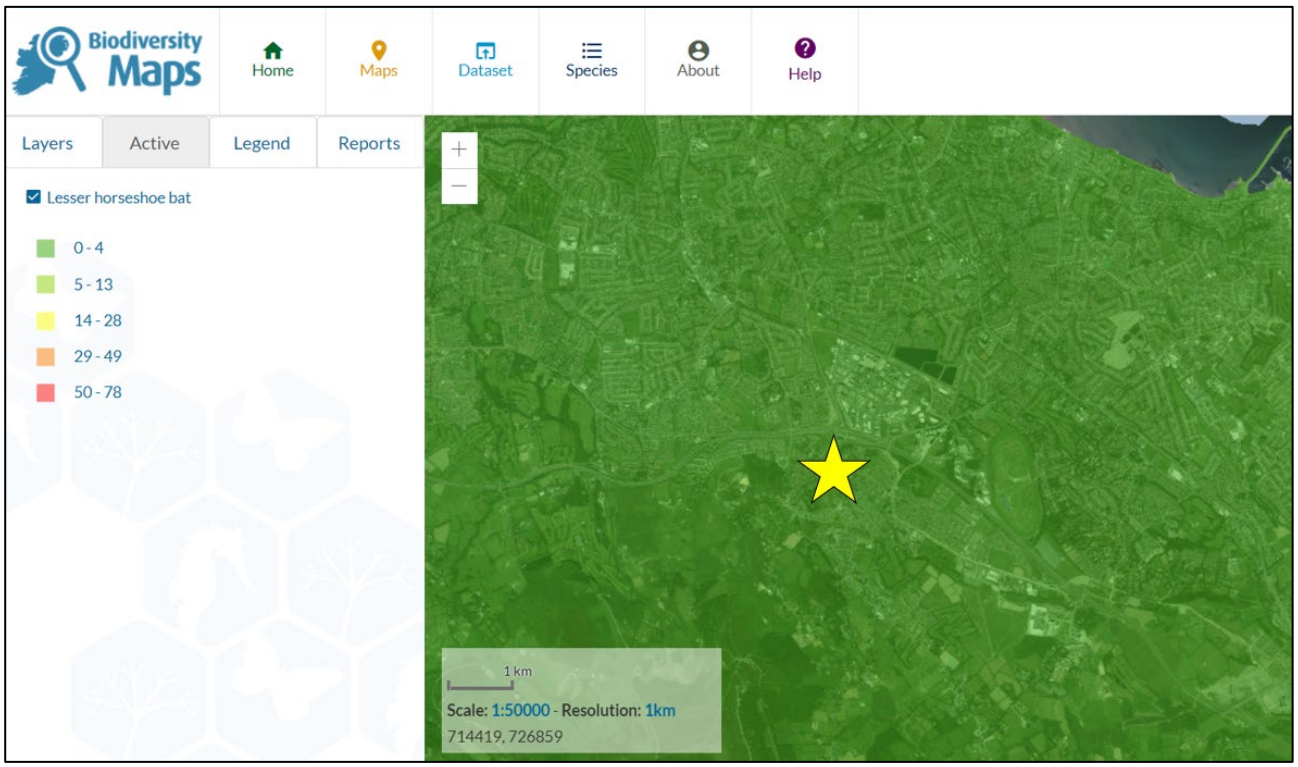

Figure 5.9: Suitability index for Lesser horseshoe bat in the site and surrounding areas; site location is shown by the yellow star (Source: NBDC, 2024)

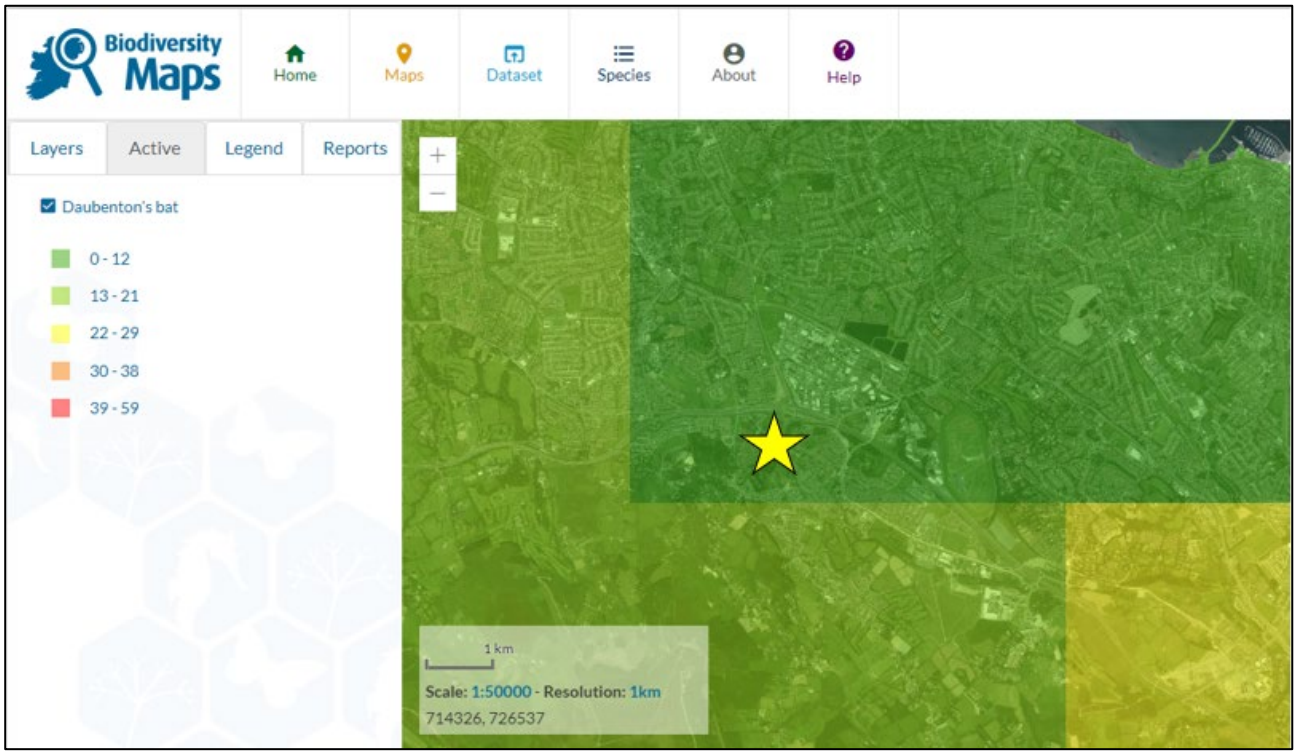

Figure 5.10: Suitability index for Daubenton's bat in the site and surrounding areas; site location is shown by the yellow star (Source: NBDC, 2024)

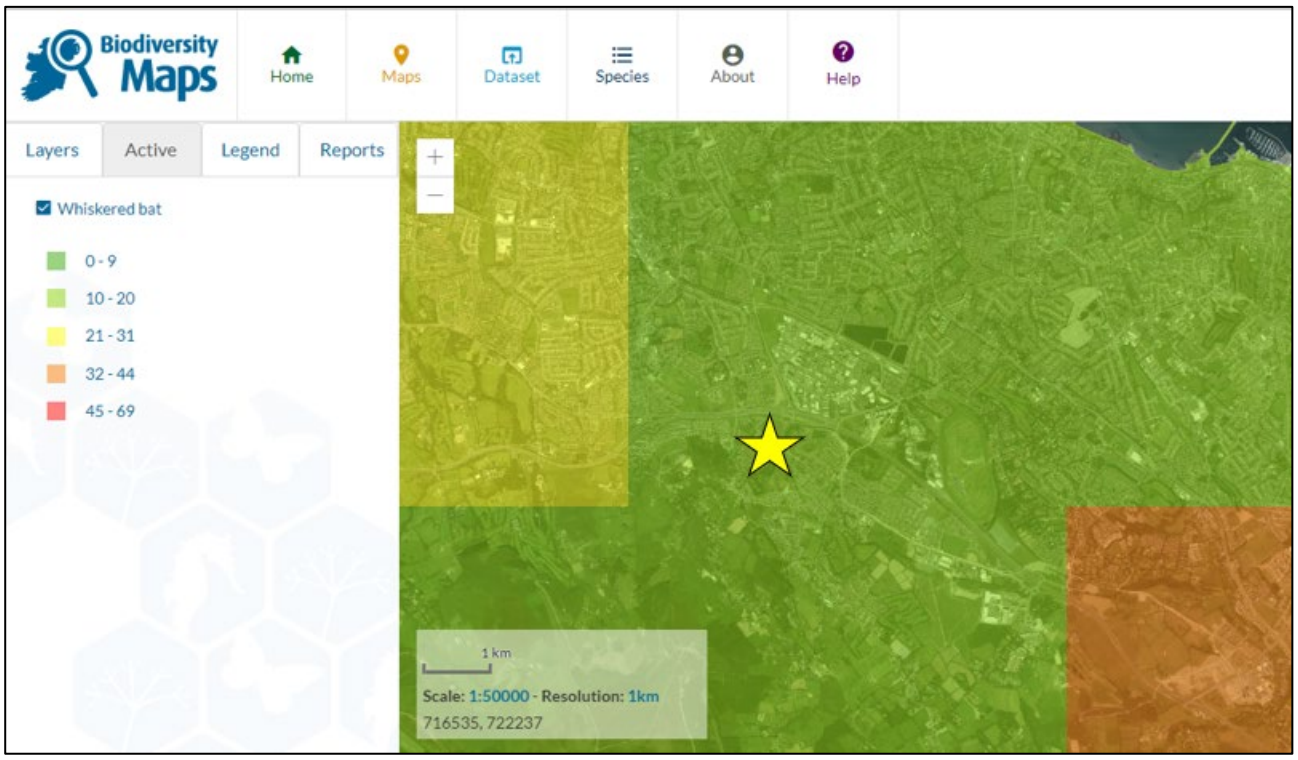

Figure 5.11: Suitability index for Whiskered bat in the site and surrounding areas; site location is shown by the yellow star (Source: NBDC, 2024)

5.3.2 BADGERS

The Eurasian Badger (*Meles meles*) inhabits woodland areas but can also be found in grasslands, scrublands, and suburban environments. They construct extensive underground burrow systems called setts, which consist of tunnels, chambers, and multiple entrances. These setts serve as their homes, providing shelter, protection, and breeding sites.

Badgers are omnivores and opportunistic feeders, consuming a variety of food sources such as earthworms, insects, small mammals, fruits, and plant matter. Their foraging behaviour contributes to the maintenance of soil health and nutrient cycling. They are primarily active at night and are capable of excavating complex burrows. They influence soil health, controlling populations of certain prey species, and contributing to the overall biodiversity of their habitats. Their conservation challenges include risks from habitat loss, persecution, and the risk of disease transmission, particularly from bovine tuberculosis.

Badgers are protected under the Wildlife Act of 1976 (as amended) and the Wildlife (Amendment) Act of 2000 in Ireland and under the EU Habitats Directive (Directive 92/43/EEC) in the European Union. These acts provide legal protection for badgers and their setts (burrows). The primary purpose of the legislation is to safeguard badgers from disturbance, harm, or destruction.

Under the Wildlife Act, it is illegal to wilfully interfere with badger setts, harm or kill badgers or possess or sell live or dead badgers or their parts without a license. The legislation also prohibits activities that could result in

the destruction of a badger sett or the obstruction of a badger's access to its sett. Under the Habitats Directive, badgers are listed as a protected species, specifically under Annex III. This listing means that member states of the EU are obligated to take necessary measures to ensure the conservation of badgers and their habitats.

According to the NBDC, there are five records of the Eurasian Badger from the 2km grid square (O12X) in which the site is located. The most recent record is from 2022. The footprint of the proposed works was searched for evidence of badgers including the presence of setts, foraging evidence, access runs, hairs caught on wires and bushes, tracks, and prints. As none of these were found on site, badgers are scoped out of this assessment and excluded from further consideration within this report.

5.3.3 OTTERS

The Otter (*Lutra lutra*) is widespread within Ireland. They primarily inhabit rivers, lakes, and coastal areas, preferring clean and unpolluted waters. Their presence in freshwater ecosystems indicates the overall health of these habitats, as they require clean water and abundant prey. Otters are opportunistic hunters and prey on fish, amphibians, crustaceans, and small mammals. Otters are most active during twilight and at night, spending the days in isolated holts or dens. They are solitary animals and mark their territories using scent. Their ranges can span several kilometres along rivers. In general, otters do not forage more than 80m from riverbanks, lakes, or coastal shores. Due to the presence of the Carrickmines Stream within the site, it is possible that otters may use the site for hunting and habitation.

Otters are protected under the Wildlife Act of 1976 (as amended) and the Wildlife (Amendment) Act of 2000 in Ireland and under the EU Habitats Directive (Directive 92/43/EEC) in the European Union. These acts grant legal protection to otters and their habitats to ensure their conservation and well-being. Under the Wildlife Act, it is illegal to intentionally disturb, harm, or kill otters, possess or sell otters or their parts, or damage or destroy their breeding or resting places (holts). Otters are also protected from habitat destruction or degradation that may directly or indirectly harm their populations. Under the Habitats Directive, otters are listed as a protected species, specifically under Annex II and Annex IV. This listing means that member states of the EU are obligated to take necessary measures to ensure the conservation of otters and their habitats.

According to the NBDC, there is one record of the European Otter from 2016 from the 2km grid square (O12X) in which the site is located. During the walkover survey of the site, the footprint of the proposed works was searched for evidence of otters including spraints, tracks, slides and chutes, holts and dens, and foraging evidence such as remains of fish bones and scales. None of the above was found on site during the surveying period. There was no evidence observed to suggest that otters are using the developable area of the site. The site is set in a busy suburban environment which would be an unlikely area for otters to occur due to high levels of human disturbance. The Carrickmines Stream flows from south to north passing under Hillcrest Road through a small culvert. Due to the generally unsuitable environment for otters coupled with the lack of evidence of their presence on site, otters can be scoped out of this assessment and excluded them from further consideration within this report.

5.3.4 HEDGEHOGS

Eurasian Hedgehogs (*Erinaceus europaeus*) play an important ecological role as insectivores, primarily feeding on invertebrates such as slugs, snails, worms, and beetles. Hedgehogs in Ireland utilise a variety of habitats, including gardens, hedgerows, parks, woodlands, and grasslands. They construct nests, called 'hedgehog houses' or 'hedgehog nests' made of leaves, grass, and other materials for shelter and hibernation during the winter months. Hedgehogs are mainly nocturnal, foraging at night and seeking refuge during the day.

In Ireland, hedgehogs are protected under the Wildlife Act of 1976 (as amended), which prohibits the killing, capturing, or disturbance of hedgehogs and their nests without a license. The Wildlife Act also prohibits the sale, possession, or transport of live or dead hedgehogs without authorization. At the EU level, the Eurasian Hedgehog is not currently listed as a protected species under the EU Habitats Directive (Directive 92/43/EEC).

According to the NBDC, there are sixteen records of the Eurasian Hedgehog from the 2km grid square (O12X) in which the site is located. The most recent record is from 2022. The habitat within the site is suitable to support hedgehogs. During the site visit on the 9th of May 2024, a hedgehog was spotted crossing the road towards a hedgerow of New Zealand Broadleaf. Although no other hedgehogs have been seen and no other indication of their presence observed, hedgehogs cannot be scoped out of this assessment since they are present in the area.

5.3.5 RED SQUIRRELS

The Red Squirrel (*Sciurus vulgaris*) is a native rodent species found in Ireland. It is known for its distinctive reddish-brown fur, tufted ears, and bushy tail. Red squirrels are an important part of Ireland's ecological landscape and cultural heritage, but they have faced challenges due to competition with the introduced grey squirrel (*Sciurus carolinensis*) and habitat loss.

Red squirrels are primarily arboreal creatures, spending most of their lives in trees. They are active during the day (diurnal) and are known for their agile climbing and jumping abilities. Their diet includes a variety of foods such as seeds, nuts, berries, fungi, and occasionally insects. Red squirrels play a role in seed dispersal, helping to maintain forest ecosystems.

Red squirrels are found within a range of forested habitats, including coniferous and deciduous woodlands. They are particularly associated with mature, diverse forests that provide ample food sources and suitable nesting sites. These habitats support their nesting behaviour, as they build dreys (nests) made from twigs, leaves, and mosses, usually high in the trees.

The red squirrel population in Ireland has declined due to habitat loss and competition with the invasive grey squirrel, which carries a pox virus that is lethal to red squirrels. In response, conservation efforts have been initiated to protect and support red squirrel populations. In Ireland, the red squirrel is a protected species under the Wildlife Acts (1976 and 2000). This legal protection prohibits intentional harm, disturbance, or killing of red squirrels or disturbance of their dreys without proper authorization. The red squirrel is also protected under the EU Habitats Directive (92/43/EEC). This directive aims to conserve biodiversity and maintain or restore natural habitats and species of interest. As a result, the red squirrel's habitats are protected, and measures may be taken to ensure their conservation.

According to the NBDC, there are three previous records of the red squirrel from the 2km grid square (O12X) in which the site is located. The latest record is from 2018. Based on the nature of the proposed works, it is not anticipated that any proposed option would impact local red squirrel populations once work has been completed. In addition to this, no direct observations were recorded during the site surveys. Therefore, red squirrels are scoped out of this assessment and excluded from further consideration within this report.

5.3.6 EURASIAN PYGMY SHREW

The Eurasian Pygmy Shrew (*Sorex minutus*) is Ireland's smallest mammal measuring between 4.5 and 6 cm with a long slender tail reaching up to 5 cm in length. Fully grown adults weigh less than 4 grams. Their coat has a darkish brown tint with a lighter underbelly and the tail more sparsely covered in fur. They are a vocal species emitting very high-pitched chattering sounds while hunting and short hissing noises if alarmed or threatened. Due to their small size and large numbers, the pygmy shrew is a favourite prey species for a number of other animals and birds in Ireland, including foxes, pine martens, stoats, and predatory birds like owls, hawks, and eagles. As a result, they are an important link in Irish ecosystems.

Pygmy shrews are found throughout Ireland and on some offshore islands. They are found in a variety of habitats ranging from areas bordering coniferous and deciduous woodland to any area with good ground cover such as grasslands, heaths, hedgerows, peatlands, and sand dunes. They are largely absent from heavily forested areas. The pygmy shrew requires dense vegetation for cover from its many predators and to provide adequate foraging areas for insects.

The Pygmy Shrew faces threats such as habitat loss, fragmentation, and road mortality. Also, the recent introduction of the greater white-toothed shrew is a cause of concern for the status of the pygmy shrew in Ireland. The pygmy shrew has existed in isolation in Ireland from its main competitors for at least 5,000 years. Therefore, the sudden introduction of a species with a large habitat and dietary overlap could have serious consequences for the pygmy shrew in Ireland. Conservation efforts have been implemented to safeguard its populations and maintain ecological balance. In Ireland, the Pygmy Shrew is protected under the Wildlife Acts (1976 and 2000). These acts prohibit activities that could harm or disturb them or their habitats without proper authorisation. Trapping the species without a licence is illegal. This legal protection aims to ensure the survival and conservation of this species. The Pygmy Shrew has been listed as of Least Concern in the recent Red

List for terrestrial mammals in Ireland and isprotected under the EU Habitats Directive (92/43/EEC). This directive designates specific habitats and species of European interest for conservation.

According to the NBDC, there is one previous record of the Eurasian Pygmy Shrew from the 2km grid square (O12X) in which the site is located. The footprint of the proposed works was also searched for evidence of Shrew including the presence of droppings, nests, prey evidence, access runs, tracks, and prints. As none of these were found on site, Eurasian Pygmy Shrew are scoped out of this assessment and excluded from further consideration within this report.

5.3.7 PINE MARTEN

The Pine Marten (*Martes martes*) is a native carnivorous mustelid and is known for its distinctive appearance, behaviour, and ecological role. Pine martens, like their stoat counterparts, play a crucial role in maintaining ecosystem balance by helping control populations of small mammals and are the subject of conservation efforts due to their significance in the Irish ecosystem.

Pine martens are medium-sized mammals with long, slender bodies, pointed faces, and a luxurious, dark brown fur coat. They are primarily arboreal, which means they are well adapted to life in trees and wooded habitats. Pine martens have sharp claws, which enable them to climb trees with ease and pursue prey. They are opportunistic predators and have a varied diet that includes small mammals, birds, insects, fruits, and berries. Their ability to hunt both on the ground and in trees makes them versatile hunters.

These animals are also known for their elusive nature. They are typically solitary creatures and are more active during the twilight and nighttime hours, making them challenging to spot in the wild. Pine martens have distinctive behaviours, including their climbing and jumping skills, which they use to navigate through the trees and hunt for food.

Pine martens can be found in a variety of habitats, including woodlands, forests, and areas with dense vegetation cover. They are particularly associated with coniferous forests and are often found in areas with a mix of trees and undergrowth, which provides both shelter and a steady supply of food. Their presence in these habitats contributes to the overall health of the ecosystem.

The Pine Marten faces various threats to its survival, including habitat loss and fragmentation due to deforestation and urban development. Road mortality is also a significant concern, as they may be hit by vehicles while crossing roads. Conservation efforts are in place to protect this species, and they are legally protected in Ireland under the Wildlife Acts. These acts ensure that activities harmful to pine martens and their habitats are regulated and require proper authorization. Additionally, the Pine Marten benefits from protection under the EU Habitats Directive, which designates it as a species of European interest for conservation.

According to the NBDC, there is one previous record of Pine Marten from the 2km grid square (O12X) in which the site is located. This record is from 2021. The footprint of the proposed works was also searched for evidence of pine martens, including signs such as the presence of prey evidence, access runs, tracks, and prints. After a thorough examination, none of these indicators were found on the site. Consequently, Pine Martens can be scoped out of this assessment and excluded from further consideration within this report.

5.3.8 BIRDS

The NBDC holds records of ten protected bird species present within the 2km square (O12X) in which the proposed site is located. These include:

- Rock Pigeon (*Columba livia*)
- Common Pheasant (Phasianus colchicus)
- Common Wood Pigeon (*Columba palumbus*)
- Mallard (Anas platyrhynchos)
- Barn Swallow (*Hirundo rustica*)
- Common Swift (*Apus apus*)
- House Martin (*Delichon urbicum*)
- House Sparrow (*Passer domesticus*)
- Red Kite (*Milvus milvus*)
- Barn Owl (*Tyto alba*)

During the site survey on the 18th of April 2024, the following birds have been either observed or heard by the surveyors: Eurasian Blackbird, Eurasian Blackcap, Long-tailed Tit, Eurasian Blackcap, Common Wood-Pigeon, European Goldfinch, and House Sparrow.

Given that there is a corridor of hedgerows and treelines on both the north and south of Hillcrest Road, there is the potential for significant bird use of the hedges and trees as song posts, shelter, and nesting sites as well as for foraging. It is recommended that additional bird survey works be completed during the appropriate seasons.

A standalone Bird Survey Report containing a detailed assessment of birds has been produced by OCSC.

5.3.9 AMPHIBIANS

According to the NBDC, there are two amphibian species recorded within the 2km grid square (O12X) in which the site is located. There are eleven records of the Common Frog (*Rana temporaria*), within the 2km square gird, the most recent from 2019. The Common Frog is the most widespread of Ireland's native amphibians and is protected under the EU Habitats Directive [92/43/EEC] Annex V, the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) Appendix III, and the Wildlife Acts (1976 2000).

There is one record of the Smooth Newt (*Lissotriton vulgaris*) from 2018 within the 2km square grid in which the site is located. The Smooth Newt is Ireland's only native newt species. They are very widely distributed and can be found in most areas, including grasslands, woodlands, bogs, fields and gardens, provided the space is damp. Gardens have become an increasingly important habitat due to levels of pollution in rivers and streams.

The Carrickmines stream and surrounding areas were surveyed, and no amphibians were recorded during the site visit. The stream is littered and unlikely to support the Common Frog and Smooth Newt. Therefore, they can be scoped out of this assessment and from further consideration within this report.

5.4 INVERTEBRATES

According to the NBDC, there are no records of invertebrates from the 2km grid square (O12X) in which the site is located. Surveys were not carried out during the window of butterfly flight in spring/summer. A number of common butterflies, moths, and insects are likely to occur, but no species of conservation concern on the Irish Red List of butterflies (Regan et al., 2010) are predicted to occur as no specialised butterfly habitats such as oak woods or Kidney Vetch were not identified on the site.

There was no potential habitat for Ireland's only European protected butterfly species, the Marsh Fritillary (*Euphydryas aurinia*). There was also no habitat for Ireland's only nationally protected butterfly, the Small Blue (*Cupido minimus*), since no Kidney Vetch (*Anthyllis vulneraria*), the larval food plant was found within the footprint of the proposed development site.

5.5 NATURA 2000 (EUROPEAN SITES)

There are no Natura 2000 sites within the 2km potential ZoI of the proposed development. The closest Natura 2000 sites are the Wicklow Mountains SAC and the Wicklow Mountains SPA, which are located 4.8km and 4.9km southwest of the site, respectively, and the South Dublin Bay SAC and the South Dublin Bay and River Tolka Estuary SPA, which are located 4.8km and 4.9km located northeast of the site, respectively. There is no hydrological connection between the site and any of the above Natura 200 sites.

An Appropriate Assessment (AA) Screening Report has been produced separately from this EcIA to assess the potential for effects on European sites. The AA Screening Report concluded there were likely to be negligible effects on nearby European sites arising from the proposed development, either alone or in-combination with other plans or projects. Therefore, European sites can be scoped out of this assessment and excluded from further consideration in this report.

5.6 NATIONALLY IMPORTANT SITES

There is one proposed Natural Heritage Area (pNHA) within the 2km potential zone of influence of the proposed development, the Fitzsimon's Wood pNHA (001753) located 0.23km northwest of the site at its closest point. There is no potential for direct impacts and effects such as habitat loss within the pNHA as a result of the proposed development as there is no overlap of the site and the boundary of the Fitzsimon's Wood pNHA. The pNHA is located at a higher elevation than the site and is separated from the site by residential properties and many hedgerows. There are no drainage ditches connecting the site to the Fitzsimon's Wood pNHA and, therefore, no hydrological connection. There is no potential for indirect impacts or effects on the habitats that comprise the Fitzsimon's Wood pNHA.

There are no other nationally important sites within 2km of the proposed development. As such, there is no potential for impact to nationally designated sites. They can therefore be scoped out of this assessment and are not considered further in this report.

5.7 INVASIVE PLANT SPECIES

According to the NBDC, there are sixteen records of invasive species from the 2km grid square (O12X) in which the site is located. These include:

- New Zealand flatworms (Arthurdendyus triangulates)
- Cherry Laurel (*Prunus laurocerasus*)
- Eastern Grey Squirrel (*Sciurus carolinensis*)
- Japanese Knotweed (*Fallopia japonica*)
- Rhododendron (*Rhododendron ponticum*)
- Harlequin Ladybird (*Harmonia axyridis*)
- Brown Rat (Rattus norvegicus)
- Fallow Deer (*Dama dama*)
- Sika Deer (Cervus nippon)
- Butterfly-bush (*Buddleja davidii*)
- Himalayan Honeysuckle (*Leycesteria formosa*)
- Sycamore (*Acer pseudoplatanus*)
- Traveller's-joy (*Clematis vitalba*)
- American Skunk-cabbage (*Lysichiton americanus*)
- Three-cornered Garlic (*Allium triquetrum*)
- Spanish Bluebell (*Hyacinthoides hispanica*)

During the site walkover on the 18th of April 2024, three invasive species have been identified on site, Cherry Laurel (*Prunus laurocerasus*), Sycamore maple (*Acer pseudoplatanus*), and Butterfly-bush (*Buddleja davidii*).

These plants were found in several gardens located within the site boundary. Therefore, invasive species cannot be scoped out of this assessment and will need to be considered further in this report.

5.8 SUMMARY OF EVALUATION OF ECOLOGICAL FEATURES

Table 5.3 summarises the ecological features described and evaluated in the preceding sections of this chapter. The importance of these features is summarised along with their legal status and rationale for not carrying forward any features for detailed assessment.

Table 5.3: Summary of evaluation of ecological features

Ecological Feature	Scale at which Feature is important	Comments on legal status and/or importance
Natura 2000 sites	International	Natura 2000 sites have been screened out in the Appropriate Assessment Screening report prepared as part of this application.
pNHA/NHA	National	pNHA/NHA sites have been scoped out due to the lack of ecological connectivity to the site via the landscape or surface water features.
Habitats	Local (Higher)	The habitats present evaluated as important at the site level are sufficiently widespread and commonly occurring within the landscape. The habitats are resilient, so they do not require detailed assessment.
Mammals	Local (Higher)	Mammals, excluding hedgehogs, are scoped out of further consideration within this report as either not likely to be present at all or are not likely to be significantly affected by the proposed development.
Bats	County	Although there was a lack of evidence of bat roosts during the site walkover and low species-specific scores for the area, there are significant hedgerows and treelines along the route indicating a potential for impact to bats. Further detailed assessment of bats is required, and a standalone Bat Survey Report has been produced by OCSC).
Birds	Local (Higher)	There is a potential for impact on birds due to the presence of protected birds on site. Further detailed assessment of birds is required, and a standalone Bird Survey Report has been produced by OCSC).
Amphibians	Local (Higher)	The Carrickmines stream within the site is littered and presents no suitable areas for spawning frogs or for the Smooth Newt; therefore, amphibians can be scoped out.
Invertebrates	Local-County (Higher)	No protected species of invertebrates or suitable habitats for those were found on site, so the invertebrates were scoped out.
Invasive species	County	Three invasive species were found on site, Cherry Laurel (*Prunus laurocerasus*), Sycamore maple (*Acer pseudoplatanus*), and Butterfly-bush (*Buddleja davidii*). Therefore, invasive species need to be considered further in this report.

6 ASSESSMENT OF EFFECTS

This section sets out the potential impacts and their effects on important ecological features. The information available from the desk study and fieldwork has been used to identify impacts and the significant effects including positive, negative, direct, indirect, and cumulative effects.

6.1 DO NOTHING IMPACT

In the absence of development, it is assumed that the site would remain as a road within a suburban setting, and it would continue to act as a transport route between Enniskerry Road and Kilgobbin Road. The habitats would remain basically unchanged. The Do-Nothing Impact would result in no change in the ecological interest of the site over time.

6.2 POTENTIAL IMPACTS OF THE DEVELOPMENT

The potential impacts of developing the site are limited to habitat loss, temporary disturbance, and displacement of species.

Bats

Given the hedgerows and treelines along the route and the necessity for removal/felling, there is a potential for impact on bats. Bespoke mitigation measures will be included in the Standalone Bat Survey Report produced by OCSC (2024) Therefore, only general mitigation for bats will be considered in this report.

Birds

Given the significant hedgerows and treelines along the route and the necessity for removal/felling, there is a potential for impact on birds. Bespoke mitigation measures will be included in the Standalone Bird Survey Report produced by OCSC (2024) Therefore, only general mitigation for birds will be considered in this report.

Invasive Species

Three invasive species were found on site, Cherry Laurel (*Prunus laurocerasus*), Sycamore maple (*Acer pseudoplatanus*) and Butterfly-bush (*Buddleja davidii*). Mitigation measures for these are proposed in chapter 7.

Hedgehogs

Due to their presence on site, hedgehogs could be affected by removal/felling of hedgerows. Mitigation measures to reduce impact to hedgehogs are proposed in chapter 7.

6.3 CUMULATIVE IMPACTS

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.

The effects of the proposed construction are likely to be confined to the immediate area of the site and will be limited to habitat loss and habitat degradation of commonly occurring and widespread habitats as well as temporary disturbance and displacement of species within the immediate surroundings of the site. These effects are not thought to be significant subject to the implementation of design and construction phase mitigation measures.

Grants of planning in the vicinity of the site were reviewed to identify works of a significant scale which may produce in-combination effects with the proposed works. The following planning grants of larger than single domestic scale were identified:

- **D23A/0456 (Blathas Property Ltd.)** Development on a site of approx. 0.77 ha at Crohamhurst, Sandyford Road, Dublin 18, (D18W9Y5) and adjoining lands at the junction of Sandyford Road and Blackglen Road, Lamb's Cross, Dublin 18. The development will consist of the demolition of the existing single storey dwelling, garage, boiler house, 2 no. dwarf block walls and associated structures at 'Crohamhurst' (approx. 209.8 sq m) and the construction of a new Neighbourhood Centre and Residential Development in 3 no. new build Blocks A, B and C ranging between 3 - 6 storeys in height over part 1 and part 2 storey basement level. The development consists of 80 no. residential apartment units (22 no. 1 bed units; 41 no. 2 bed units; and 17 no. 3 bed units) and associated residential amenity space; a supermarket and associated off licence; a restaurant / bar and associated winter garden; 2 no. retail units (a pharmacy and a beauty/hair salon); an ATM area; a health centre; and a café.
- **D21A/0595 (Ultra Dawn Limited)** Permission for development. The development will principally consist of the demolition of the single storey dwelling known as 'The Pastures' and ancillary garage (241 sq m) and the construction of a residential development comprising 33 no. apartments (10 no. one bedroom units, 20 no. two bedroom units and 3 no. three bedroom units) in 2 no. apartment blocks ranging in height from part 3 no. to part 5 no. storeys. The development proposes a total gross floor area of 3,112 sq m.
- **D19A/0744 (Sandyford House Redevelopment Ltd.)** Permission for development. The development will consist of the construction of 15 no. dwellings comprising 1 no. 1.5 storey 3-bedroom detached dwelling
- **ABP31344322 Permission (SHD) (Midsal Homes Limited)** Permission for a strategic housing development. The residential development site, pedestrian connection, entrance works, water services and road works area will provide a total application site area of 0.92 Ha. The proposed development principally consists of the demolition of the existing dwelling and ancillary buildings known as 'Glenina', the existing dwelling known as 'Karuna' and the existing boundary wall fronting Sandyford Road, and the

construction of a residential development principally comprising 137 No. apartments (32 No. 1-bed units, 78 No. 2-bed units and 27 No. 3-bed units) in 4 No. blocks ranging in height from part-1 No. storey to part-6 No. storeys with a part-basement/part-under croft level (at Blocks B, C and D).

- **ABP31166921 (Bridgeclip (Developments) Limited)** Permission for a strategic housing development consisting of the construction of 112 No. Build to Rent Apartments (72 No. one-bedroom apartments; and 40 No. two-bedroom apartments) arranged in 2 No. Apartment Blocks. Block A is principally 4 No. stories in height with a 6 No. storey element, Block B is principally 4 No. stories in height with a 5 No. storey element.
- **ABP31454622 (Ironborn Real Estate Limited)** The development will consist of 436 no 'Build-to-Rent' apartment units (154 no. 1. bedroom units & 284 no. 2 bedroom units) arranged in 9 no blocks ranging in height from 2-8 storeys over 2no. independent single level basements. Private patios/terraces and balconies are provided for some apartment units (not all units have a patio, terrace or balcony). Upper-level balconies are proposed on elevations of all multi-aspect apartment buildings.
- **D20A/0427 (SDR Property Development Ltd.)** Permission. The development will consist of the following: Construction of a Build to Rent (BTR) apartment development comprising a 3-5 storey block with 50 no. apartments (11 no. 1-bed studios, 21 no. 1-bed units, 17 no. 2-bed units, and 1 no. 3-bed unit)
- **ABP31332122 (Heronbrook Properties Limited)** Permission for Strategic Housing Development consists of demolition of the existing, derelict, former residential structures on the site and construction of 101no. residential units and a creche (13,127 sq m gross floor area in total). The residential element comprises a mix of houses (9no. 2-beds, 16no. 3beds, 6no. 4 beds and 1 no. 5 beds); duplexes (3no. 2 beds and 10no. 3 beds) and apartments (14no. 1 beds, 35no. 2 beds and 7no. 3 beds).

Other granted planning permissions in the vicinity of the site pertain primarily to small-scale constructions, change of use, retention of works or works already completed.

There is a high level of proposed construction concentrated within a relatively small area near the site, which may lead to temporary or short-term increases in noise, dust, and traffic. However, due to the distance to the nearest SACs and SPAs and the lack of hydrological connectivity between the site and European and nationally designated sites within the ZoI, in-combination effects of the proposed site works with other nearby existing and proposed developments are predicted to be unlikely, neutral, not significant, and localised. It is concluded that no significant effects on European sites will be seen as a result of the proposed project, either alone or in combination with other projects.

7 MITIGATION

In this section, the minimum mitigation measures to be employed by the appointed Contractor(s) during construction and operation are presented.

7.1 PRE-CONSTRUCTION SURVEYS

At least one month in advance of construction, and within the appropriate season, the following surveys must be carried out:

- Emergence and re-entry surveys (specifically dawn and dusk bat surveys) of the trees along stream with suitability for roosting bats and the trees and hedgerows proposed for felling or removal, if more than 12 months have elapsed since the standalone Bat Survey Report undertaken by OCSC.
- Bird Surveys, if more than 12 months have elapsed since the standalone Bird Survey Report undertaken by OCSC.
- Pre-commencement survey for invasive species, if more than 12 months have elapsed since the survey undertaken for this report.

7.2 PRE-COMMENCEMENT PHASE

The following mitigation measures will be implemented prior to commencement of site works:

- Where a construction compound is located near or adjacent to a watercourse, silt fencing will be installed between the compound and the watercourse.
- All materials and equipment necessary to implement the mitigation for the protection of watercourses will be brought on-site in advance of any works commencing. An adequate amount of silt fencing, clean stone, stakes, etc. will be kept on site at all times.
- All site staff will be advised of best practice methods to be utilised on site through a toolbox talk.
- No equipment should be washed out or cleaned within the work area or near a watercourse.
- Existing trees should be retained where possible. Treelines are of far greater benefit to bats than single, free-standing trees or shrubs as they provide corridors for movement, avoidance of light and predators, a better shelter belt for the clustering of insects, and greater substrate for insect breeding and feeding (bats' food source).
- In the event that amphibians are found within the site area during pre-commencement surveys, temporary habitats, such as wetland or pond structures, should be created nearby to house them during construction. Suitable cover, water, and food resources should also be provided.
- In general, artificial light creates a barrier for commuting bats, so lighting should be avoided where possible. If any external lighting is required, it must be sensitive to the presence of bats commuting in the area. Directional lighting (i.e., lighting which is focused on work areas and not nearby countryside) shall be used.

- Preserve sections of existing hedgerows and trees to provide refuge for hedgehogs.
- Vegetation and Habitat Protection: take measures to protect and preserve existing vegetation and habitats near watercourses. Avoid unnecessary clearance of riparian vegetation and implement buffer zones to prevent soil disturbance and runoff.

7.3 APPROACH TO POLLUTION

The construction phase of the proposed works has the potential to introduce effects such as disturbance due to noise and vibrations, surface water run-off, sedimentation, and potential spread of invasive species. However, the drainage system to be constructed on site will be designed in accordance with the SuDS Manual, and surface water design will be carried out so that the changes to the road will result in runoff that is restricted to a maximum equal to, or less than, the current runoff equivalent.

Further mitigation measures to be employed to reduce the risk of pollution during site works are outlined in Section 7.4.

7.4 CONSTRUCTION PHASE

The main construction phase mitigation measures for this site include:

Construction Site Best Practices:

- When working near the stream, establish a buffer (at least 1 metre) and silt traps to capture runoff from construction activities before it reaches the stream.
- Minimise construction activities near the stream during sensitive periods like heavy rainfall.
- Schedule construction activities to avoid wet or rainy conditions when runoff is more likely.

Vehicle and Equipment Management:

- Regularly inspect and maintain construction vehicles and equipment to prevent oil or fuel leaks.
- Use drip pans and absorbent materials under equipment to catch and contain leaks
- Refuelling of vehicles and machinery shall be done off-site where practicable, or in the absence of this, on an impermeable surface in a specified location away from any watercourse (at least 20m).

Proper Chemical Handling and Waste Disposal:

- Use environmentally friendly and non-toxic materials whenever possible.
- Store and dispose of construction materials, chemicals, and waste in a manner that prevents leakage into the stream.
- Properly manage construction waste and debris by sorting and recycling materials where possible. Dispose of hazardous materials in accordance with environmental regulations.

Minimise Paving:

- Reduce impervious surfaces and paved areas near the stream to limit runoff and the potential for pollutant transport.

Monitoring and Inspections:

- Conduct regular inspections of the construction site to identify and address potential pollution sources.
- Monitor water quality parameters in the stream before, during, and after in-stream works.

Regulatory Compliance:

- Ensure compliance with local, regional, and national regulations related to water quality and environmental protection.

Spill Response Plan:

- Develop a detailed spill response plan that outlines procedures for containment and cleanup of chemical spills and other emergencies.
- Ensure that spill containment measures are in place, including spill kits and absorbent materials, to respond quickly to any accidental release of pollutants, fuels, or chemicals.

The following additional general mitigation should be implemented on the site:

- Construction activities should be limited to daytime hours to minimize disruption to nocturnal animals.
- Train construction personnel on environmental and safety protocols to ensure that they are aware of and adhere to mitigation measures.
- Avoid tree felling and hedgerow removal during hibernation (November to March) and nesting (May to September).
- In the event of hedgehogs being found in the work area, relocate them to nearby safe habitats.
- Use permeable fencing that allow hedgehogs to move freely.
- In the event that bats are found on the proposed development site during construction, demolition, or tree felling/ hedgerow removal, works will immediately cease in that area, and the local NPWS conservation ranger will be contacted. The bats should be removed by hand by a suitably qualified bat surveyor.
- An experienced Ecologist should be on site when required during construction works and site clearance to provide ecological advice to avoid and/or minimise ecological impacts.

7.5 INVASIVE SPECIES MANAGEMENT

It is recommended that standard best practice measures should be employed in line with NRA (2010) and Invasive Species Ireland (2015) guidance documents. Any new infestations should be recorded and mapped. In the event of a discovery of an unrecorded infestation, the following steps should be followed:

- If non-native species such as Himalayan balsam or Japanese knotweed are identified in proximity to the works area, an area of seven metres surrounding the stands should be fenced off as an exclusion zone in line with recommendations from best practice guidelines (NRA, 2010; Invasive Species Ireland, 2015).
- All machinery working within the exclusion zone for Japanese Knotweed and/or Himalayan Balsam should be thoroughly cleaned down by trained personnel. Cleaning should be undertaken before leaving the exclusion zone. A stiff brush should be used to ensure that there is no potential for rhizomes to be present within any soil on vehicles or their tyres, the boots or equipment of any site personnel, or on any other item.

7.5.1 BUTTERFLY BUSH CONTROL AND MANAGEMENT

Physical control – Targeted removal:

For areas with smaller infestations, physical control should be implemented using the following techniques:

- Root Cutting: cut the plants back to the ground in fall or winter, ensuring complete root removal to prevent regrowth from remnant fragments.
- Uprooting: while challenging due to deep woody roots, manually pulling up Butterfly Bush can be effective, but thoroughness is crucial.
- Root Barrier Installation: employ a physical barrier around infested areas to impede further encroachment. Proper installation and maintenance are essential for long-term effectiveness.

Chemical control – Targeted intervention:

For areas with larger infestations, chemical control should be implemented using the following technique:

- Herbicide Use: select an herbicide specifically labelled for Butterfly Bush control (such as Triclopyr or Imazapyr). Adhere strictly to label instructions for safe and effective application. Wear protective clothing and eyewear when handling herbicide.

With careful planning and implementation of mitigation measures, Butterfly Bush can be effectively controlled and prevented from further spreading, safeguarding native ecosystems and biodiversity.

7.5.2 CHERRY LAUREL CONTROL AND MANAGEMENT

Cherry Laurel (*Prunus laurocerasus*) is listed by the NBDC as a high-risk invasive species. All individual Cherry Laurel plants should be removed from the site before work begins or, at the minimum, before the plant begins to flower in April and produce fruit in August. The main method of dispersal is through birds consuming the berries and expelling the seeds in other locations. Removing the plants before their reproductive stage will

prevent any potential spread to other areas within or near the proposed site. Subject to implementation of this control measure, the presence of these plants will have a low potential impact on the proposed works.

Small infestations or individual plants can be manually removed by digging out the entire root system. Ensure that all plant material, including roots, is properly disposed of to prevent re-establishment.

For larger infestations, consider using machinery such as brush cutters, mowers, or chainsaws to cut down Cherry Laurel plants. Follow up with repeated cutting or mowing to weaken the plants and prevent regrowth.

Chemical control is also possible. Apply selective herbicides containing active ingredients such as glyphosate or triclopyr to control dense stands of Cherry Laurel. Use caution to avoid harming non-target plants and follow all label instructions and safety precautions.

7.6 OPERATION PHASE

No mitigation will be necessary during the operational phase.

8 ENHANCEMENT

There is limited scope for biodiversity enhancement due to the nature of the project. Any biodiversity enhancement would have to be enacted primarily through landscape management. Enhancements such as the planting of native wildflowers along the footpath would slightly improve the biodiversity on site and support a wide variety of insects and pollinators. Species such as Devil's Bit Scabious, Bird's-foot-trefoil, Vetch species, Selfheal, Oxeye daisy, and Harebell all provide nectar/honey for bees and butterflies. Carefully selecting species that have a different flowering period will ensure a longer duration of food sources as well as floral display. Further information and resources can be found at https://pollinators.ie/resources/.

Any trees that may be planted on site should be native species such as Rowan, Oak, Hawthorn, Blackthorn, Willow, Ash, Wild cherry, Birch, Hazel and Crab Apple. These trees will provide pollen and fruit for insects, birds and mammals.

9 CONCLUSION

The overall purpose of this report was to assess the ecological standing of the site in its current condition in advance of the works beginning on Hillcrest Road. The proposed improvement scheme at Hillcrest Road will not result in negative effects on the ecology of the area or on sites designated for nature if proper mitigation measures are implemented. Overall, the residual effects are anticipated to be slight.

The report has identified the baseline ecological status of the site along with ensuring compliance with relevant national and European statutory requirements to guarantee that works completed by Dún Laoghaire-Rathdown County Council will not negatively impact environmental receptors.

It is anticipated that the proposed road works have the potential to negatively impact on the immediate surrounding environment. Potential concerns arising from the works include:

- Temporary disturbance of species for the duration of the works,
- Habitat loss,
- Displacement of species, and
- Introduction of silt, sediment, and debris into the Carrickmines Stream

Although some negative impacts have been outlined above for the works in terms of siltation, species disturbance, etc., the implementation of detailed mitigation strategies will reduce the risk of impact on the ecology of the site with no long-term impact on the ecology of the site and protected areas within the ZoI. It is recommended that a pre-construction hedgehog survey be undertaken as well as bird surveys, dawn/dusk bat surveys, and invasive species surveys, if more than 12 months has passed since previous surveys. All invasive species be removed from the site prior to commencement of construction work.

It is concluded that, subject to implementation of proper mitigation measures, the proposed project is not foreseen to give rise to any significant adverse effects on any designated European sites, alone or in combination with other plans or projects.

10 REFERENCES

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11 VERIFICATION

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