5.1 Introduction

5.1.1 Background

This Chapter was prepared by Scott Cawley Ltd.

This Chapter provides an assessment of the potential ecological effects of the proposed development at Boherboy, Saggart, Co. Dublin (Grid Ref: O 04802 26438) to the southwest of Dublin city. The proposed development consists of construction of a Large-scale Residential Development (LRD).

The development will consist of 611 no. dwellings, comprised of 306 no. 2, 3 & 4 bed, 2 & 3 storey, detached, semi-detached & terraced houses, 133 no. 1, 2 & 3 bed duplex units in 12 no. 2-3 storey blocks, and 172 no. 1, 2 & 3 bed apartments in 5 no. buildings ranging in height from 4-5 & 5 storeys. The proposed development also includes a 2-storey crèche (c.630m²). A detailed description of the proposed development is included in Chapter 2 of the EIA report.

Access to the development will by via one no. new vehicular access point from the Boherboy Road, along with vehicular, pedestrian and cyclist connections to adjoining developments at Corbally Heath and Corbally Glade to the east and Carrigmore Green to the north, and pedestrian/cyclist access into Carrigmore Park to the east.

The proposed development provides for (i) all associated site development works above and below ground, including surface water attenuation & an underground foul sewerage pumping station at the northern end of the site, (ii) public open spaces (c. 2.19Ha), (iii) communal open spaces (c. 4,337m²), (iv) hard and soft landscaping and boundary treatments, (v) surface car parking, (vi) bicycle parking, (vii) bin & bicycle storage, (viii) public lighting, and (ix), plant (M&E), utility services & ESB sub-stations, all on an overall application site area of 18.7Ha. In accordance with the South Dublin County Development Plan (2022-2028), an area of c. 1.03Ha within the site is reserved as a future school site.

Scott Cawley Ltd. have previously prepared an Appropriate Assessment Screening report[1] and a Biodiversity Chapter as part of an EIAR[2] for a proposed SHD on the Boherboy Lands (SHD3ABP-313145-22). The original survey area for which field surveys and desktop study were undertaken to inform the biodiversity reports for the SHD planning application did not include the area within the hatched yellow area as illustrated in Figure 5-1 in the southeast of the Boherboy Lands. However, this area is now included in the new Appropriate Assessment and EIAR Biodiversity Chapter for the proposed LRD that encompasses all of the Boherboy Lands.

The lands comprise of two agricultural grassland fields which are separated by a hedgerow and stream. The Corbally stream runs along much of the eastern and southern boundary of the site. The Coldwater stream flows along the western boundary, and the Cooldown stream is noted along the central field boundary on the site. The site also comprises a small area of dis-used grassland, located to the east of the Corbally Stream. Hedgerows and treelines surround the lands. Cattle graze on the

[1] Scott Cawley Ltd. (2021). Saggart Strategic Housing Development. Appropriate Assessment Report.
[2] Scott Cawley Ltd. (2021). Proposed Strategic Housing Development. Boherboy Road, Saggart, Dublin 24, Co. Dublin

agricultural fields, with open cow sheds in the south of the site, adjacent to the entrance from the Boherboy Road. The land is bound by the Boherboy Road (L2008) to the south, agricultural fields to the west, and residential areas to the east.

Figure 5-1: The Proposed Development in relation to the wider surroundings

5.1.2 Aims

The purpose of this chapter is to:

- Establish and evaluate the baseline ecological environment, as relevant to the proposed development
- Identify, describe and assess all potentially significant ecological effects associated with the proposed development
- Set out the mitigation measures required to address any potentially significant ecological effects and ensure compliance with relevant nature conservation legislation
- Provide an assessment of the significance of any residual ecological effects
- Identify any appropriate compensation, enhancement or post-construction monitoring requirements

Scott Cawley have previously prepared an Appropriate Assessment Screening report[3] and a Biodiversity Chapter as part of an EIAR[4] for a previously proposed SHD on the Boherboy Lands, for which permission has been refused (ABP case reference TA06S.313145). A separate stand-alone Appropriate Assessment (AA) Screening Report (Scott Cawley Ltd., 2025) has been prepared and will be submitted as part of the planning application documentation to the planning authority (in this instance South Dublin County Council). The AA Screening Report contains information to inform the competent authority's assessment of potential impacts on European sites as a result of the proposed development either alone or in combination with other plans/projects.

5.1.3 Quality Assurance and Competency of Experts

This Biodiversity chapter for the EIAR was authored by Cathal O'Brien, Jamie Dempsey and Bea Jackon and reviewed by Colm Clarke of Scott Cawley Ltd.

Cathal O'Brien

Cathal O'Brien is a Senior Consultant Ecologist at Scott Cawley Ltd. with over five years' professional ecological consultancy experience in preparing Environmental Impact Assessment Reports (EIARs). Cathal is an Associate Member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and holds a BSc (Hons) in Environmental Biology from University College Dublin and a MSc (Hons) in Ecology from the University of Bremen. He also has over five years' experience across a range of field surveys such as breeding birds, tree inspections for bat roosts, invasive species and other mammal survey including for badger activity as well as habitat surveys. He also has four years' consultancy experience report writing including, preparing Ecological Impact Assessments (EcIAs), Preliminary Ecological Appraisal reports (PEAs), Appropriate Assessment screening reports (AAs) and Planning Compliance and/or Technical Note reports.

Jamie Dempsey

Jamie is a Senior Consultant Ecologist, employed by Scott Cawley Ltd. since April 2023. He obtained a master's degree in Applied Environmental Science from University College Dublin. Since joining Scott Cawley Ltd., he has carried out habitat and protected species (including bat, bird, otter, badger, amphibian, reptile) surveys for a range of projects, including multiple national infrastructure developments, and has authored ecological reports, including AA Screening Reports, NIS, and EIAR Biodiversity Chapters.

Bea Jackson

Bea Jackson is a Senior Consultant Ecologist at Scott Cawley Ltd. and is a Qualifying Member of the Chartered Institute of Ecology and Environmental Management (CIEEM). She holds a BA in Botany from Trinity College Dublin and a MSc in Botany from the same institution. Bea has experience in the surveying of habitats, and for a range of protected species (including bird, bat, otter, badger, amphibian, reptile). Bea has authored and contributed to ecological reports including AA Screening Reports, Natura Impact Statements and Environmental Impact Assessment Reports.

3 Scott Cawley Ltd. (2021). Saggart Strategic Housing Development. Appropriate Assessment Report.
4 Scott Cawley Ltd. (2021). Proposed Strategic Housing Development. Boherboy Road, Saggart, Dublin 24, Co. Dublin

Colm Clarke

Colm Clarke is Associate Director of Terrestrial Ecology with Scott Cawley and has ten year's professional experience in ecological consultancy. He obtained an honours degree in Natural Sciences from Trinity College Dublin, and a Masters in Biodiversity and Conservation from the same institution. Colm is a full member of the CIEEM, a member of Bat Conservation Ireland and Chairperson of the Dublin Bat Group. Colm is Scott Cawley's lead bat ecologist, and regularly prepares derogation licences for bats and their roosts, and oversees the discharge of licence obligations. As part of this work, Colm provides advice on protected species to clients and contractors. Colm is on the CIEEM's EcIA Accreditation Working group, which aims to improve the quality of Ecological Impact Assessment (EcIA) Reports through an accreditation process, and he is an assessor on the EcIA Pilot Accreditation Scheme. Colm is experienced in scoping, preparing, and reviewing EcIA (including EIA Biodiversity Chapters) and in the completion of Appropriate Assessment (AA) Screening and Natura Impact Statement (NIS), and has prepared these reports and acted as internal reviewer (as part of Scott Cawley's quality assurance process) on a range of projects from renewable (Solar and wind energy), residential to industrial and large scale infrastructure (e.g. national road and rail projects). Colm also regularly completes technical peer review and has assessed projects for local authority clients and renewable energy developers. As a member of the Irish Environmental Law Association and regular attendee at IELA seminars, Colm stays abreast of developments in environmental law and how these relate to changes to assessment practices.

5.2 Study Methodology

5.2.1 Scope of the assessment

The study area is defined by the Zone of Influence (ZoI) of the proposed development with respect to the ecological receptors that could potentially be affected.

The ZoI, or distance over which potentially significant effects may occur, will differ across the Key Ecological Receptors (KERs), depending on the potential impact pathway(s). The results of both the desk study and the suite of ecological field surveys undertaken has established the habitats and species present within, and in the vicinity of, the proposed development site. The ZoI and study area was then informed and defined by the sensitivities of each of the KERs present, in conjunction with the nature and potential impacts associated with the proposed development.

The ZoI of habitat loss impacts is confined to within the proposed development boundary.

The ZoI of potential impacts on surface water quality in the receiving environment extends downstream to freshwater, estuarine and coastal ecosystems associated with waterbodies that are hydrologically connected to the proposed development via the Coldwater, Cooldown, and Corbally streams which run south to north along the western boundary, central hedgerow, and eastern boundary respectively. The Corbally Stream also runs along the northern boundary of the site.

The ZoI of air quality effects related to dust deposition is likely to be located within and/or adjacent to the proposed development site boundary.

The ZoI of general construction activities (i.e. risk of spreading/introducing non-native invasive species, dust deposition and disturbance due to increased noise, vibration, human presence and lighting) is not likely to extend more than several hundred metres from the proposed development.

5.2.2 Desk Study

A desk study was undertaken on the 25th September 2025, to collect any available information on the local ecological environment. Consultation was also sought with the relevant statutory bodies (i.e. National Parks & Wildlife Service (NPWS) and Inland Fisheries Ireland (IFI)). The following resources assisted in the production of this report, in addition to those listed in the references section of this report:

- Data on European sites, Natural Heritage Areas (NHAs) or proposed Natural Heritage Areas (pNHAs) as held by the National Parks and Wildlife Service (NPWS) from https://www.npws.ie/protected-sites and https://www.npws.ie/maps-and-data – refer to Appendix 5.1 for descriptions and locations of protected sites in the vicinity of the proposed development

- Records of rare and protected species, as held by the National Biodiversity Data Centre www.biodiversityireland.ie or the NPWS – refer to Appendix 5.2 for all desk study flora and fauna records

- Spatial information relevant to the planning process including land zoning and planning applications from Department of Housing Planning, Community and Local Government web map portal. Available from https://myplan.ie/

- Ordnance Survey Ireland mapping and aerial photography from https://osi.maps.arcgis.com;

- Data on waterbodies, available for download from the Environmental Protection Agency (EPA) web map service. Available from https://gis.epa.ie/EPAMaps/

- Information on soils, geology and hydrogeology in the area available from the Geological Survey Ireland (GSI) online Spatial Resources service. Available from https://www.gsi.ie/en-ie/data-and-maps/Pages/Groundwater.aspx;

- Information on local biodiversity policies and objectives within the South Dublin County Development Plan 2022-2028[5], and the Draft South Dublin County Biodiversity Plan 2020-2026[6];

- Scott Cawley Ltd. (2020). Chapter 5 Biodiversity, Strategic Housing Development, Boherboy, Saggart, Co., Dublin;

[5] South Dublin County Council (2022) County Development Plan 2022-2028

[6] South Dublin County Council (2020) Draft Biodiversity Action Plan for South County Dublin 2020-2026. Plan as published for public display. Accessible from https://www.sdcc.ie/en/services/planning/heritage-and-conservation/connecting-with-nature-a-biodiversity-plan-for-south-dublin-county.pdf

- Information on the location, nature and design of the proposed development supplied by the applicant's design team; and,
- Information on the conservation status of birds in Ireland from Birds of Conservation Concern in Ireland (Gilbert et al., 2021).
- Large-Scale Residential Development on lands at Boherboy, Saggart, Co. Dublin, Hydrological & Hydrogeological Risk Assessment Report (DNV, 2025).
- A summary of the consultation with IFI is provided below. No response was received from the NPWS Development Applications Unit. White clawed crayfish and brown trout are known to be present in the downstream environment in the River Camac;
- The EIAR must address the protection of the Corbally stream, with minimum interference to the riparian zone and maintenance of the watercourse in as natural a condition as possible. The riparian buffer zone that is to be implemented must be maintained for operation and construction;
- The EIAR must provide mitigation measures to protect the Coldwater and Cooldown streams. While these watercourses are seasonally dry, they provide a potential pathway to the downstream environment, and that this must be protected;
- The EIAR must include appropriate mitigation measures over soil management during construction particularly in regards to site reprofiling. Mitigation measures need to be monitored over the construction phase in order to be effective;
- The EIAR must include a commitment to monitoring of petrol interceptors to be used in the SuDS design to ensure continued efficacy during the operational phase;
- IFI recommend the use of clear span structures for stream crossings within the proposed development. If the clear span structure is not possible due to the design constraints, and if the use of a culvert is unavoidable, it is to be designed and installed in a manner that does not inhibit the passage of fish or alter the natural flow regime within the watercourse, as per the IFI guidance. This also requires a seasonal constraint for the period when this can be constructed.

5.2.3 Planning, Policy and Legislation

The collation of ecological baseline data and the preparation of this assessment has had regard to the following legislation and policy documents. This is not an exhaustive list but the most relevant legislative and policy basis for the purposes of preparing this EIAR Biodiversity chapter.

The following international legislation is relevant to the proposed development:

- Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora; hereafter, referred to as the 'Habitats Directive'. The Habitats Directive is the legislation under which the Natura 2000 network[7] was established and special areas of conservation (SACs) are designated for the protection of natural habitat types listed in Annex I, and habitats of the species listed in Annex II, of that directive.

- Directive 2009/147/EEC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds; hereafter, referred to as the 'Birds Directive'. The Birds Directive is the legislation under which special protection areas are designated for the protection of endangered species of wild birds listed in Annex I of that directive.

- Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy hereafter, referred to as the 'Water Framework Directive'. The Water Framework Directive' is the legislation requiring the protection and improvement of water quality in all waters (rivers, lakes, groundwater, and transitional coastal waters) with the aim of achieving good ecological status by 2015 or, at the latest, by 2027.

The following national legislation is relevant to the proposed development:

- Wildlife Acts 1976 to 2021; hereafter collectively referred to as the 'Wildlife Acts'. The Wildlife Acts are the principal pieces of legislation at national level for the protection of wildlife and for the control of activities that may harm wildlife. All bird species, 22 other animal species or groups of species, and 86 species of flora are protected under this legislation.

- Planning and Development Acts 2000 to 2021; hereafter collectively referred to as the 'Planning and Development Acts'. This piece of legislation is the basis for Irish planning. Under the legislation, development plans (usually implemented at local authority level) must include mandatory objectives for the conservation of natural heritage and for the conservation of European Sites. It also sets out the requirements in relation to environmental assessment with

[7] The Natura 2000 network is a European network of important ecological sites, as defined under Article 3 of the Habitats Directive 92/43/EEC, which comprises both special areas of conservation and special protection areas. Special conservation areas are sites hosting the natural habitat types listed in Annex I, and habitats of the species listed in Annex II, of the Habitats Directive, and are established under the Habitats Directive itself. Special protection areas are established under Article 4 of the Birds Directive 2009/147/EC for the protection of endangered species of wild birds. The aim of the network is to aid the long-term survival of Europe's most valuable and threatened species and habitats.
In Ireland these sites are designed as *European sites* - defined under the Planning Acts and/or the Birds and Habitats Regulations as (a) a candidate site of Community importance, (b) a site of Community importance, (c) a candidate special area of conservation, (d) a special area of conservation, (e) a candidate special protection area, or (f) a special protection area. They are commonly referred to in Ireland as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

respect to planning matters, including transposition of the Habitats and Birds Directive into Irish law.

- European Communities (EC) (Birds and Natural Habitats) Regulations 2011 to 2015; hereafter the 'Birds and Habitats Regulations'. This legislation transposes the Habitats and Birds Directives into Irish law. It also contains regulations (49 and 50) that deal with invasive species (those included within the Third Schedule of the regulations).

- European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003). This legislation transposes the Water Framework Directive into Irish Law.

- Flora (Protection) Order, 2022. This lists species of plant protected under Section 21 of the Wildlife Acts.

The following plans and policies are relevant to the proposed development:

- South Dublin County Development Plan 2022-2028 (South Dublin County Council, 2022)

- All-Ireland Pollinator Plan 2021-2025 (National Biodiversity Data Centre, 2021)

- Draft Biodiversity Action Plan for South Dublin County 2020-2026 (South Dublin County Council, 2020). This lists South Dublin County's objectives and actions in relation to biodiversity within the county boundary and how they align with those listed in the 4th National Biodiversity Action Plan 2023-2030 (NPWS, 2023).

- South Dublin County Council Tree Management Policy (South Dublin County Council, 2021).

- 4th National Biodiversity Action Plan 2023-2030 (Department of Housing, Local Government and Heritage, 2023).

5.2.4 Field Survey Methodology

This section describes the ecological surveys carried out to inform the ecological assessment presented in this chapter.

5.2.4.1 Habitats and Flora Survey

General Habitat Surveys

Initial habitat surveys for a previous planning application for the site were carried out on the 29th June 2020, with follow-up habitat surveys completed on the 1st March 2021. An updated habitat survey was undertaken of the proposed development site on the 4th April 2023, with a subsequent habitat survey was undertaken on the 7th April 2025 , following the methodology described in *Best Practice Guidance for Habitat Survey and*

Mapping[8]. All habitat surveys were completed by Scott Cawley Ltd. A hedgerow appraisal of the Boherboy townland boundary hedgerow, and the site's western, southern and central hedgerows was undertaken as part of the habitat survey on the 7th April 2025 following the methodology described in *Hedgerow Appraisal System - Best Practice Guidance on Hedgerow Survey, Data Collation and Appraisal*[9] in order to better support the ecological assessment with respect to these linear features in line with the South Dublin County Council's Development Plan regarding green infrastructure and natural heritage.

All habitat types were classified using the *Guide to Habitats in Ireland*[10], recording the indicator species and abundance using the DAFOR scale[11] and recording any species of conservation interest. Vascular and bryophyte plant nomenclature generally follow that of *The National Vegetation Database*[12], having regard to more recent taxonomic changes to species names after the *New Flora of the British Isles*[13] and the British Bryological Society's *Mosses and Liverworts of Britain and Ireland: A Field Guide*[14].

Detailed Botanical Surveys

Detailed botanical surveys were completed following the original preplanning meeting with SDCC and comprised the collection of relevé data for habitats that exhibited affinities to marsh habitat. The selection of locations for the collection of relevé data was based on the following procedure:

- Description of marsh habitat by SDCC's biodiversity officer;
- Identification of wet grassland and possible marsh habitats in field by the botanical surveyor;
- Completion of a desk-based review of the full botanical dataset gathered during the general habitat surveys by an experienced botanist to identify those habitats with potential to overlap with marsh habitat, and a review of historical aerial orthophotography to identify areas of wet ground within the site.

A subset of habitat polygons was identified on foot of the above process, and this subset of polygons was surveyed for the collection of relevé data. Relevé data was collected in December 2024. These sites were subsequently revisited in July 2025, within the optimal season for habitat surveys (Smith et al., 2011). Relevé size was determined by habitat, type with 2m x 2m relevés collected for grassland and marsh

8 Smith, G.F., O'Donoghue, P., O'Hora, K. & Delaney, E. (2011) Best Practice Guidance for Habitat Survey and Mapping. The Heritage Council Church Lane, Kilkenny, Ireland.
9 Foulkes, N., Fuller, J., Little, D., McCourt, S. and Murphy, P. (2013). Hedgerow Appraisal System - Best Practice Guidance on Hedgerow Survey, Data Collation and Appraisal. Woodlands of Ireland, Dublin.
10 Fossitt, J.A. (2000) A Guide to Habitats in Ireland. Heritage Council, Kilkenny.
11 The DAFOR scale is an ordinal or semi-quantitative scale for recording the relative abundance of plant species. The name DAFOR is an acronym for the abundance levels recorded: Dominant, Abundant, Frequent, Occasional and Rare.
12 Weekes, L.C. & FitzPatrick, Ú. (2010) The National Vegetation Database: Guidelines and Standards for the Collection and Storage of Vegetation Data in Ireland. Version 1.0. Irish Wildlife Manuals, No. 49. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.
13 Stace, C. (2019) New Flora of the British Isles. 4th Edition. C&M Floristics.
14 Atherton, I., Bosanquet, S. & Lawley, M. (2010) Mosses and Liverworts of Britain and Ireland: A Field Guide. Latimer Trend & Co., Plymouth.

habitats. The outputs of relevé datasets were evaluated against the definitions of Annex I habitats in their Irish context as per the following publications:

- The definition of *Molinia* meadows [6410] habitat in the Irish context as per *The monitoring and assessment of three EU Habitats Directive Annex I grassland habitats* (Martin *et al.*, 2018)[15]

- The definition of hydrophilous tall herb swamp [6430] habitat in the Irish context as per *The Irish semi-natural grasslands survey 2007-2012* (O'Neill *et al.*, 2013)[16].

5.2.4.2 Fauna Surveys

Terrestrial Mammals (Excluding Bats)

Initial mammal surveys were conducted on 29th June 2020,and again on the 1st March 2021 to support a previous planning application for a Strategic Housing Development (SHD) submitted to the South Dublin County Council (ACP Ref: TA06S.313145; SDCC Ref: SHD3ABP-304828-19) in the agricultural lands, located to the west of the Corbally Stream. Subsequent terrestrial fauna surveys (excluding bats) were undertaken on the 4th April 2023 of the entire lands within the proposed development boundary. An updated survey was undertaken on the 7th April 2025. A camera trap was deployed on the 2nd July 2025 and 29th September 2025 (for 7 days and 9 days respectively) to capture any mammal activity and evidence of use adjacent to mammal holes previously recorded on site. The presence/absence of terrestrial fauna species were surveyed through the detection of field signs such as tracks, markings, feeding signs, and droppings, as well as by direct observation. The habitats on site were assessed for signs of usage by protected/red-listed fauna species, and their potential to support these species. Surveys to check for the presence of badger setts and/or otter holts within the study area, and to record any evidence of use, were undertaken.

Otter signs

Initial surveys for signs of the presence of otter (*Lutra lutra*) were undertaken on 29th June 2020 and 1st March 2021. Follow-up surveys were carried out on 4th April 2023, and 7th April 2025. All surveys were conducted by Scott Cawley Ltd. The lands were assessed for field signs of otter, including evidence of spraints within or adjacent to watercourses couches, holts or slides along banks.

Breeding birds

Two full seasons of breeding bird surveys were undertaken by Scott Cawley Ltd. ecologists in 2023 and 2024 (see Table 5-1). Breeding bird surveys were also carried out on the 15th and 26th June 2020 by Brian Porter, an independent ornithologist, and

[15] Martin, J.R., O'Neill, F.H. & Daly, O.H. (2018). The monitoring and assessment of three EU Habitats Directive Annex I grassland habitats. Irish Wildlife Manuals, No. 102. National Parks and Wildlife Service, Department of the Arts, Heritage and the Gaeltacht, Dublin.

[16] O'Neill, F.H., Martin, J.R., Devaney, F.M. & Perrin, P.M. (2013). The Irish semi-natural grasslands survey 2007-2012. Irish Wildlife Manuals, No. 78. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin.

on the 27th May and 18th June 2021 by Scott Cawley Ltd. to inform a previous planning application for a SHD in the agricultural lands, west of the Corbally Stream. The survey methodology was adapted from the *Bird Monitoring Methods - A Manual of Techniques for Key UK Species* [17]. The study area covered the lands within the red line boundary and a buffer of 50m from it. Lands within the study area were slowly walked in a manner allowing the surveyor to come within 50m of all habitat features. Birds were identified by sight and song, and general location and activity were recorded using the British Trust for Ornithology (BTO) species and activity codes. Bird species nomenclature follows Collins Bird Guide[18]. The survey details are provided in Table 5-1 below.

Table 5-1: Details of breeding bird surveys undertaken within the Proposed Development site

Date (Sunrise)	Survey Time	Weather Conditions
16/06/2020 (04:58)	05:28 - 08:18	Mostly clear in near calm dry conditions with temperatures of 11-16°C.
26/06/2020 (05:00)	05:40 - 08:21	Scattered clouds, dry in a light breeze with temperatures around 8°C.
27/05/2021 (05:10)	05:40 – 08:30	Dry, mild with no clouds, temperatures of 12-16°C.
18/06/2021 (04:57)	05:30 – 08:10	Dry, partly cloudy, temperatures of 9-14°C. Slight breeze.
05/04/2023 (06:32)	07:18 - 10:20	Scattered clouds, dry with temperatures around 8°C. Gentle south-westerly breezes.
18/05/2023 (05:23)	06:55 - 09:15	Mostly cloudy and mild with temperatures of around 10°C. Dry with a light south-south-westerly breeze.
09/06/2023 (05:00)	05:32 - 09:30	Scattered clouds with temperatures around 10°C. Dry in light easterly breezes.
17/04/2024 (06:20)	06:20 - 09:35	Scattered clouds, dry with temperatures of around 4°C. Light westerly breezes.
16/05/2024 (05:25)	05:35 – 09:38	Overcast, very misty with temperatures around 9°C. Light north-north-westerly breezes.
14/06/2024 (04:58)	05:00 - 08:00	Overcast, dry with temperatures of around 11°C. Moderate south-westerly breezes.

Wintering Birds

Wintering bird surveys were undertaken from November 2023 to March 2024 as part of the updated baseline surveys. Wintering bird surveys were undertaken on the 10th

17 Gilbert, G., Gibbons, D.W. & Evans, J. (1998) *Bird Monitoring Methods - A Manual of Techniques for Key UK Species*. RSPB: Sandy

18 Svensson, L., Mullarney, K., Zetterstrom, D. (1999) *Collins Bird Guide. The Most Complete Field Guide to the Birds of Britain and Europe*. Harper Collins, London.

November 2023, 14th December 2023, 16th January 2024, 14th February 2024 and 15th March 2024 by Scott Cawley Ltd. Additional surveys were undertaken in September and October 2025 by Scott Cawley Ltd. Surveys were also completed for a previous planning application submitted to the South Dublin County Council (ACP Ref: TA06S.313145; SHD3ABP-313145-22) on 25th February 2020, 19th and 23rd March 2020, 17th February and 18th March 2021 by Scott Cawley Ltd. As land use within the proposed development site remains unchanged for the current planning application, the data from these surveys has been incorporated to inform this biodiversity chapter.

The study area covered the lands within the red line boundary including lands within the proposed development areas of agricultural grassland, patches of wet grassland and an area of recolonising bare ground which abounds the Boherboy Road (L2008), residential areas to the east, and agricultural fields to the west. Lands were surveyed visually using binoculars/scope from two vantage points within the study area. Vantage Point 1 comprised the eastern field, and Vantage Point 2 was located in the western field (see Figure 5-2). Vantage point surveys were followed by a walkover of each field to identify evidence of usage by wildfowl such as waders, swans or geese (e.g. droppings). Birds were identified by sight and general location and activity were recorded using the British Trust for Ornithology (BTO) species and activity codes. Bird species nomenclature follows Collins Bird Guide (Svensson, 1999)[18]. The survey details are provided in Table 5-2 below.

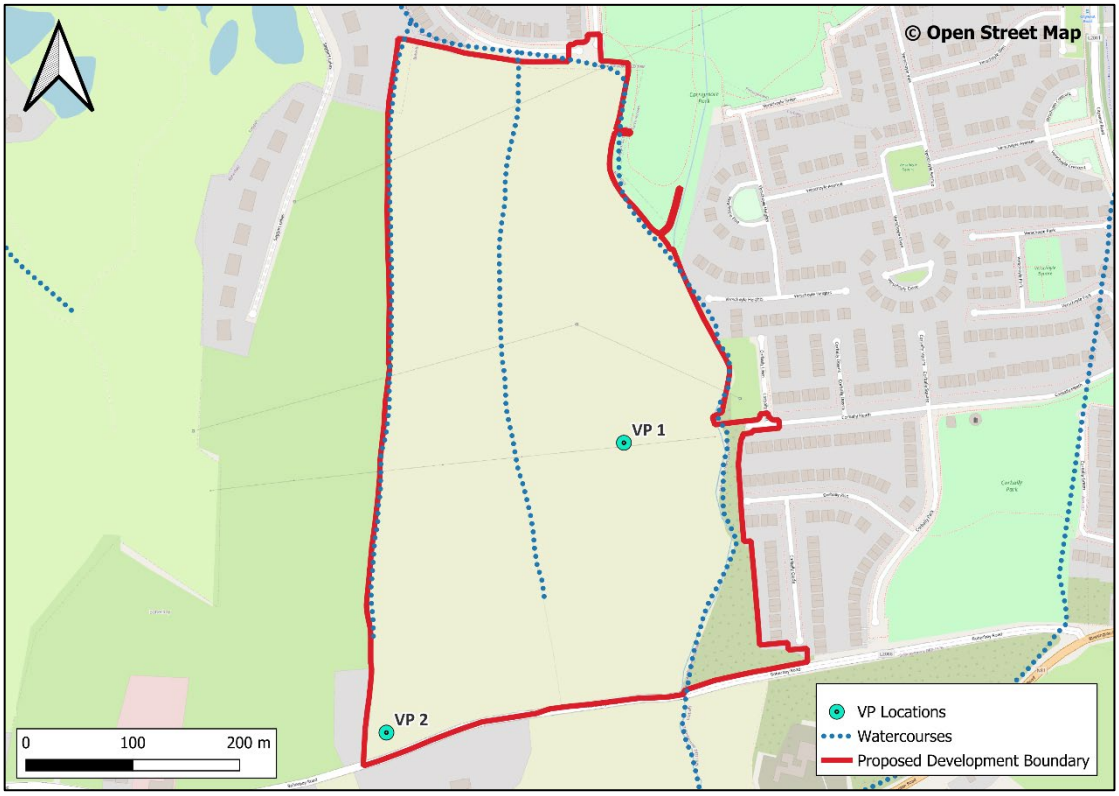


Figure 5-2: Vantage Point (VP) Locations within the Proposed Development

Table 5-2 Details of wintering bird surveys undertaken within the Proposed Development

Date	Survey Time	VP No.	Weather Conditions
25/02/2020	09:20 - 12:20	1	Scattered clouds with temperatures of around 4°C. Strong westerly wind. Dry
25/02/2020	13:42 - 16:42	2	Overcast with temperatures of around 4°C. Strong westerly breeze. Rain/snow showers.
19/02/2020	09:45 – 12:45	2	Mostly clear with temperatures of around 7°C. Light south-westerly breeze. Dry.
23/03/2020	13:50 - 16:30	1	Scattered clouds with temperatures of around 14°C. Moderate southerly wind. Dry.
17/02/2021	09:00 - 12:00	1	Partly cloudy with temperatures of around 8°C. Moderate southerly wind. Showers.
17/02/2021	13:00 - 16:00	2	Partly cloudy with temperatures of around 8°C. Moderate southerly wind. Showers.
18/03/2021	08:45 – 11:45	2	Overcast with temperatures of around 10°C. Light westerly breeze. Dry.
18/03/2021	12:30 – 15:30	1	Overcast with temperatures of around 10°C. Light westerly breeze. Dry.
10/11/2023	09:00 - 12:00	1	Mostly clear with temperatures of around 3°C. Gentle west-south-westerly breeze. Dry.
10/11/2023	12:50 - 15:40	2	Scattered cloud with temperatures around 8°C. Gentle westerly breeze. Dry.
14/12/2023	08:45-11:45	1	Mostly cloudy with temperatures of around 7°C. Fresh westerly breeze. Dry.
14/12/2023	12:25-15:25	2	Overcast with temperatures around 8°C. Fresh westerly breeze. Dry.
16/01/2024	09:05-11:50	1	Partly cloudy with temperatures of around 0°C. Gentle south-westerly breeze. Dry.
16/01/2024	12:45-15:30	2	Scattered clouds with temperatures around 2°C. Gentle south-westerly breeze. Dry.
14/02/2024	08:00-11:00	1	Overcast, with temperatures of around 11°C. Light south-westerly breeze. Dry.
14/02/2024	11:10-14:10	2	Mostly cloudy with temperatures around 12°C. Light south-westerly breeze. Light drizzle.
14/03/2024	09:00-12:05	1	Mostly cloudy with temperatures of around 11°C. Gentle southerly breeze. Light drizzle.
14/03/2024	12:50-16:00	2	Broken cloud with temperatures of around 13°C. Gentle southerly breeze. Dry.
29/09/2025	9:00-11:00	1	Overcast with temperatures of around 10°C. Gentle south-westerly breeze. Dry.
29/09/2025	11:00-13:00	2	Overcast with temperatures of around 10°C. Gentle south-westerly breeze. Dry.
08/10/2025	14:00-15:45	1	Mostly cloudy with temperatures around 14°C. Moderate westerly breeze. Dry.
08/10/2025	15:45-17:30	2	Mostly cloudy with temperatures around 14°C. Moderate westerly breeze. Dry.

Bats

The initial bat roost inspection and ground level tree assessments for the site were carried out on 29th June 2020 as part of the initial surveys for a previous planning application submitted to the South Dublin County Council (SHD3ABP-313145-22). Farm sheds within the site were also inspected for suitability for use by roosting bats. An updated bat roost appraisal and ground-level assessment of all buildings and trees within the subject lands, to examine their suitability to support roosting bats and potential to act as important landscape features for commuting/ foraging bats, was completed on the 4th April 2023. A subsequent bat roost appraisal and ground-level tree assessment survey was completed on the 7th April 2025.

The assessment was based on guidelines in *Bat Surveys for Professional Ecologists: Good Practice Guidance*[19] (Table 5-3 and Table 5-4) and included inspections of structures and trees for potential roost features (PRFs), and for signs of bats (staining at roost entrances, droppings, carcasses, insect remains).

Table 5-3: Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, applied according to professional judgement. (Taken from Collins (2023))

Potential Suitability	Description	
	Roosting habitats in structures	**Potential flight-paths and foraging habitats**
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels)	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviours
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions, and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats).	Habitat that could be used by small number of bats as flight-paths such as gappy hedgerow or unvegetated stream, but isolate, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.

[19] Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidance 4th edition*. The Bat Conservation Trust, London.

Potential Suitability	Description	
	Roosting habitats in structures	Potential flight-paths and foraging habitats
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lines watercourses and grazed parkland. Site is close to and connected to known roosts.

Table 5-4: Guidelines for categorising the potential suitability of PRFs on a proposed development site for bats, applied using professional judgement

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

Two separate bat activity surveys were undertaken within the lands by Scott Cawley Ltd. surveyors in the summer season in 2023 and 2024 (see Table 5-5 for full details). A bat activity survey was also undertaken by Scott Cawley Ltd. surveyors in 2025, to capture bat activity on site within the spring season (i.e. April/May) as per the BCT Guidelines[20]. Initial bat activity surveys were undertaken in June and July 2020. The surveys were designed with reference to methodologies in *Bat Surveys for Professional Ecologists: Good Practice Guidelines*[13], and survey details are provided in Table 5-5. Surveys involved activity surveys of walked transects along the boundaries of the proposed development site. Bat activity was recorded using a handheld bat detector (Batlogger-M2). Recordings collected in the field were analysed using specialist sound analysis software (Elekon BatExplorer) to aid in the identification of bat species by their calls, (where this was possible), using professional judgement and with reference to *British Bat Calls: A Guide to Species Identification*[21].

[20] Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

[21] Russ, J. (2012) British Bat Calls: A Guide to Species Identification. Pelagic Publishing, Exeter, United Kingdom. ISBN 978-1-907807-25-1.

Table 5-5: Details of bat surveys undertaken within the proposed development site

Date	Survey Time (Sunset)	Survey Type	Surveyor(s)	Weather Conditions
25/06/2020	21:30–23:52 (21:57)	Dusk Activity Survey	Scott Cawley Ltd.	Warm, humid weather (18-21°C), little wind. Very light showers.
23/07/2020	21:20–23:38 (21:35)	Dusk Activity Survey	Independent Ecologist – Kevin Delahunty	Dry and overcast, with temperatures around 19°C. Light breeze.
07/06/2023	22:10 - 23:50 (21:49)	Dusk activity survey	Scott Cawley Ltd.	Mild, mostly clear with temperatures around 12-13°C and light wind.
13/07/2023	03:44 - 05:30 (05:15)	Dawn activity survey	Scott Cawley Ltd.	Partially overcast with temperatures around 10-12°C. No rain in calm conditions.
12/06/2024	21:35–00:08 (21:53)	Dusk activity survey	Scott Cawley Ltd.	Mostly clear with temperatures around 12°C. No rain in calm conditions.
17/07/2024	21:08–22:36 (21:42)	Dusk activity survey	Scott Cawley Ltd.	Mostly clear with temperatures around 16°C. No rain in calm conditions
14/05/2025	21:02–23:17 (21:17)	Dusk activity survey	Scott Cawley Ltd.	Mostly clear with a light breeze and temperatures around 8°C. No rain in calm conditions

Amphibians and Reptiles

An assessment of habitat suitability for amphibians and reptiles was completed on the 7th April 2025, and previously on 4th April 2023, and 29th June 2020 by Scott Cawley Ltd. Suitable habitat for amphibians, such as ponds and wet ditches, and for reptiles, such as stone walls, rocks or logs suitable for basking, were recorded and mapped, as well as any direct observations of individuals.

Aquatic Surveys

Surveys of the Coldwater, Cooldown and Corbally Streams were conducted on the 9th July 2025 and the 26th July 2023. Survey effort focused on both instream and riparian habitats in the vicinity of each survey site (Figure 5-3). The surveys were conducted during bright weather and base flow riverine conditions. The watercourses at each survey site were described in terms of the important physical characteristics for both macro-invertebrates and white-clawed crayfish (WCC).

A broad aquatic habitat assessment was conducted utilising elements of the methodology given in the Small Stream Risk Score (SSRS) (EPA, 2015). All sites were assessed in terms of:

- Physical watercourse/waterbody characteristics (i.e., width, depth etc.)
- Substrate type, listing substrate fractions in order of dominance (i.e., bedrock, boulder, cobble, gravel, sand, silt etc.)
- River profile in the sampling area
- An appraisal of the macrophyte and aquatic bryophyte community at each site

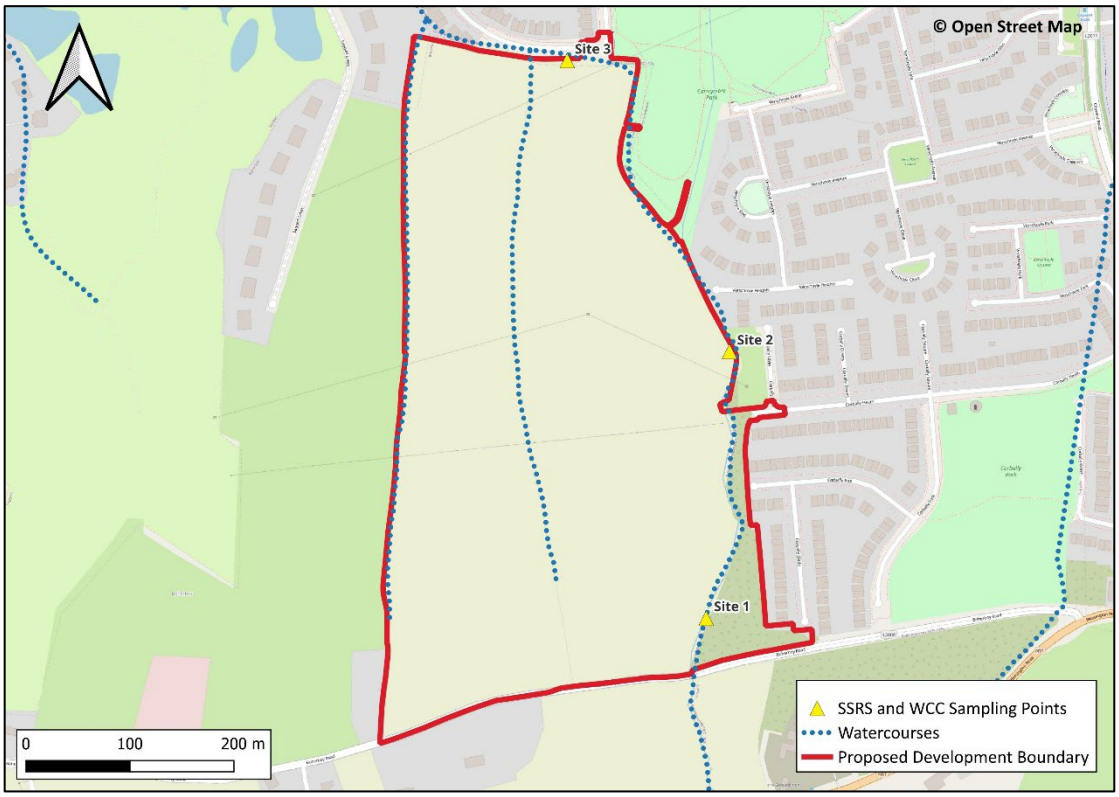


Figure 5-3: The locations of SSRS and WCC sampling points within the proposed development site

White-clawed crayfish

White-clawed crayfish (*Austropotamobius pallipes*) surveys were undertaken at the aquatic survey sites on the 26th July 2023 by Scott Cawley Ltd. ecologists under the NPWS licences C01/2023 and C02/2023 to capture and release crayfish to their site of capture, under condition no. 5 of the licence. As per Inland Fisheries Ireland recommendations, the crayfish licence sampling started at the uppermost site of the survey area to minimise the risk of transfer invasive propagules (including crayfish plague) in an upstream direction.

Hand-searching of instream refugia and sweep netting was undertaken according to Reynolds et al. (2010). Trapping of crayfish was not feasible given the small nature of the watercourses surveyed. An appraisal of white-clawed crayfish habitat at each site

was conducted based on physical channel attributes. Additionally, a desktop review of crayfish records within the wider survey area was undertaken.

A subsequent survey was undertaken conducted on the 9th July 2025 by suitably licensed Scott Cawley Ltd. ecologists following the methodology described above.

Small Stream Risk Score (SSRS)

A total of two number aquatic survey sites were assessed for biological water quality through SSRS on the 26th July 2023, and the 9th July 2025 by Scott Cawley Ltd. The SSRS was undertake at the two survey sites on the Corbally Stream within the subject lands on July 26th following the SSRS methodology as described by the EPA (EPA, 2015)

Aquatic ecological evaluation

The evaluation of aquatic ecological receptors contained within this report uses the geographic scale and criteria defined in the 'Guidelines for Assessment of Ecological Impacts of National Road Schemes' (NRA, 2009).

Biosecurity

A strict biosecurity protocol including the Check-Clean-Dry approach was adhered to during surveys for all equipment and PPE used. Disinfection of all equipment and PPE before and after use with Virkon™ was conducted to prevent the transfer of pathogens or invasive propagules between survey sites. Surveys were undertaken at sites in a downstream order to minimise the risk of upstream propagule mobilisation. Where feasible, equipment was also thoroughly dried (through UV exposure) between survey areas. Any aquatic invasive species or pathogens recorded within or adjoining the survey areas were geo-referenced.

5.2.5 Survey Limitations

Breeding and wintering bird surveys were not undertaken for the 2025 and 2024-2025 season respectively. However, habitat surveys undertaken in December 2024 and April 2025 indicated that there had been no significant change in the suitable habitats present for breeding and wintering bird, therefore it is considered unlikely that there is any significant change in the ecological baseline for breeding and wintering bird species. Therefore, surveys which were not undertaken to inform this biodiversity chapter of the EIAR are not considered to pose any limitations to the survey results and assessment of potential impacts to Key Ecological Receptors from the proposed development.

5.2.6 Ecological Evaluation and Impact Assessment

Ecological Evaluation

Ecological receptors (including identified sites of ecological importance) are valued with regard to the ecological valuation examples set out in *Guidelines for Assessment*

of Ecological Impacts of National Roads Schemes: Revision 2[22] and the guidance provided in *Guidelines for Ecological Impact Assessment in the UK and Ireland* [23] – refer to Appendix 5.2 for examples of how ecological importance is assigned. In accordance with these guidelines, important ecological features within what is referred to as the Zone of Influence (ZoI) of the proposed development which are "both of sufficient value to be material in decision making and likely to be affected significantly" are deemed to be 'Key Ecological Receptors' (KERs). These are the ecological receptors which may be subject to significant effects from the proposed development, either directly or indirectly. KERs are those biodiversity receptors with an ecological value of local importance (higher value) or greater.

Impact Assessment

Ecological impact assessment is conducted following a standard source-pathway-receptor model, where, in order for an impact to be established all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism is sufficient to conclude that a potentially significant effect would not occur.

- Source(s) – e.g. pollutant run-off from proposed works
- Pathway(s) – e.g. groundwater connecting to nearby qualifying wetland habitats
- Receptor(s) – e.g. wetland habitats and the fauna and flora species they support

Characterising and Describing the Impacts

The parameters considered in characterising and describing the potential impacts of the proposed development are per the EPA's *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*[24] and CIEEM's *Guidelines for Ecological Impact Assessment in the UK and Ireland*[25] whether the effect is positive, neutral or negative; the significance of the effects; the extent and context of the effect; the probability, duration and frequency of effects; and 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. The following development types are included in considering cumulative effects:

[22] NRA (2009) *Guidelines for Assessment of Ecological Impacts of National Roads Schemes: Revision 2*. National Roads Authority.
[23] CIEEM (2024) *Guidelines for Ecological Impact Assessment in the UK and Ireland*. Version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester, UK.
[24] Environmental Protection Agency. (2022) *Guidelines on the information to be contained in Environmental Impact Assessment Reports*. April 2022.
[25] CIEEM (2024) *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

- Existing projects (under construction or operational)
- Projects which have been granted consent but not yet started
- Projects for which consent has been applied for which are awaiting a decision, including those under appeal
- Projects proposed at a plan level, if relevant (e.g. future strategic infrastructure such as roads or greenways)

The likelihood of an impact occurring, and the predicted effects, can also be an important consideration in characterising impacts. In some cases, it may not be possible to definitively conclude that an impact will not occur. In these cases, the evaluation of significant effects is based on the best available scientific evidence, but where reasonable doubt remains then the precautionary principle is applied, and it may need to be assumed that significant effects may occur. Professional judgement is used in considering the contribution of all relevant criteria in determining the overall magnitude of an impact.

Significant Effects

In determining whether potential impacts will result in significant effects, the CIEEM guidelines were followed. The approach considers that significant effects will occur when there are impacts on either:

- the structure and function (or integrity) of defined sites, habitats or ecosystems; or
- the conservation status of habitats and species (including extent, abundance and distribution).

Integrity

The term "*integrity*" may be regarded as the coherence of ecological structure and function, across the entirety of a site that enables it to sustain all of the biodiversity or ecological resources for which it has been valued (NRA, 2009).

The term "*integrity*" is most often used when determining impact significance in relation to designated areas for nature conservation (e.g. SACs, SPAs or pNHA/NHAs) but can also be the most appropriate method to use for non-designated areas of biodiversity value where the component habitats and/or species exist with a defined ecosystem at a given geographic scale.

An impact on the integrity of an ecological site or ecosystem is considered to be significant if it moves the condition of the ecosystem away from a favourable condition: removing or changing the processes that support the sites' habitats and/or species; affect the nature, extent, structure and functioning of component habitats; and/or, affect the population size and viability of component species.

Conservation Status

Similar definitions for conservation status given in the EU Habitats Directive 92/43/EEC, in relation to habitats and species, are also used in the CIEEM (2024) and NRA (2009) guidance which are summarised as follows:

- For natural habitats, conservation status means the sum of the influences acting on the natural habitat and its typical species, that may affect its extent, structure and functions as well as its distribution, or the long-term survival of its typical species, at the appropriate geographical scale
- For species, conservation status means the sum of influences acting on the species concerned that may affect the abundance of its populations, as well as its distribution, at the appropriate geographical scale

An impact on the conservation status of a habitat or species is considered to be significant if it will result in a change in conservation status, having regard to the definitions of favourable conservation status provided in the EU Habitats Directive 92/43/EEC – i.e. into the future, the range, area and quality of habitats are likely to be maintained/increased and species populations are likely to be maintained/increased.

According to the CIEEM methodology (2024), if it is determined that the integrity and/or conservation status of an ecological receptor will be impacted on, then the level of significance of that impact is related to the geographical scale at which the impact will occur (i.e. local, county, national, international). In some cases, an impact may not be significant at the geographic scale at which the ecological feature has been valued but may be significant at a lower geographical level. For example, a particular impact may not be considered likely to have a negative effect on the overall conservation status of a species which is considered to be internationally important. However, an impact may occur at a local level on this internationally important species. In this case, the impact on an internationally important species is considered to be significant at only a local, rather than an international level.

5.3 The Existing and Receiving Environment (Baseline Situation)

5.3.1 Subject Lands

The subject lands are located in the townland of Boherboy in Saggart, to the southwest of Dublin city, Co. Dublin. The lands are situated immediately to the south of the Carrigmore residential estate, west of Corbally residential estate and east of agricultural lands. The Boherboy Road forms the southern boundary of the site.

The proposed development lands contain habitats predominantly found in an agricultural setting comprising two fields grazed by cattle with discrete areas of wet grassland in both fields as well as patches of scrub. A relatively small patch of rough grassland occurs in the southeast of the lands, east of the Corbally Stream. The two agricultural fields are divided by a hedgerow and stream known as the Cooldown, while the Corbally Stream abounds the northern and part of the eastern boundaries, and the

Coldwater stream runs along the western boundary. Mature treelines and hedgerows bordered by dry grassy verges, run along the boundaries of the site and along the middle hedgerow and Cooldown stream. The Corbally, Cooldown and Coldwater streams are tributaries of the Camac River, known as EPA waterbody (Camac_20) located to the north of the proposed development site. The Camac River comprises the EPA waterbodies (Camac_20, Camac_30 and Camac_40) which flow into the River Liffey; transitional EPA waterbodies (Liffey Estuary Upper and Liffey Estuary Lower) that ultimately connects the proposed development site to the wider surface waterbody network (i.e. Dublin Bay and the Irish Sea) downstream.

5.3.2 Designated Areas

European Sites

Special Areas of Conservation (SACs) are designated under the EC Habitats Directive (92/43/EEC), which is transposed into Irish law through a variety of legislation including the Birds and Habitats Regulations and the Planning and Development Acts. The legislation enables the protection of certain habitats (listed on Annex I of the Directive) and/or species (listed on Annex II). Special Protection Areas (SPAs) are designated under the Birds Directive (2009/147/EC). This allows for the protection of bird species on Annex I of the Directive, regularly occurring populations of migratory species (such as ducks, geese or waders), and important wetland habitats for birds.

SACs and SPAs are offered additional protection under county development plans, as is the case for the *South Dublin County Development Plan 2022-2028* through Policy NCBH3 on European sites which requires that planning authorities give due regard to their protection in planning policies and decisions (South Dublin County Council, 2022).

The proposed development site is located within the Liffey (Liffey_SC_090) sub-catchment, which is contained within the Liffey and Dublin Bay catchment which drains into the Irish Sea.

The Corbally Stream runs from south to north along much of the eastern boundary of the proposed development and intersects the eastern field, which comprises a small area of rough grassland. It then flows along the northern boundary westwards where the two smaller streams within the site, the Cooldown and the Coldwater, flow into it. The Corbally Stream then merges into the Camac River *c.* 2.5km north of the proposed development site. The Camac then joins the River Liffey *c.* 9.6km northeast of the proposed development and discharges into Dublin Bay. These surface water features, therefore hydrologically link the proposed development to European sites therein.

There are seven SACs and five SPAs either within the vicinity of the proposed development or downstream in Dublin Bay as follows:

- Glenasmole Valley SAC (001209) is located *c.* 4.17km south-east of the proposed development site. This SAC has been designated for the priority Annex I habitats Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites),

Petrifying springs with tufa formation (Cratoneurion), and for *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae).

- Wicklow Mountains SAC (002122), which is *c.* 5.3km south-east of the proposed development site and designated for freshwater, upland and oak woodland habitats, and populations of otter *Lutra lutra*.
- Wicklow Mountains SPA (004040), which is *c.* 8.9km south-east of the proposed development site and designated for merlin *Falco columbarius* and peregrine *Falco peregrinus*.
- Rye Water Valley/Carton SAC (001398), which is *c.* 10.3km north-west of the proposed development site. This SAC has been designated for the priority Annex I habitat Petrifying springs with tufa formation (Cratoneurion), and populations of the Annex II narrow-mouthed whorl snail *Vertigo angustior* and Desmoulin's whorl snail *Vertigo moulinsiana*.
- Red Bog, Kildare SAC (000397), which is c. 11.1km south-west of the proposed development site and designated for transition mires and quaking bogs.
- Poulaphouca Reservoir SPA (004063), which is *c.* 11.3km south-west of the proposed development site and designated for greylag goose *Anser anser* and lesser black-backed gull *Larus fuscus*.
- South Dublin Bay SAC (000210), which is c. 15.8km north-east of the proposed development site and designated for dune and tidal habitats.
- South Dublin Bay and River Tolka Estuary SPA (004024), which is *c.* 15.8km north-east of the proposed development site and designated for a range of wintering wetland bird species.
- North Bull Island SPA (004006), which is *c.* 16.3km north-east of the proposed development site and designated for a range of wintering wetland bird species.
- North Dublin Bay SAC (000206), which is *c.* 19.3km north-east of the proposed development site and designated for a range of coastal habitats, and populations of petalwort *Petalophyllum ralfsii*.
- North-west Irish Sea SPA (004236), which is *c.* 19.8km north-east of the proposed development site and designated for a range of breeding and wintering seabird bird species.
- Rockabill to Dalkey Island SAC (003000), which is c. 22.3km east of the proposed development site and designated for reefs and harbour porpoise *Phocoena phocoena*.

These sites and their location in relation to the proposed development site are illustrated in Figure 5-4.

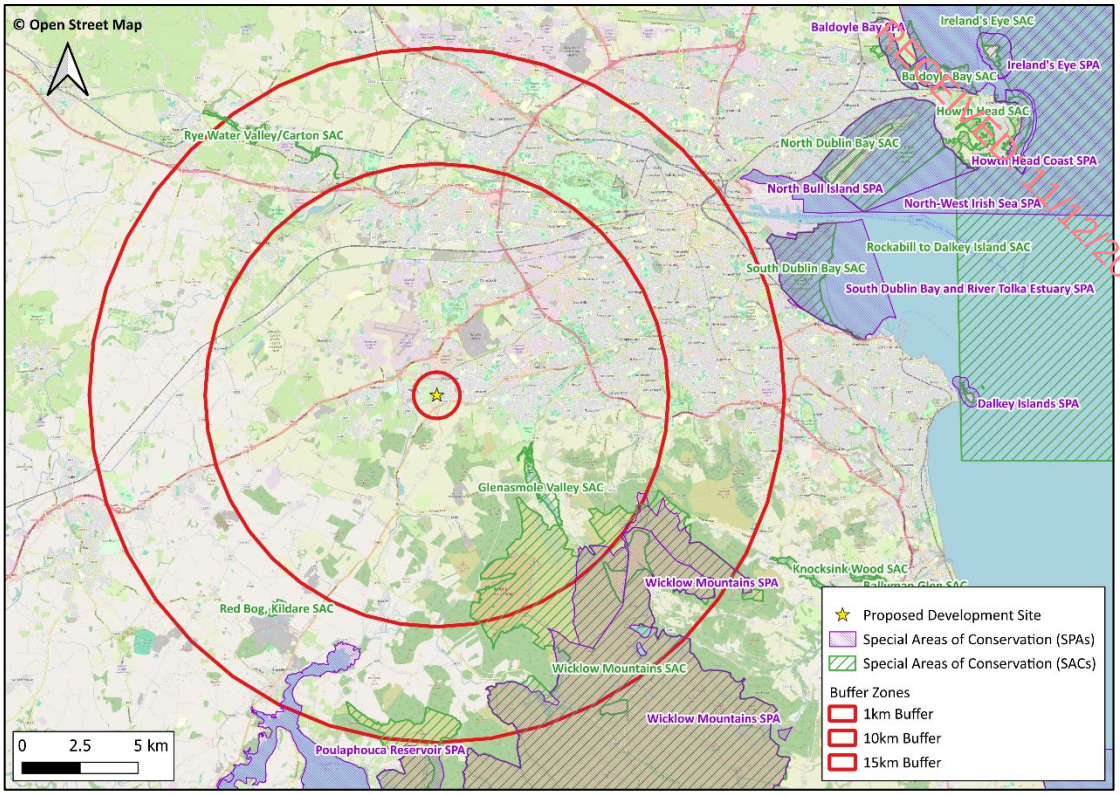


Figure 5-4 European sites in the vicinity of the proposed development site, with indicative buffer distances provided for illustrative purposes

There is no Q-value data available from 2022 for the Corbally, Coldwater and Cooldown streams. However, the Water Framework Directive (WFD) River Waterbody status 2019-2024 is listed as 'Good' for the Camac_020, which includes all three of these waterbodies. These surface water features have been listed as 'At Risk' waterbodies by the EPA. The WFD status (2019-2024) of the Camac_30 and Camac_40 are assessed as 'Poor' and have been listed as 'At Risk' waterbodies by the EPA. The Liffey Estuary Upper Transitional Water Body (TWB) is of 'Moderate' WFD status (2019-2024), while its risk status is under 'Review'. The Liffey Estuary Lower TWB, has 'Moderate' WFD status (2019-2024), and has been projected as 'At Risk' by the EPA. The Dublin Bay Coastal Waterbody (CW) has a WFD status of 'Good' (2019-2024), and is listed as 'Not at risk'. and the water quality is considered to be unpolluted by the EPA[26].

The site overlaps with two Groundwater Bodies (GWB), namely the Kilcullen GWB and the Dublin GWB. The Kilcullen GWB is currently classified by the EPA as having 'Good' status (2019-2024) and is characterised as 'At Risk', while the Dublin GWB is currently of 'Good' status, with its GWB Risk status under 'Review'. The Kilcullen GWB and Dublin GWB overlaps with two European sites that are designated in part for groundwater dependent terrestrial habitats, i.e., Glenasmole Valley SAC and the Rye Water Valley/Carton SAC, respectively. However, the general groundwater flow

[26] https://gis.epa.ie/EPAMaps/

direction in the Dublin GWB is towards the coast and the River Liffey, which is downstream of the Rye Water Valley/Carton SAC. The general groundwater flow in the Kilcullen GWB is in the order of a couple of hundred metres, with discharge occurring to the closest surface water feature. As the site contains three watercourses, there is no hydrogeological connectivity with Glenasmole Valley SAC.

There are four SPAs within the vicinity of the proposed development site, or hydrologically connected to the site, designated for wintering SCI species that are known to forage and/or roost at inland sites in Ireland; Poulaphouca Reservoir SPA (004063) (located is *c.* 11.3km south-west), South Dublin Bay and River Tolka Estuary SPA (004024) (located *c.* 15.8 km northeast), North Bull Island SPA (004006) (located *c.* 16.3 northeast), North-west Irish Sea SPA (004236) (located *c.* 19.8km northeast). There is also one SPA, Wicklow Mountains SPA (004040), located *c.* 8.9km southeast of the proposed development, designated for birds of prey (peregrine and merlin) that are known to not hold exclusive home ranges.

In addition, Wicklow Mountains SAC, which contains a considerable range of QI interests, is designated for mobile QI species (otter *Lutra lutra*) known to utilise wide range of aquatic habitats (freshwater and marine) on the east coast. However, this SAC is not hydrologically connected to the proposed development site.

The subject lands do not contain any habitats for which any European sites have been designated. However, based on a desk study and site surveys, they do contain suitable habitat for qualifying interest or special conservation interest species for which nearby European sites have been designated, as described in Section 5.3.

Nationally Designated Sites

Natural Heritage Areas (NHAs) are designations under the Wildlife Acts in order to protect habitats, species or geology of national importance. The boundaries of many of the NHAs in Ireland overlap with European sites. Although many NHA designations are not yet fully in force under this legislation (referred to as 'proposed NHAs' or pNHAs), they are typically offered protection under planning legislation which requires that planning authorities give recognition to their ecological value[27].

South Dublin County Council includes policies and objectives for the protection of these NHAs within the South Dublin County Development Plan 2022-2028 (South Dublin County Council, 2022).

Policy NCBH2 states to "*Protect, conserve, and enhance the County's biodiversity and ecological connectivity having regard to national and EU legislation and Strategies*". Objective 2 of this policy is "*To ensure the protection of designated sites in compliance with relevant EU Directives and applicable national legislation*." Similarly, objective 3 of this policy is "*To protect and conserve the natural heritage of the County, and to conserve and manage EU and nationally designated sites and non-designated locally*

[27] NPWS (2019). Natural Heritage Areas Webpage. Available online at www.npws.ie/protected-sites/nha. Accessed 15th April 2025.

important areas which act as 'stepping stones' for the purposes of green infrastructure and Article 10 of the Habitats Directive."

Similarly, policy NCBH4 states that it is the policy of South Dublin County Council to "*Protect the ecological, visual, recreational, environmental and amenity value of the County's proposed Natural Heritage Areas and associated habitats and species*". Objective 2 of this policy is "*To restrict development within or adjacent to a proposed Natural Heritage Area to development that is directly related to the area's amenity potential subject to the protection and enhancement of natural heritage and visual amenities including biodiversity and landscapes*".

The subject lands do not overlap with any NHAs or pNHAs (see Figure 5-5). There are 13 national sites located within *c.* 15km of the proposed development, of which all are pNHAs. The nearest nationally designated site is Lugmore Glen pNHA, located *c.* 1.4km southeast of the proposed development.

There are no pNHAs hydrologically connected to the proposed development site within a 15km buffer zone. However, there are other pNHAs such as North Dublin Bay pNHA, South Dublin Bay pNHA and Dolphins, Dublin Docks which are hydrologically connected via surface water network to the proposed development which are located downstream, and are designated for similar reasons as the overlapping European sites.

The pNHAs within the vicinity of the proposed development are as follows:

- Lugmole Glen pNHA (001212), located *c.* 1.4km south west of the proposed development site which has been designated for its example of wooded glen habitat and a Red Data Book species *Lamiastrum galeobdolon*.
- Slade of Saggart and Crooksling Glen pNHA (000211), located *c.* 1.6km south-west of the proposed development site. The site is designated for its good example of wooded river valley and wetland system, and the presence of rare flora and fauna.
- Dodder Valley pNHA (000991), located *c.* 4.8km east of the proposed development site. The site is designated for its last remaining stretch of natural riverbank vegetation on the River Dodder in the built-up Greater Dublin Area and for its biodiversity.
- Glenasmole Valley pNHA (001209), located *c.* 4.2km south-east of the proposed development site. There is no published information available for this designated site from the NPWS. It overlaps with the Glenasmole Valley SAC and is likely to be designated for the same reasons, i.e., for the presence priority Annex I habitats Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites) and Petrifying springs with tufa formation (Cratoneurion), and for Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae).

- Grand Canal pNHA (002103), located *c.* 5.5km north of the proposed development site. The site is designated for its habitats and biodiversity.
- Kilteel Wood pNHA (001394), located *c.* 7.8km south-west of the proposed development site, which is designated for its fine example of deciduous woodland.
- Liffey Valley pNHA (002103), located *c.* 8.6km north of the proposed development site. The site is designated for its diversity of habitat and for rare flora.
- Rye Water Valley/Carton pNHA (001398), located *c.* 10km north-west of the proposed development site. There is no published information available for this designated site from the NPWS. It overlaps with the Rye Water Valley/Carton SAC and is likely to be designated for the same reasons, i.e. the priority Annex I habitat Petrifying springs with tufa formation (Cratoneurion), and populations of the Annex II narrow-mouthed whorl snail and Desmoulin's whorl snail.
- Royal Canal pNHA (002103), located *c.* 10.3km north of the proposed development site. The site is designated for its habitats and biodiversity.
- Poulaphouca Reservoir pNHA (004063), located *c.* 11.3km south-west of the proposed development site. There is no published information available for this designated site from the NPWS. It overlaps with the Poulaphouca Reservoir SPA and is likely to be designated for the same reasons, i.e. wintering populations of greylag goose and lesser black-backed gull.
- Red Bog, Kildare pNHA (000397), located c. 10.8km south-west of the proposed development site. There is no published information available for this designated site from the NPWS. It overlaps with the Red Bog, Kildare SAC and is likely to be designated for the same reasons, i.e. transition mires and quaking bogs.
- Fitzsimon's Wood pNHA (001753), located *c.* 12.7km west of the proposed development site, which has been designated for its good example of birch woodland.
- Glencree Valley pNHA (001755), located *c.* 13.9km south-east of the proposed development site. The site is designated for its good example of deciduous woodland and habitat diversity.
- South Dublin Bay pNHA (000210), located *c.* 15.8km north-east of the proposed development site. There is no published information available for this designated site from the NPWS. It overlaps with the South Dublin Bay SAC and South Dublin Bay and River Tolka Estuary SPA and is likely to be designated for the same reasons, i.e. dune and tidal habitats and wintering bird populations.
- Booterstown Marsh pNHA (004024), located *c.* 15.8km north-east of the proposed development., which is designated for its tidal habitats, rare flora and wintering bird populations.
- North Dublin Bay pNHA (000206), located *c.* 19.3km north-east of the proposed development site. There is no published information available for this designated site from the NPWS. It overlaps with the North Dublin

Bay SAC and North Bull Island SPA and is likely to be designated for the same reasons, i.e. dune and tidal habitats and wintering bird populations.

The nationally designated sites in the vicinity of the proposed development, their distance from the proposed development site and the reason for their designations are presented in Appendix 5.1.

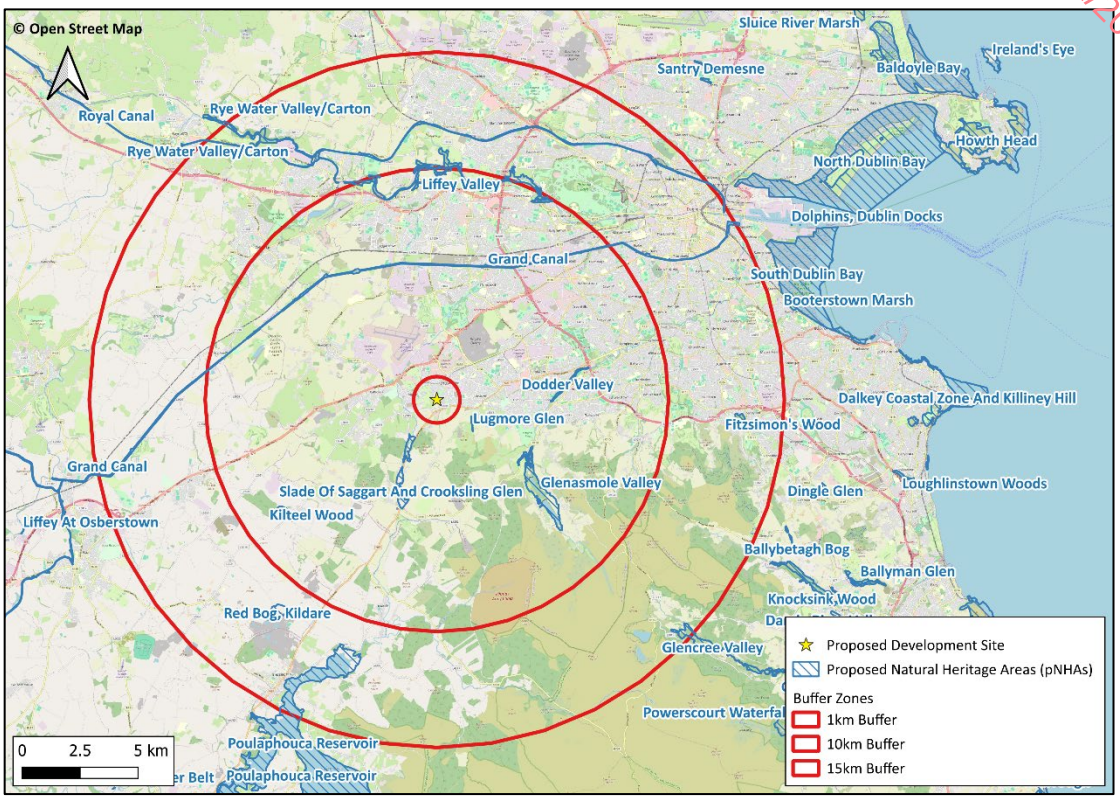


Figure 5-5: Nationally designated sites within the vicinity of the proposed development site.

5.3.3 Habitats and Flora

Habitats

The subject lands contain a range of habitats which are typical of the wider agricultural landscape found to the west and south of the proposed development (see Figure 5-6). A full list of species recorded within each habitat is included in Appendix 5.4.

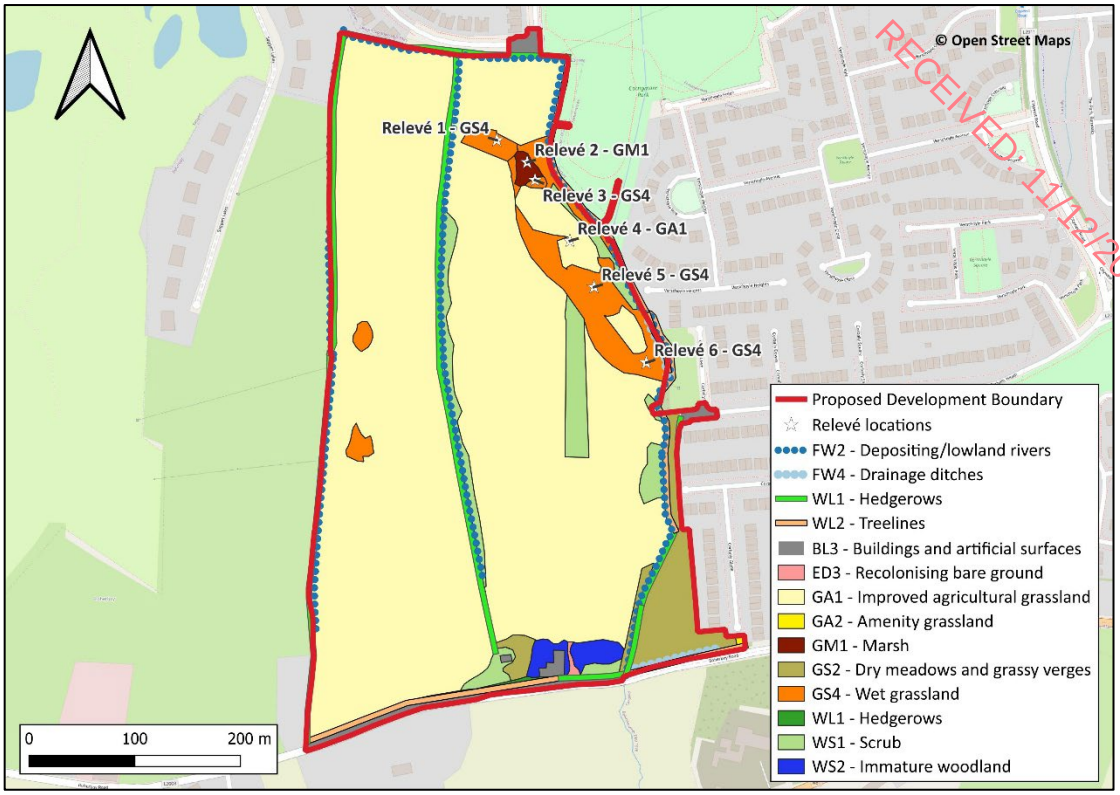


Figure 5-6: Habitats recorded within the proposed development boundary

Buildings and Artificial Surfaces (BL3)

There are six buildings/structures within the proposed development site. All of these are located in the south of the site, with five in the eastern field, and one in the western field. These buildings are a mixture of cattle sheds, and outhouses, all in various states of disrepair. The intact cattle shed lies adjacent to the entrance in the southeast of the site, and consists of stone walls with a corrugated iron roofing, with the remaining section roofless and heavily encroached upon by *Hedera helix* and the surrounding vegetation. A large open dilapidated corrugated structure is also present adjacent to the cattle shed, which had collapsed when surveys were carried out in 2021 (Plate 5-1). Three small outhouses are also present in this field, all of which are in a poor state of disrepair, comprised of a mixture of stone and brick walls, and corrugated roofing. However, most of the roof se7ction are no longer present on these buildings. These buildings are largely open and exposed with encroachment from the surrounding vegetation. The shed in the western field is comprised of concrete stone walls, with a fully intact corrugated iron roof. This building is also heavily encroached upon by the surrounding vegetation, which mainly consisted of ivy *Hedera helix* (Plate 5-2). This habitat is also represented by the Boherboy Road, which lies to the south of the proposed development site, and roads within the Carrigmore Green and Corbally Heath.

This habitat is of local importance (lower value) due to its artificial nature.

Plate 5-1: Cattle shed and outbuildings in the southeast of the site

Plate 5-2: Intact building in the southwest of the site

Recolonising Bare Ground (ED3)

This habitat occurs inside the entrance of the eastern field from the Boherboy Road, adjacent to the cattle shed (Plate 5-3). This area of the site is heavily poached as a result of cattle movement over this area, resulting in bare ground. Plant species identified within this habitat include; *Persicaria maculosa, Jacobaea vulgaris, Rumex acetosa, Rumex obtusifolius*, *Petasites pyrenaicus, Cardamine hirsuta* and *Urtica dioica.*

Recolonising bare ground is a transient habitat that has developed as a result of disturbance and is relatively species poor. Therefore, this habitat is valued as being of a local importance (lower value).

Plate 5-3 Recolonising bare ground in the south of the site.

Improved Agricultural Grassland (GA1)

Agricultural grassland is the dominant habitat type within the proposed development site, and occurs in both the central and western fields in the central part of the site. The western most field is ungrazed, and managed by cutting, whilst the eastern field is grazed by cattle, resulting in areas of heavy poaching and nutrient input from the

livestock (Plate 5-4). Dominant grass species in the eastern field include *Anthoxanthum odoratum*, *Arrhenatherum elatius*, *Lolium perenne, Holcus lanatus,* and *Dactylis glomerata.* The dominant forb species present include; *Rumex acetosa, Urtica dioica, Trifolium repens, Cirsium arvense, Heracleum sphondylium, Ranunculus repens, Rumex obtusifolius, Cerastium fontanum*, and *Jacobaea vulgaris. Cardamine hirsuta* is present in areas that are partly waterlogged due to cattle poaching, with *Sonchus arvensis, Carex hirta, Odontites vernus* and *Potentilla reptans* occasionally occuring in the north of the site. The western field has a similar species composition to the eastern field, with the addition of *Taraxacum officinale agg., Bellis perennis, Rumex crispus*, *Stellaria graminea*, and *Potentilla anserina.*

Two relevés (relevés 3 and 4) were undertaken within this habitat in the eastern field, close to the wet grassland and marsh habitats. See Appendix 5.4 for the relevé survey results.

Given the common and widespread species found within this habitat type, and intensive management, it is of local importance (lower value).

Plate 5-4: Improved agricultural grassland in the western field

Plate 5-5: Improved agricultural grassland in the eastern field

Improved amenity grassland (GA2)

This habitat is species poor and managed for recreational and landscaping purposes. Within the proposed development boundary, this habitat is found within three small area; the proposed access routes into Carrigmore park, to the northeast of the site and Corbally Glade, to the southeast. This habitat is widespread in the surrounding landscape, and is represented by parks, sport pitches and managed lawns in residential areas and commercial properties.

Given the common and widespread species found within this habitat type, its widespread presence in the wider landscape and intensive management, it is of local importance (lower value).

Dry Meadows and Grassy Verges (GS2)

This habitat type is present in both a mosaic habitat with scrub (WS1) in the southwest of the eastern field (Plate 5-6), and on its own in the easternmost field (Plate 5-7), that lies between Corbally Glade and the Corbally Stream.

This habitat present in the south of the eastern field occurs in a mosaic with scrub and is dominated by tall herbs such as *Cirsium vulgare, Cirsium arvense, Rumex crispus, Urtica dioica.* The quality of this habitat is poor, with trampling and cattle poaching evident throughout.

The habitat in the easternmost field is comprised of grasses such as *Dactylis glomerata, Arrhenatherum elatius* and *Holcus lanatus,* and forb species such as *Heracleum sphondylium, Chamaenerion angustifolium, Ranunculus acris, Ranunculus repens, Tussilago farfara, Vicia cracca*, and *Veronica chamaedrys*. There was evidence of dumping of garden waste within this area from the adjacent housing estate. This area contained a high proportion of non-native species, including the aforementioned Third Schedule species *Allium triquetrum* and *Hyacinthoides hispanica.* In addition, to this, several non-Third Schedule non-native invasive species are also present within this area, namely *Petasites pyrenaicus, Buddleja davidii* and *Crocosmia* x *crocosmiiflora.*

The heavy presence of *Urtica dioica* in the eastern field indicates nutrient rich soils which limits the species diversity of this habitat. Due to the limited species diversity and high proportion of non-native invasive species in this habitat, it is valued of local importance (lower value).

Plate 5-6: Dry meadows and grassy verges habitat in the eastern field of local (low) importance

Plate 5-7: Dry meadows and grassy verges habitat in the eastern field of local (low) importance

Wet Grassland (GS4)

This habitat type has a patchy distribution along the western boundary of the eastern field to the east of the Corbally stream (Plate 5-8). This habitat is in poor condition due to frequent cattle poaching. The species composition identified here includes *Juncus effusus, Juncus conglomeratus, Epilobium hirsutum, Carex hirta, Glyceria declinata, Nasturtium officinale, Ranunculus repens, Veronica beccabunga, Potentilla anserina, Cardamine hirsuta, Hypericum tetrapterum,* and *Persicaria maculosa*. Two small, discrete areas of this habitat occur within the central portion of the western field, indicated by the abundance of *Juncus* spp. and the moss *Calliergonella cuspidata.* A drain had been dug on site and was recorded during the habitat surveys in July 2025 in the western area of the southernmost section of this habitat as part of the maintenance for agricultural land on the site.

Three relevés (relevés 1, 5 and 6) were undertaken within this habitat in the eastern field, close to the area of marsh habitat. See Appendix 5.4 for the relevé survey results.

Despite some areas of heavy poaching, as the species assemblage found in this habitat is relatively diverse, it is valued as of local importance (higher value).

Plate 5-8 Wet grassland habitat in the north east of the proposed development

Marsh (GM1)

A small area of marsh habitat occurs in the northeastern part of the eastern field of the site (Plate 5-9). This habitat is indicated by the presence of standing water, and the species *Typha latifolia, Sparganium erectum, Nasturtium officinale, Juncus effusus, Juncus articulatus, Juncus inflexus, Equisetum palustre* and *Calliergon cordifolium.* Scattered *Salix cinerea* also occurs within this habitat type. This habitat grades into the wet grassland habitat at its margins. A drain had been dug on site and was recorded during the habitat surveys in July 2025 in the eastern area of this habitat as part of the maintenance for agricultural land on the site.

A single relevé (relevé 2) were undertaken within this habitat in the proposed development site. See Appendix 5.4 for the relevé survey results.

While this habitat is relatively species poor, it occurs within a mosaic of a habitat that is considered to be of local importance (higher value). Furthermore, marsh habitat has a relatively limited extent in the broader landscape, and it has the potential to develop into a more species rich habitat and supporting habitat to other species. Therefore, this area of habitat is considered to be of local importance (higher value).

Plate 5-9 Marsh habitat in the north east of the proposed development

Scrub (WS1)

Scrub habitat was present in the south of the site, in the south eastern corner of the western most field (Plate 5-10), in a central strip within the eastern field, and at the southern boundary of the eastern field. A small patch of scrub also occurs adjacent to the Corbally residential estate, east of the Corbally Stream. The section of scrub within the central strip of the eastern field and at the southeastern corner of the western field had been cut back at the time of survey in 2025, but showed signs of regrowth of typical scrub species such as *Rubus fruticosus agg.* and *Crataegus monogyna*. This habitat is generally dominated by *Rubus fruticosus agg*. on the proposed development site, but also includes other shrubby and spinose species; *Crataegus monogyna, Prunus spinosa, Sambucus nigra, Rosa canina, Symphoricarpos albus, Lonicera nitida, Heracleum sphondylium, Urtica dioica*, and *Hedera helix*.

This habitat is of local importance (lower value) due to its low species diversity and common nature of the habitat in the wider landscape.

Plate 5-10 Scrub habitat in the south of the proposed development

Immature woodland (WS2)

This habitat type is present in a mosaic with scrub in the eastern field adjacent to the farm buildings (Plate 5-11). This habitat included a mixture of young and mature trees such as *Acer pseudoplatanus, Fraxinus excelsior, Sambucus nigra,* and *Fagus sylvatica.* These trees act as a canopy cover over the scrub habitat, and have started to encroach into the farm buildings.

Due to the variety in habitat this provides in a relatively species-poor area, this habitat is valued as being of local importance (higher value).

Plate 5-11 Immature woodland habitat in the south of the site

Hedgerows (WL1)

Hedgerows are present in the north of the site along the boundary, along the central boundary (Plate *5-12*), and in a mosaic with treelines along the western and eastern site boundaries (Plate 5-13). A hedgerow appraisal has been carried out for all hedgerows within the site, as per Foulkes et al., (2013).

The hedgerows along the central and western boundaries have been heavily managed, consisting of species such as *Crataegus monogyna*, *Prunus spinosa, Euonymus europaeus*, *Lonicera periclynemum*, *Rubus fruticosus,* and *Rosa canina*. Scattered trees, such as *Fraxinus excelsior* are also present within these hedgerows. The understorey flora included *Arum maculata*, *Anthriscus sylvestris*, *Ficaria verna*, *Veronica chamaedrys*, *Viola reichenbachiana*, *Primula vulgaris* and *Solanum dulcamara*.

The central and western hedgerows on the site provide cover and shelter for the local wildlife, and due to their good condition, close association with the treeline habitat, and connection they provide to the wider landscape, are valued as being local importance (higher value).

The hedgerow along the eastern most boundary is well established and is beginning to transition into a treeline. Species identified here include *Crataegus monogyna, Prunus spinosa, Rubus fruticosus agg., Rosa canina, Fraxinus excelsior, Salix caprea, Corylus avellana, Ilex aquifolium, Symphoricarpos alba* and *Sambucus nigra*. Understorey species include *Arum maculata*, *Anthriscus sylvestris*, *Geranium robertianum, Ficaria verna, Veronica chamaedrys, Viola reichenbachiana, Viola riviana, Primula vulgaris* and *Anemonoides nemorosa.* The eastern hedgerow forms

part of the townland boundary between the Boherboy (to the west) and Corbally (to the east) townlands.

Similarly to the eastern hedgerow, the northern boundary hedgerow forms part of the townland boundary between the Boherboy (to the south) and Fortunestown (to the north) townlands. This hedgerow is somewhat patchy in sections along Carrigmore Avenue. Overstorey species identified here include *Crataegus monogyna, Prunus spinosa, Rubus fruticosus agg., Fraxinus excelsior, Salix caprea,* and *Ulex europeaus*.

The eastern and northern hedgerows are both associated with the Corbally stream, provide connectivity with other hedgerow features within the wider landscape and provide cover and shelter for the local wildlife. Furthermore, their status as a townland boundary indicates that their historical significance is high within the wider landscape. Due to their good condition, age, close association with the treeline and depositing/lowland river habitats, and connection they provide to the wider landscape, these hedgerows are valued as being of county importance.

Plate 5-12 Central hedgerow within the site adjacent to the Cooldown stream of local importance (higher value)

Plate 5-13 Eastern boundary hedgerow (occurring in a mosaic with treeline habitat) within the site adjacent to the Corbally stream of County importance

Treelines (WL2)

Mature treelines border the proposed development site, along the southern boundary, and in a mosaic with hedgerows along the western boundary border of the two fields, and the eastern boundary (as described above) (*Plate 5-14* & *Plate 5-15*). A double treeline is also present along the banks of the Corbally Stream. This habitat is present as a well-established, mature treeline, with native and non-natives both occurring. Species found include; *Fraxinus excelsior, Fagus sylvatica*, *Acer pseudoplatanus*, *Salix cinerea*, and *Sambucus nigra*. This habitat occurs alongside hedgerow habitat in some areas, providing extensive cover and shelter for local wildlife, as well as linear commuting corridors. Understorey species include; *Anemonoides nemorosa*, *Anthriscus sylvestris*, *Chrysosplenium oppositifolium*, *Ficaria verna* and *Viola reichenbachiana*.

Due to the mature and good condition of the treelines present within the lands, and the corridors this habitat provides to the surrounding areas, this habitat is valued at local importance (higher value).

Plate 5-14: Treeline habitat along the southern boundary in a mosaic with hedgerow habitat of local (high) importance

Plate 5-15: A mature treeline along the banks of the Corbally Stream of local (high) importance

Depositing/Lowland Rivers (FW2)

This habitat type consists of the Corbally Stream, which flows downstream bordering an agricultural field and a patch of recolonising bare ground before flowing north along part of the eastern boundary (*Plate 5-16*), and along the northern boundary from east to west. This Stream is *c.* 1-2m wide, and *c.* 10-30cm deep at the time of the surveys, and consists of sections of soft, silty substrate for the majority of the stream, with some sections of pebble/small gravel substrate. There is evidence of heavy poaching by cattle along the banks and through the watercourse, as well as dumping where the river is accessible from the neighbouring residential areas at Carrigmore (*Plate 5-17*). Small number of fish were observed within the northern section of the Corbally Stream during the 2025 survey season. Instream vegetation includes *Apium nodiflora*, *Epilobium hirstum*, *Angelica sylvestris*, *Agrimonia eupatoria* and *Nasturtium officinale*. Fringing vegetation includes *Equisetum telmatiea*, *Galium aparine, Filipendula ulmaria, Urtica dioica, Rumex obtusifolius, Rubus fruticosus, Hedera helix,* and *Rumex acetosella.*

Plate 5-16 *Depositing/lowland river habitat (i.e. the Corbally Stream) along the eastern boundary of the site*

Plate 5-17 *Dumping is evident within sections of the depositing/lowland river habitat*

This habitat is also present in the Cooldown Stream, which is present along the central boundary of the two main fields, and the Coldwater Stream, which is present along the western boundary of the proposed development site (*Plate 5-18*). While these watercourses are EPA named watercourses, they are highly canalised and have been

excavated to enhance the drainage of the site, therefore have some ecological characteristics of drainage ditches as defined by the Fossitt habitat classification.[28]

The Cooldown stream had slow flowing water present at the time of survey in 2025. Similarly to the Corbally Stream, the Cooldown was heavily poached by cattle and was very soft underfoot. The stream emerges from a pipe in the southern part of the site. Plant species present along the banks of the Cooldown stream include; *Cardamine hirsuta, Veronica beccabunga, Ranunculus repens, Rumex acetosella, Juncus conglomeratus,* and *Mentha aquatica.* No instream vegetation was recorded.

Plate 5-18 Depositing/lowland river habitat along the central border of the site, which is seasonally dry (the Cooldown stream)

The Coldwater stream along the western field is partially inaccessible and is culverted for a section *c.* 120m in length along the central portion of the stream (*Plate 5-19*). Water levels vary within this stream, which was noted to be mostly dry during surveys in 2020 and 2021. However, the stream was wet during the surveys in 2023 and 2025, with some areas of stagnant and flowing water. Plant species identified around this water course include *Veronica beccabunga, Epilobium hirsutum*, as well as species associated with the hedgerow understorey: *Primula vulgaris, Ficaria verna* and *Geranium robertianum*. *Lemna* sp. Is present within areas of stagnant water along the southern section of this watercourse. A large patch of *Phalaris arundinacea* was observed at the northern section of the stream where it is connected to a drainage ditch from the adjacent field that lies to the west of the site.

[28] Fossitt, J.A. (2000). *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny.

Plate 5-19 Culverted section of the depositing/lowland river habitat along the Coldwater stream

Although parts of this habitat are in poor condition, due to the connectivity and variety in habitat this watercourse provides in an area of land dominated by agriculture, this habitat is of local importance (higher value).

Drainage ditches (FW4)

A small section of drainage ditch is located along a stretch of the southern boundary in the southeast of the site, which was dry on all visits to the site in 2023 and 2025 (*Plate 5-20*). Species present include *Urtica dioica, Hedera helix agg., Heracleum sphondylium, Anthriscus sylvestris* and *Galium aparine.*

Plate 5-20 Small section of drainage ditch habitat (dry) along the southern boundary of the proposed development site

As this habitat is heavily altered by pressures from agriculture and the nearby residential estates, and in poor condition and quality, this habitat is valued as being of local importance (lower value).

A small drainage ditch *c.* 60m in length has been excavated along the western side of the Corbally stream, and flows into the Corbally stream (*Plate 5-21*). At the time of the 2025 surveys, there was flowing water within this section of drainage ditch. While this habitat is heavily altered by pressures from agriculture, this habitat is valued as local importance (higher value) due to its hydrological connectivity to the Corbally stream.

Plate 5-21 Wet drainage ditch (right) that drains into the Corbally stream (left)

Rare and Protected Flora

No protected plant species contained within the Flora (Protection) Order, 2022, rare plant species contained within Ireland Red List No. 10 Vascular Plants (Wyse Jackson et al., 2016), or species listed on Irelands Red List No. 8: Bryophytes (Lockhart et al., 2012) were identified within the proposed development site during habitat surveys. A search of the NBDC database for records of rare and/or protected species within *c.* 2km of the proposed development site returned no records for Flora (Protection) Order 2022 plant species. The desktop study returned no records for Annex II flora species within *c.* 2km of the proposed development.

There is no suitable habitat within the proposed development site for the record of *Lamiastrum galeobdolon* returned from the NBDC, as it is a specialist species of old woodlands.

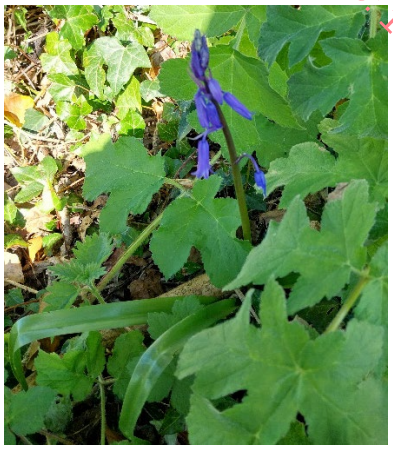
No rare and/or protected flora were recorded during the surveys, although the desk study returned records for them within *c.* 2km of the proposed development. Given the lack of suitable habitats for these species within the proposed development site, their populations are valued as local importance (higher value).

Non-native Invasive Flora

Two species of non-native, invasive plant species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 were recorded within the proposed development site: Three cornered garlic *Allium triquetrum* (Plate 5-22) and Spanish bluebell *Hyacinthoides hispanica* (Plate 5-23). Both species were recorded within the small field located to the east of the Corbally stream as illustrated in Figure 5-7.

Plate 5-22: Three cornered garlic Allium triquetrum recorded along the eastern boundary of the site

Plate 5-23: Spanish bluebell Hyacinthoides hispanica recorded within the easternmost section of the site



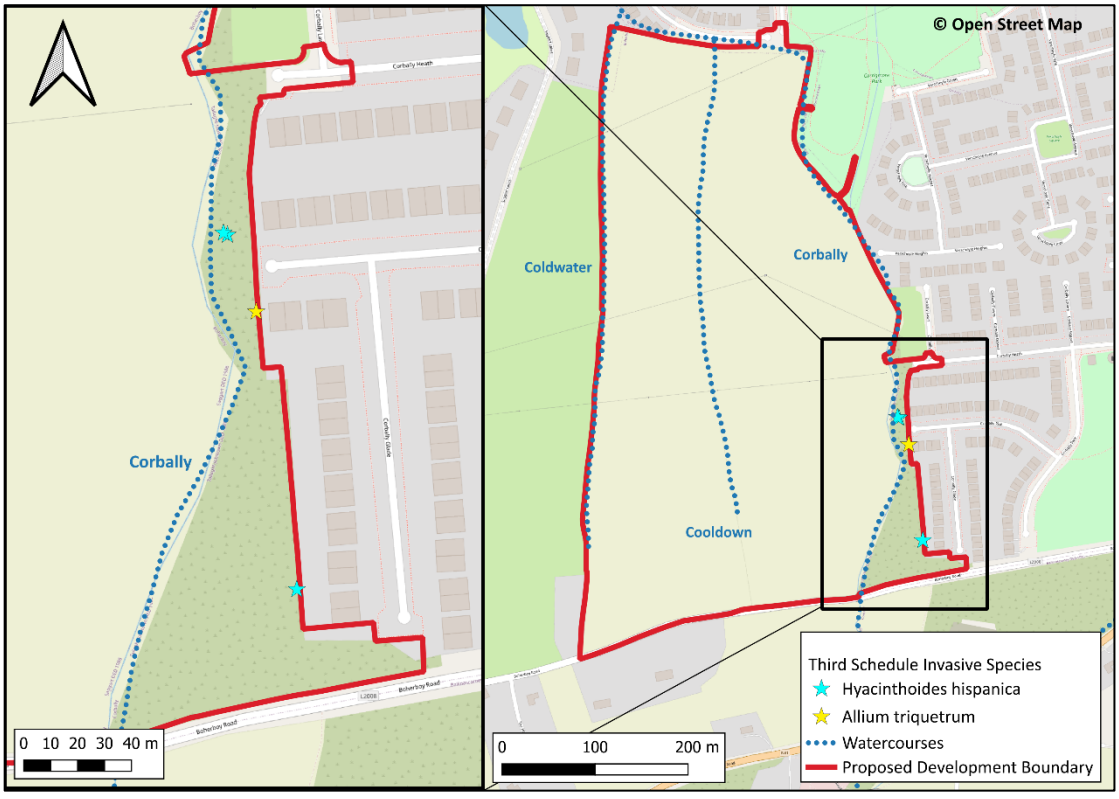


Figure 5-7: Third Schedule invasive species recorded within the proposed development boundary

A record of fringed water-lily *Nymphoides peltata* was recorded *c.* 1.2km north of the proposed development site in 2016 while giant hogweed *Heracleum mantegazzianum* *c.* 1.4km to the north in 2021 and, one record of *Reynoutria japonica* (2019) was identified within *c.* 2km of the lands from a NBDC data search. A record of three-

cornered garlic *Allium triquetrum* was returned, recorded *c.* 2km west of the lands in 2024.

Ecological evaluations are not applicable with non-native invasive species considering their invasive non-native status.

5.3.4 Fauna

Otter

Otter *Lutra lutra*, and their breeding and resting places, are protected under the Wildlife Acts. Otter are also listed on Annex II and Annex IV of the EU Habitats Directive where they are afforded strict protection. They are regarded to be of "Least Concern" in terms of conservation status in Ireland (Marnell *et al*., 2019). The NBDC database search returned one record for otter within *c.* 2km of the proposed development, from 1969, *c.* 1.9km north along the Camac River.

The Corbally Stream which flows along part of the eastern and northern boundary, the Coldwater Stream which begins and flows along the western site boundary, and the Cooldown Stream which begins and flows along the central hedgerow, flowing into the Corbally in the north of the site, were all checked for otter usage and habitat suitability. The Cooldown and Coldwater Streams are highly modified streams and were partly dry during some of the field surveys. No holts, couches or spraints were identified along any of these streams or in any areas of the proposed development.

The Cooldown and Coldwater Streams display some of the ecological characteristics of drainage ditches (i.e. they have been highly canalised and modified), and are unsuitable for holt/couch creation due to being periodically dry. The Corbally Stream has potential to be suitable for usage by otter, however this stream is very shallow with no bank in some sections (southern section), and would only be suitable for commuting otters in these areas. Where the bank is higher above the stream (central section), tree roots are present which could be utilised as holt/couch sites by local otters. There are two culverts in which the Corbally Stream flows further downstream in the north of the site (Plate 5-24).

Plate 5-24: Culvert which the Corbally stream flows into directly north of the proposed development site.

Otter is a Qualifying Interest (QI) species of the Wicklow Mountains SAC, located *c.* 5.3km southeast of the proposed development site. This European site is not hydrologically connected to the proposed development, and therefore there will be no impact from the proposed development on the Wicklow Mountains SAC otter population.

Due to the desktop records of otter along the Camac River, and the potential for the site to be used by commuting and/or foraging otters throughout the Corbally stream within the site, the local otter population is valued as being of county importance.

Badger

Badger *Meles meles*, and their breeding and resting places, are protected under the Wildlife Acts. The NBDC data search returned two records for badger within *c.* 2km of the proposed development site, the most recent of which (and closest record to the site) dates from 1992. A number of other records dating from 2012 were returned from the surrounding 2km Grid squares to the north of the proposed development site (O2P).

No evidence of badger, such as setts, snuffle holes, latrines or hair, was identified within the proposed development site during field surveys carried out. However, the habitats within the proposed development site (grassland, scrub, hedgerows) provide suitable foraging and commuting habitat for badger.

Six mammal holes were identified along the central boundary that separates the two main fields, within the bank of the Cooldown stream. A further two mammal holes were

identified along the western boundary of the site. Three mammal holes were also identified in the easternmost field along the bank of the drainage ditch habitat. All holes were checked for evidence of badger, however were deemed too small and narrow (10-20cm width) to be suitable for badger.

Fox *Vulpes vulpes* were observed during the surveys on four occasions. Three fox cubs were identified during surveys adjacent to these holes, and the camera trap deployed in this location during the initial surveys, confirmed fox usage of these holes. Fox hair was also identified caught on barbed wire fencing within the proposed development site during the surveys in 2025, and a fox was captured by a camera trap in 2025 walking adjacent to, but not using, the mammal holes within the central hedgerow on site. Fox hair is distinguished from badger hair by its texture and colouration.

Badgers, and their breeding and resting places, are protected under the Wildlife Acts. Due to their stable Irish populations, they are classified as “Least Concern” in terms of conservation (Marnell *et al.*, 2019). The local badger populations are valued to be of local importance (higher value), as there is suitable habitat within the proposed development and its vicinity, and the species is present in the NBDC desk study search records within *c.* 2km of the proposed development site.

Bats

Bats, and their breeding and resting places, are protected under the Wildlife Acts. All bat species are also listed on Annex IV of the EU Habitats Directive (with the lesser horseshoe bat also listed on Annex II) and are afforded strict protection under the Habitats Directive and the European Communities (Birds and Natural Habitats) Regulations, 2011.

The NBDC holds records for the following bat species within *c.* 2km of the proposed development site: brown long-eared bat *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and Leisler’s bat *Nyctalus leisleri.*

- Brown long-eared bat *Plecotus auritus*, one record exist *c.* 700m west of the proposed development, from 2005;
- Common pipistrelle *Pipistrellus pipistrellus*, three records, with the most recent record located *c.* 1.1km west of the proposed development, from 2011;
- Lesser noctule Nyctalus leisleri, one record, with the nearest and most recent record located *c.* 800m northeast of the proposed development, from 2007; and,
- Soprano pipistrelle *Pipistrellus pygmaeus*, three records from *c.* 1.1km west of the proposed development from 2011.

The Bat Conservation Ireland database which holds records of recorded bat roosts returned two known bat roosts were returned from the Bat Conservation Ireland’s roost

database[29]. They are located *c.* 200m north-east and *c.* 650m south-east of the proposed development.

The linear habitat on the boundaries of the lands provides good commuting and foraging routes for bats within the area and their level of suitability is valued 'High' as per the Bat Conservation Trust guidelines[19]. The treelines, hedgerows and watercourses along the site boundaries connect to treelines and hedgerows in the surrounding area, therefore forming part of a wider ecological network in the locality. The habitats between these linear features are valued 'Low' due to their sparse vegetation which is unlikely to provide many foraging opportunities for most bats.

The review of records held by Bat Conservation Ireland returned 48 roosts within c. 10km of the proposed development site. The closest roost to the site was a brown long-eared bat roost located *c.* 700m west, in Saggart Village. The next two nearest roost records were located in Rathcoole, both *c.* 2.9km west, and recorded as unidentified bat species. The remaining records were all over 3km from the proposed development site. The three roosts identified within 3km of the proposed development site are within the Core Sustenance Zone (CSZ) of Irish bat species[30], and therefore could use the proposed development site as foraging and commuting habitat.

There were no bat roosts identified in the buildings within the proposed development site during surveys carried out in 2020, 2023, 2024 and 2025. The farm sheds and buildings were deemed to have low potential for roosting bats due to their dilapidated nature, leaving them open and exposed, and susceptible to fluctuations in temperature. Sixteen trees within the proposed development site were also deemed to have low potential for roosting bats, due to the presence of potential roosting features including; knot holes, transverse snaps, dense ivy stems and branch fractures (Figure 5.6).

The proposed development site is largely unlit, aside from dim light spill on the northern boundary and in the southeastern corner of the site from the neighbouring residential estates. Otherwise, much of the site is unlit which increases the suitability of the linear features for any foraging and commuting bats.

The habitat within the lands provides good commuting and foraging routes for bats using the wider environs and its level of suitability is valued 'Moderate' as per the Bat Conservation Trust (BCT) guidelines[19]. The treelines along the boundary of the site follow linear routes which are connected to mature treelines in the surrounding area.

Sixteen no. trees with potential roost features (PRFs) were identified within the subject lands during the ground-level tree assessment on the 4th April 2023, and the 7th April 2025. The trees noted to contain PRFs are situated along the central hedgerow, eastern treeline and southern treelines (see Figure 5-8 for locations). These trees were assessed to be of 'Low' potential for roosting bats, and all PRFs identified were

[29] Bat Conservation Ireland roost database. Available at: www.batconservationireland.org Accessed on: 18th May 2022.
[30] *Core Sustenance Zones Determining zone size,* Bat Conservation Ireland, 2016.

assessed to be of PRF_I suitability (i.e. only suitable for individual bats or very small numbers of bats). As no evidence of roosting bats was recorded on site, a Regulation 54 derogation licence is not required before the removal of the trees containing these PRFs.

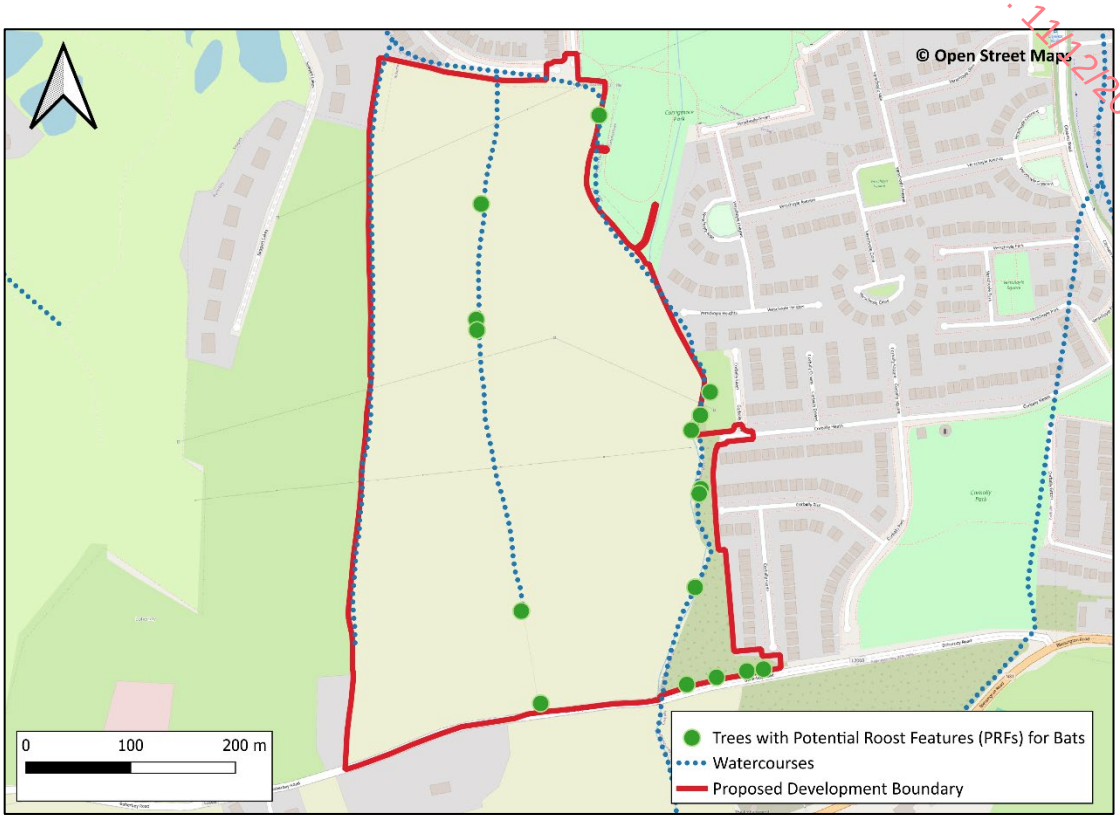


Figure 5-8: Trees with potential roost features for roosting bats within the proposed development site

The bat activity surveys carried out within the lands in June 2020 recorded five bat species: common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, Leisler's bat *Nyctalus leisleri*, and *Myotis* species[31], foraging and/or commuting within the proposed development site. Common pipistrelle had the highest number of calls recorded, followed by soprano pipistrelle and Leisler's bat in 2020. Follow-up bat activity surveys conducted in June and July 2023 (Figure 5-9), recorded the same species composition as in 2020. Bat activity surveys conducted in June and July 2024 (Figure 5-10), recorded the same species composition as in 2020, with the exception of brown-long eared bat, which was not recorded during the 2024 survey period. Leisler's bat was most frequently recorded in 2023 and 2024, closely followed by common pipistrelle, with considerably less

[31] Calls identified as belonging to species of the genus *Myotis* were recorded on automated detectors. Species of the genus *Myotis* which have been recorded in Ireland comprise Daubenton's bat *Myotis daubentonii*, whiskered bat *Myotis mystacinus*, Brandt's bat *Myotis brandtii* (vagrant), and Natterer's bat *Myotis nattereri*. These species tend to exhibit similar call sonograms, which are often very difficult to differentiate with any accuracy. For this reason, these species have been assigned to genus level only.

activity recorded for soprano pipistrelle, *Myotis* sp. and brown long-eared bat. In 2025, Leisler's bat was most frequently recorded foraging and commuting within the proposed development site, with the majority of activity recorded around the central hedgerow on the site (Figure 5-11). Common pipistrelle and brown long-eared bats were less frequently recorded using the site. Soprano pipistrelle and *Myotis* sp. were not recorded during the 2025 bat activity survey.

Bat activity overall was at a moderate level, with the central hedgerow and the eastern most hedgerow/treeline exhibiting the highest levels of activity across the species identified. This is most likely due to the high suitability of these linear features including the Corbally and Cooldown streams for foraging and/commuting, and they are largely unlit, and connect the lands to semi-natural habitats within the surrounding landscape. Surveyors followed the linear features (i.e. treelines, hedgerows and watercourses) in the lands.

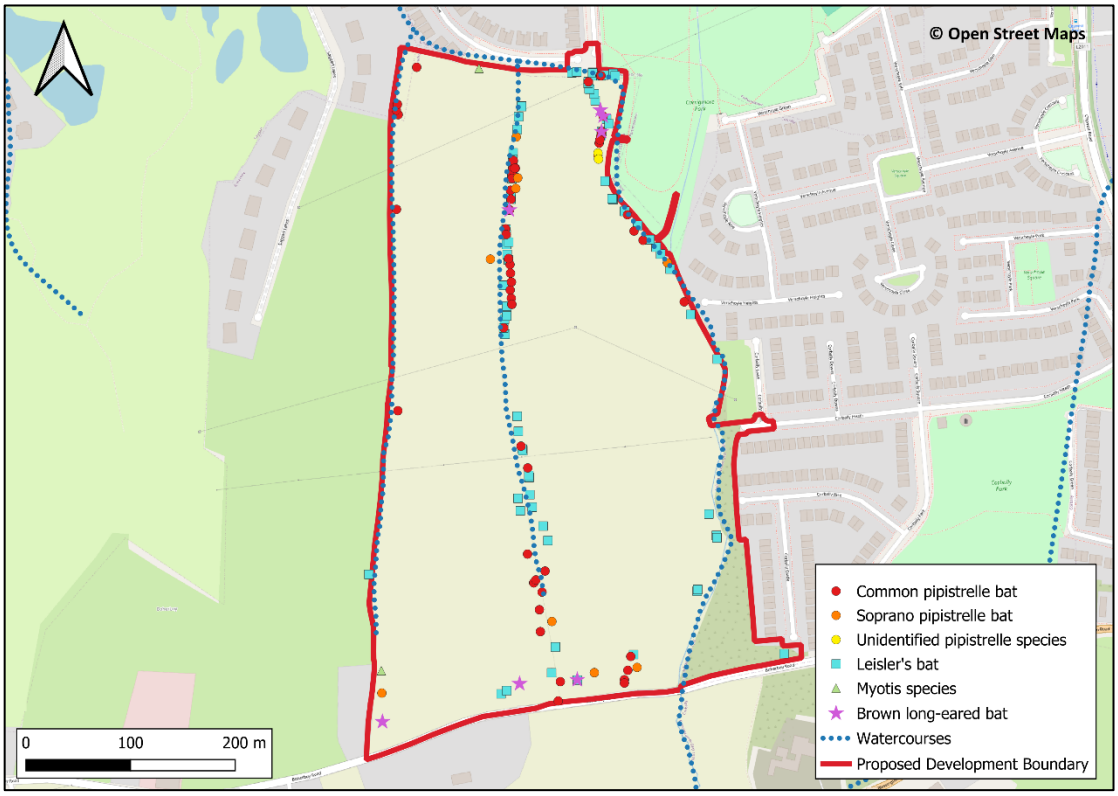


Figure 5-9: Bat species and locations of calls identified during bat activity surveys in 2023.

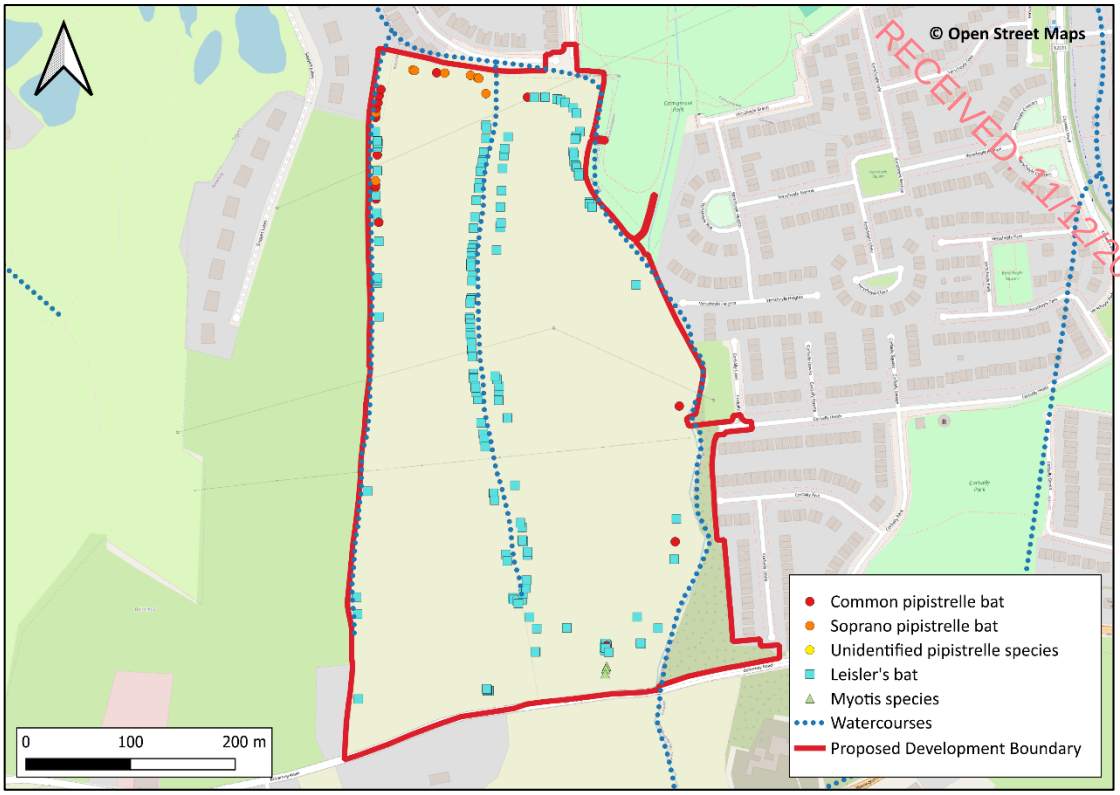


Figure 5-10: Bat species and locations of calls identified during bat activity surveys in 2024.

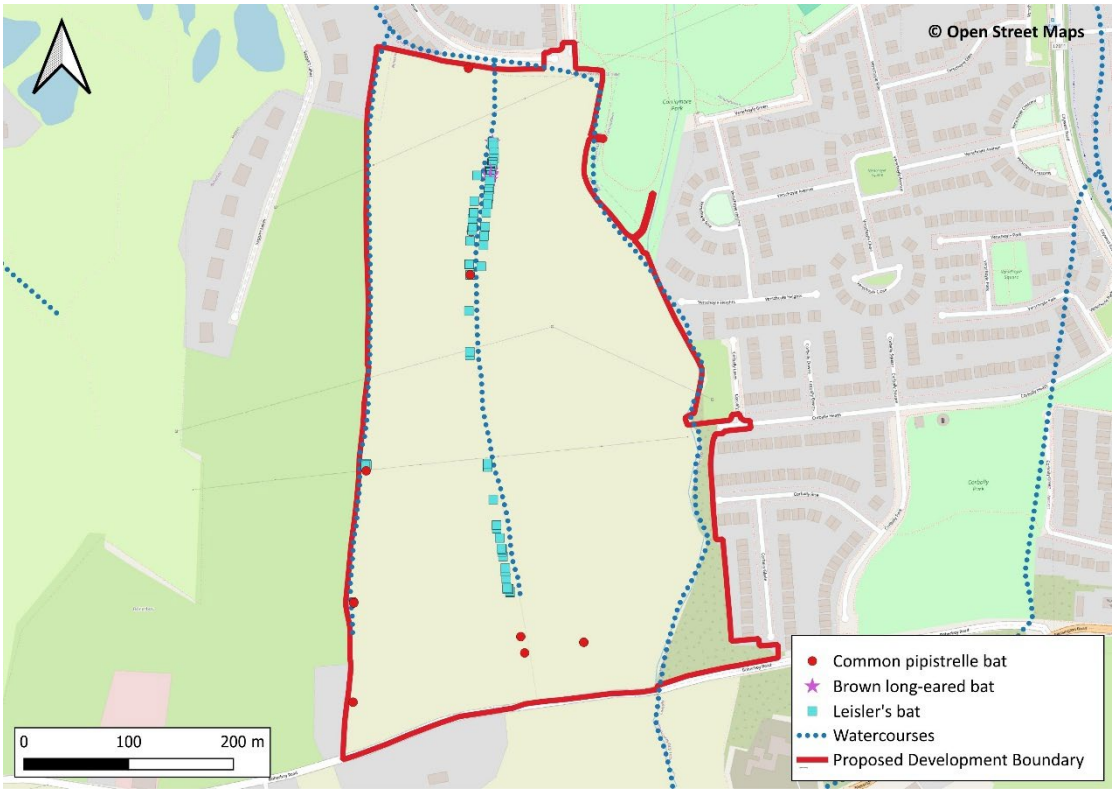


Figure 5-11: Bat species and locations of calls identified during bat activity surveys in 2025.

The bat species recorded during the surveys and returned in the NBDC data search are all common species and of "Least concern" (Marnell *et al*., 2019). Due to the suitable commuting and/or foraging habitat within and surrounding the proposed development, the moderate levels of activity from common and widespread species (i.e. species of least concern), the local bat populations are valued as being of local importance (higher value).

Small Non-Volant Terrestrial Mammals

Small mammals, hedgehog *Erinaceus europaeus*, Irish hare *Lepus timidus hibernicus*, Irish stoat *Mustela erminea hibernica*, pine marten *Martes martes*, pygmy shrew *Sorex minutus* and red squirrel *Sciurus vulgaris* are protected under the Wildlife Acts. Pine marten *Martes martes* are also listed on Annex V of the EU Habitats Directive and are afforded strict protection under the Habitats Directive and the European Communities (Birds and Natural Habitats) Regulations, 2011. The NBDC database search returned one record of pygmy shrew, three records of red deer, five records of red squirrel, sixteen records of hedgehog, three records of Irish hare, and two records of pine marten within *c.* 2km of the proposed development site. The nearest and most recent record to the proposed development for pine marten is *c.* 1km to the south, recorded in 2006. Irish hare was most recently recorded in 2017, *c.* 1km northeast of the lands. The closest and most recent record for red squirrel is *c.* 1.5km east of the proposed development, dating from 2023. The closest record to the proposed development site for pygmy shrew was *c.* 2km from 1969 and *c.* 1.4km to the south for red deer, while the closest record for hedgehog is located *c.* 800m northwest, dating from 2020.

A hedgehog was identified within the proposed development during bat activity surveys carried out in September 2020. No evidence or sightings of the other aforementioned species were identified within the proposed development site during surveys. Fox *Vulpes vulpes* and rabbit *Oryctolagus cuniculus* have also been identified using within the proposed development site during surveys. However, neither fox or rabbit are protected species within Ireland.

Red squirrels are more commonly found within mixed woodlands and/or coniferous woodlands due to a more steady food source year round (Lawton *et al*., 2020); however, they can also be found within deciduous woodlands, specifically where oak *Quercus* sp. and/or hazel *Corylus avellana* tree species are present as red squirrel are known to forage acorns and hazelnuts. Pine martens have similar habitat preferences to red squirrels, and generally avoid open un-covered habitat types[32], therefore the proposed development has limited habitat suitability for these species. Pygmy shrews, hedgehogs and Irish stoat are found in a range of habitats; however, they are predominantly present in habitats with a rich ground cover, and as such the woodland, scrub and dry meadows and grassy verges habitats within the site are considered suitable for these species. In addition, the dense hedgerows and drainage ditches

[32] *Pine Marten, Conserve Ireland*. Accessed here: https://www.conserveireland.com/mammals/pine_marten

present would also provide cover and commuting corridors for these species. Irish hare is also found in a range of habitats, from coastal dunes to mountain tops, and densities vary from year to year and habitat to habitat[33]. Red deer are typically found in the uplands where they feed on heather and dwarf shrubs, they can also be found in lowland grassland and woodland habitats during harsh weather conditions[34].

All small mammal species returned in the NBDC search are of "Least Concern" in terms of conservation status (Marnell *et al.,* 2019). They are widely distributed throughout Ireland. Although the habitats onsite do not present ideal habitat for breeding small mammals, they may be potentially used by commuting and foraging small mammals. The local small mammal populations are valued to be of local importance (higher value).

Non-native Invasive Terrestrial Mammals

With regards to records for invasive non-native mammal species within *c.* 2km of the proposed development, the NBDC database search returned records for grey squirrel *Sciurus carolinensis*, which is listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended). Grey squirrel was not recorded on site during ecological surveys. The nearest and most recent record is from *c.* 1.2km of the proposed development site, from 2007. Other invasive non-native species returned in the NBDC data search included rabbit *Oryctolagus cuniculus*. This species was recorded along field margins of both the eastern and western fields throughout the ecological surveys in 2020, 2021 and 2023, and were noted entering small holes along the banks of the Coldwater Stream. This species is listed as a 'medium impact' species, from the Invasive Species in Ireland prioritisation risk assessment. The nearest record held by the NBDC database is located *c*. 600m north-east of the proposed development. Rabbit and sika deer *Cervus nippon* are currently not listed on the Third Schedule but are regarded as invasive by the NBDC. Two sika deer were recorded within the proposed development site during the first breeding bird survey in June 2020. Records of 'high impact' Brown rat *Rattus norvegicus*, and house mouse *Mus musculus,* were also returned from the NBDC search. These species were not identified during surveys within the proposed development site.

Ecological evaluations are not applicable with non-native invasive species considering their invasive non-native status.

Birds

All wild birds, and their nests and eggs, are protected under the Wildlife Acts. Some bird species are also listed on Annex I of the EU Birds Directive. The NBDC database holds records for 108 bird species which are known to occur within c. 2km of the

[33] *Species Profile: Irish Hare, Vincent Wildlife Trust Ireland*. Accessed here: https://www.vincentwildlife.ie/species/irish-hare
[34] Red Deer, The Irish Deer Society. Accessed here: https://www.irishdeersociety.ie/red-deer/

proposed development site. Of these species, 30 are Special Conservation Interest (SCI) species of European sites, 9 are listed under Annex I of the Birds Directive, 14 are Red-listed (of High Conservation Concern) and 31 Amber-listed (of Medium Conservation Concern) on the Birds of Conservation Concern of Ireland 2020-2026[35] list. Species listed under the Birds Directive or in the Birds of Conservation Concern of Ireland 4: 2020-2026 are presented in a table in Appendix 5.2.

Breeding Birds

A range of common bird species were noted using the site or lands immediately adjacent to it for foraging and breeding purposes during the breeding bird surveys undertaken in June 2020, May/June 2021, spring/summer 2023 and 2024 (see Figure 5-12 and Figure 5-13). These included blackbird *Turdus merula*, blackcap *Sylvia atricapilla*, blue tit *Cyanistes caeruleus*, bullfinch *pyrrhula pyrrhula*, collared dove *Streptopelia decaocto*, coal tit *Periparus ater*, common chaffinch *Fringilla coelebs*, common chiffchaff *Phylloscopus collybita*, common linnet *Carduelis cannabina*, common pheasant *Phasianus colchicus,* dunnock *Prunella modularis*, Eurasian bullfinch *Pyrrhula pyrrhula,* Eurasian magpie *Pica pica*, Eurasian wren *Troglodytes troglodytes,* European goldfinch *Carduelis carduelis*, European greenfinch *Chloris chloris,* European herring gull *Larus argentatus*, European robin *Erithacus rubecula*, goldcrest *Regulus regulus*, great tit *Parus major*, grey wagtail *Motacilla cinerea*, hooded crow *Corvus cornix*, common house martin *Delichon urbicum*, common house sparrow *Passer domesticus*, jackdaw *Corvus monedula*, lesser black-backed gull *Larus fuscus*, lesser redpoll *Carduelis flammea cabaret*, long-tailed tit *Aegithalos caudatus*, mallard *Anas platyrhynchos*, mistle thrush *Turdus viscivorus*, reed bunting *Emberiza schoeniclus*, rook *Corvus frugilegus*, snipe *Gallinago gallinago*, song thrush *Turdus philomelos,* starling *Sturnus vulgaris*, willow warbler *Phylloscopus trochilus* and woodpigeon *Columba palumbus*. In addition to these species, the following species were observed flying across the site including; barn swallow *Hirundo rustica*, black-headed gull *Chroicocephalus ridibundus*, common buzzard *Buteo buteo*, sparrowhawk *Accipiter nisus* and swift *Apus apus*.

Of these species, three are Red listed (of High Conservation Concern) (grey wagtail, snipe and swift) and 12 are Amber listed (of Moderate Conservation Concern) (barn swallow, black-headed gull, common linnet, European greenfinch, European herring gull, goldcrest, house martin, house sparrow, lesser black-backed gull, mallard, starling and willow warbler). No species recorded is listed on Annex I of the EU Birds Directive, however, four species are listed as SCIs (black-headed gull, herring gull, lesser black-backed gull and mallard).

Table 5-6 below provides a summary of the findings of the breeding bird surveys with respect to those species which are of conservation concern.

[35] Gilbert, G., Stanbury, A. & Lewis, L. (2021) Birds of Conservation Concern in Ireland 4: 2020-2026. Irish Birds 43:1-22.

Table 5-6 Birds of Conservation Concern Recorded during the Breeding Bird Surveys in 2023 and 2024

Common name / Latin name / BTO	Activity in the Proposed Development Boundary	Conservation Importance		
		BoCCI (breeding)	Annex I	SCI
Black-headed gull *Chroicocephalus ridibundus* (BH)	Observed once in 2023 flying over the site	Amber	No	Yes
Goldcrest *Regulus regulus* (GC)	Observed across the 2023 (15 records of a total of 19 individuals, 1 confirmed breeding) and 2024 survey season (4 records of a total of 4 individuals).	Amber	No	No
Greenfinch *Chloris chloris* (GR)	Observed once during the 2023 survey season flying over the site.	Amber	No	No
Grey wagtail *Motacilla cinerea* (GL)	Single individual observed in 2023 and 2025 foraging on recolonising bare ground habitat at the south of the site. Two individuals observed in 2024.	Red	No	No
Herring gull *Larus argentatus* (HG)	Six records of a total of 16 individuals flying over or foraging on the site in 2023. Not observed in 2024.	Amber	No	Yes
House martin *Delichon urbicum* (HM)	1 probable breeding individual observed in 2023. Not observed in 2024.	Amber	No	No
House sparrow *Passer domesticus* (HS)	18 records of a total of 67 individuals in suitable nesting habitat or flying over in 2023. 6 records of a total of 10 individuals observed in 2024 singing or in suitable nesting habitat.	Amber	No	No
Lesser black-backed gull *Larus fuscus* (LB)	Five records of a total of five individuals flying over the proposed development site in 2023. Four records of a total of four individuals flying	Amber	No	Yes

Common name / Latin name / BTO	Activity in the Proposed Development Boundary	Conservation Importance		
		BoCCI (breeding)	Annex I	SCI[1]
	over the proposed development site in 2024.			
Linnet *Linnaria cannabina* (LI)	Four records of a total of six individuals flying over the site in 2023. Not recorded in 2024.	Amber	No	No
Mallard *Anas platyrhynchos* (MA)	Two pairs were observed in 2023, and one pair observed in 2024 in the marsh, wet grassland mosaic and near the Corbally stream.	Amber	No	Yes – but not of any SPAs in the immediate vicinity of the proposed Project
Snipe *Gallinago gallinago* (SN)	Four records of a total of twelve individuals were recorded during the 2023 survey season. One record of three individuals was recorded on the site in 2024.	Red	No	No
Starling *Sturnus vulgaris* (SG)	33 Records of between 1 and 40 individuals recorded during the 2023 season. Eight individuals were recorded as confirmed breeders. 20 Records of between 1 and 120 individuals recorded during the 2024 season. Two individuals were recorded as confirmed breeders	Amber	No	No
Swallow *Hirundo rustica* (SL)	Five records of a total of 11 individuals recorded flying over or within permanent territory in the proposed development site in 2023. Three records of a total of four individuals recorded flying over the proposed development site in 2024.	Amber	No	No
Swift *Apus apus* (SI)	A single record of three individuals flying over in 2024.	Red	No	No

Common name / Latin name / BTO	Activity in the Proposed Development Boundary	Conservation Importance		
		BoCCI (breeding)	Annex I	SCI[1]
Willow warbler *Phylloscopus trochilus* (WW)	Four records of single individuals recorded in 2023 only.	Amber	No	No

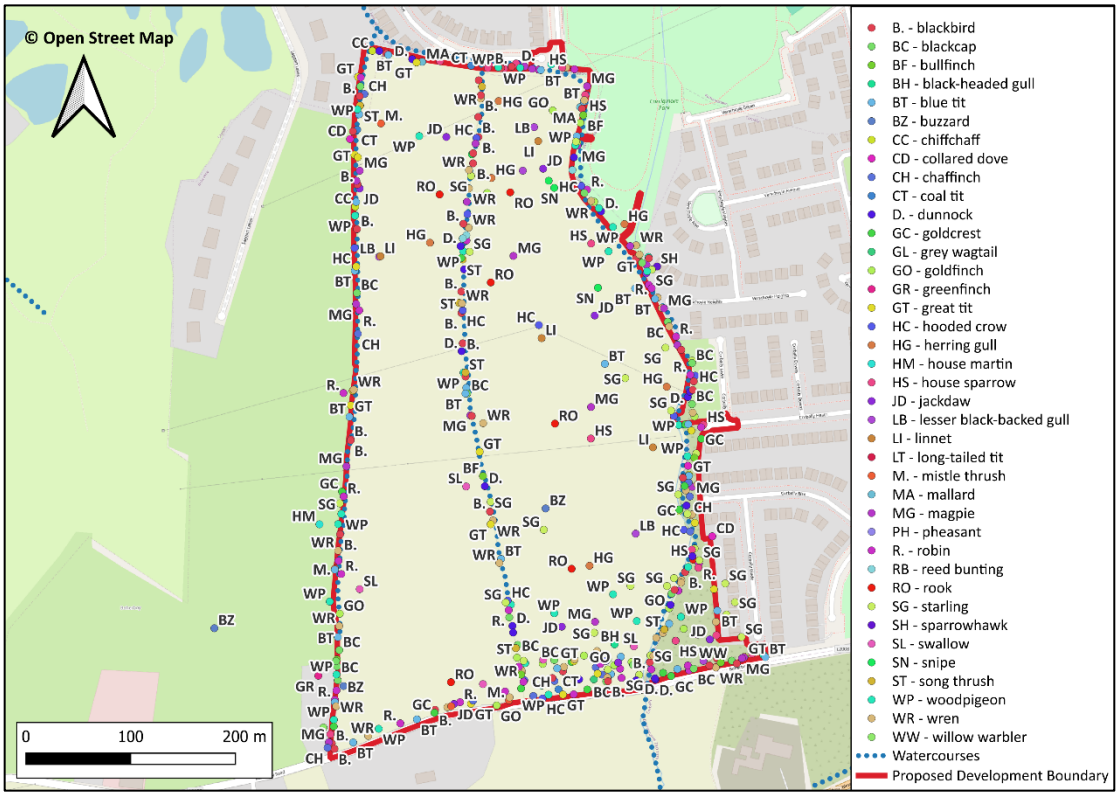


Figure 5-12: Records of birds identified during breeding birds surveys within the site in 2023.

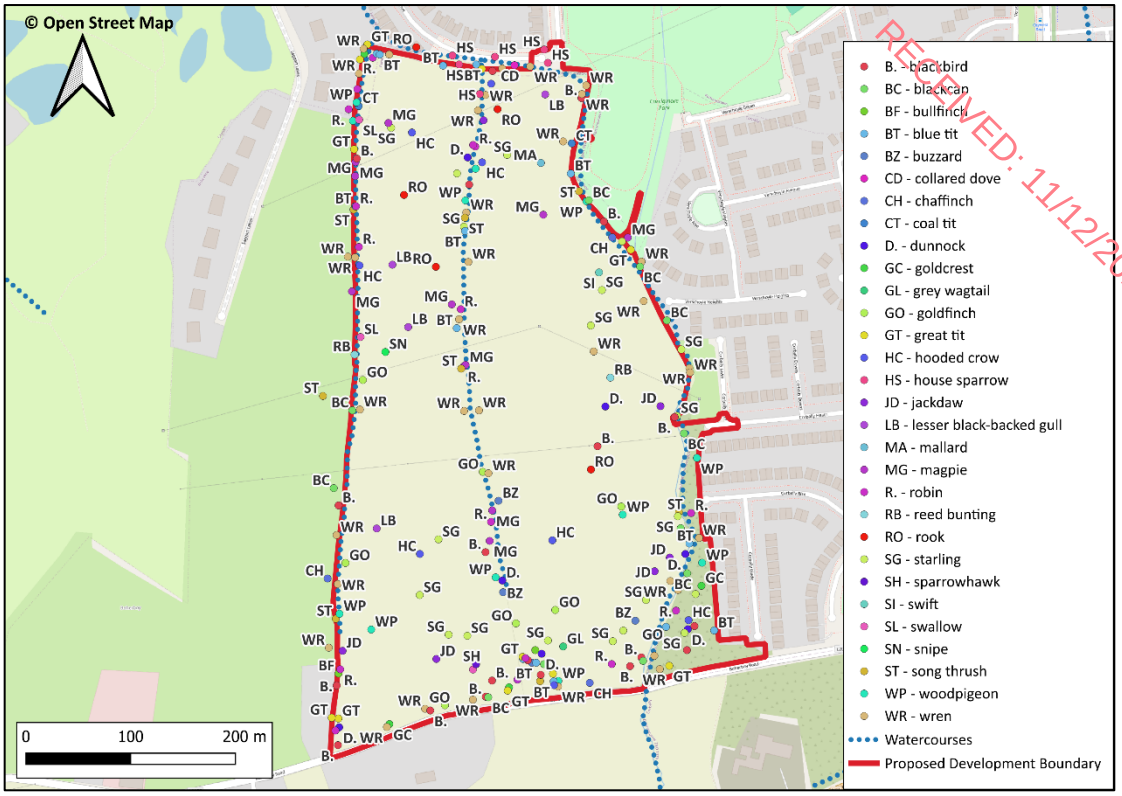


Figure 5-13: Records of birds identified during breeding birds surveys within the site in 2024.

Grey wagtail and snipe are red-listed (*i.e.* of high conservation concern) due to declines in breeding populations. Grey wagtail was noted in the south of the site adjacent to the barns during the June 2020 breeding survey and again in the April 2023 and April 2024 surveys. Grey wagtail as noted in the same area in the south of the site during the Habitat Verification and Multi-Disciplinary survey in April 2025. Whilst snipe was identified in wet grassland and marsh habitats in the eastern field in April 2023 and in lower numbers in May 2023, it was not recorded during the June 2023 survey. Three snipe were recorded during the 2024 surveys. While breeding bird surveys were not completed for the 2025 season, five snipe were noted within the marsh habitat in the eastern field, and two snipe were noted in the western field in the agricultural grassland/wet grassland mosaic during the Habitat Verification and Multi-Disciplinary survey in April 2025.

Nine records of grey wagtail within *c.* 2km of the proposed development site were returned from the NBDC database, the most recent the most recent of which is from 2017. The NBDC desktop search returned two records of meadow pipit within *c.* 2km of the proposed development site, both with the most recent record from 2011. Swift was recorded flying over the proposed development site the June 2024 survey. A record of this species were returned from the NBDC search, however it occurs at a poor spatial resolution (10km), so it is unknown if it lies within c.2km of the proposed development site.. None of the red listed species recorded are considered or identified to be nesting within the proposed development site. Grey wagtail typically nests close to fast flowing rivers beneath man-made structures on ledges of bridges or culverts, or

amongst tree roots[36]. Swifts nest in crevices in the upper reaches of buildings with stone and brickwork, there are no such suitable buildings in the proposed development site. Whilst not nesting within the proposed development site, the surrounding habitat has potential to support these red-listed species.

Snipe are a ground nesting species which typically breed on wet boggy habitat and the edge of wet grassland[37] and were recorded in this habitat during the breeding bird surveys. However, no nest sites were encountered during the breeding bird surveys in 2023. Although, a patchy mosaic of wet grassland and marsh occurs in the eastern field, disturbance from cattle would likely deter nesting activity due to trampling. Further, no signs of nesting behaviour were recorded during the surveys in 2023.

Breeding birds use various habitats, including trees, structures and scrub, for nesting. The presence of several bird species with territories within the proposed development site indicates that it is likely to be used for breeding by a number of species. No nests were observed within the proposed development site during the surveys; however, they are usually camouflaged and therefore well-hidden and so it is acknowledged that they could have gone unnoticed despite the survey effort.

There are a number of habitats within the proposed development site that are suitable for breeding birds to nest in, including trees, barns, hedgerows and scrub. The proposed development site is likely to encompass and/or form part of the breeding territories of a number of bird species recorded during the surveys. Breeding behaviour of the majority of species was observed within the proposed development site, predominately along or close to hedgerows and the immature woodland areas within the site. Barn swallows were observed nesting in the building in the southwestern section of the proposed development site. A pair of buzzards were observed on surveys in 2020, 2023 and 2024 soaring and calling above the western field in proposed development site. Whilst a nest was not identified, it is likely they are nesting nearby in the local area.

Although, there were a number of buildings and barns within the site, there were no buildings suitable for barn owls, due to lack of potential nest places within the barns present i.e. a concave or level surface or cavity, that is elevated and well hidden. No evidence of barn owls was identified within the proposed development site, with the most recent NBDC database record within c. 2km west of the proposed development returned from 2023.

Given the abundance of green listed species recorded, the small numbers of amber or red listed species and the abundance of suitable surrounding habitat; the proposed development site is of local importance (higher value) for local breeding bird populations.

[36] Grey Wagtail (*Motacilla cinerea*). Birds in Cheshire and Wirral, A breeding and wintering atlas. Accessed here: http://www.cheshireandwirralbirdatlas.org/species/grey-wagtail-breeding.htm

[37] Snipe (*Gallinago gallinago*). BirdWatch Ireland. Accessed here: https://birdwatchireland.ie/birds/snipe/

Wintering birds

Wintering bird surveys were undertaken in the 2023/2024 season from November to March as part of the ecological surveys to inform this report. Wintering bird surveys were also undertaken in September and October 2025 as part of the ecological surveys to inform this report. Wintering bird surveys to inform a previous planning application were undertake in 2020 and 2021. The results of the surveys conducted in 2025, and 2023/2024 largely reflect observations from surveys in 2020 and 2021, with little wintering bird activity recorded on site. The only wintering bird species recorded on the site included common snipe *Gallinago gallinago*, black-headed gull *Chroicocephalus ridibundus*, herring gull *Larus argentatus*, lesser black-backed gull *Larus fuscus,* great black-backed gull *Larus marinus*, common gull *Larus canus,* little egret *Egretta garzetta*, mallard *Anas platyrhynchos,* and redwing *Turdus iliacus*. Common buzzard was observed landing within the site while a sparrowhawk was recorded on one occasion perched on the treeline along the eastern boundary of the site.

The results of the 2023/2024, and 2025 winter bird surveys are illustrated below in Figure 5-14, Figure 5-15, Figure 5-16 and Figure 5-17.

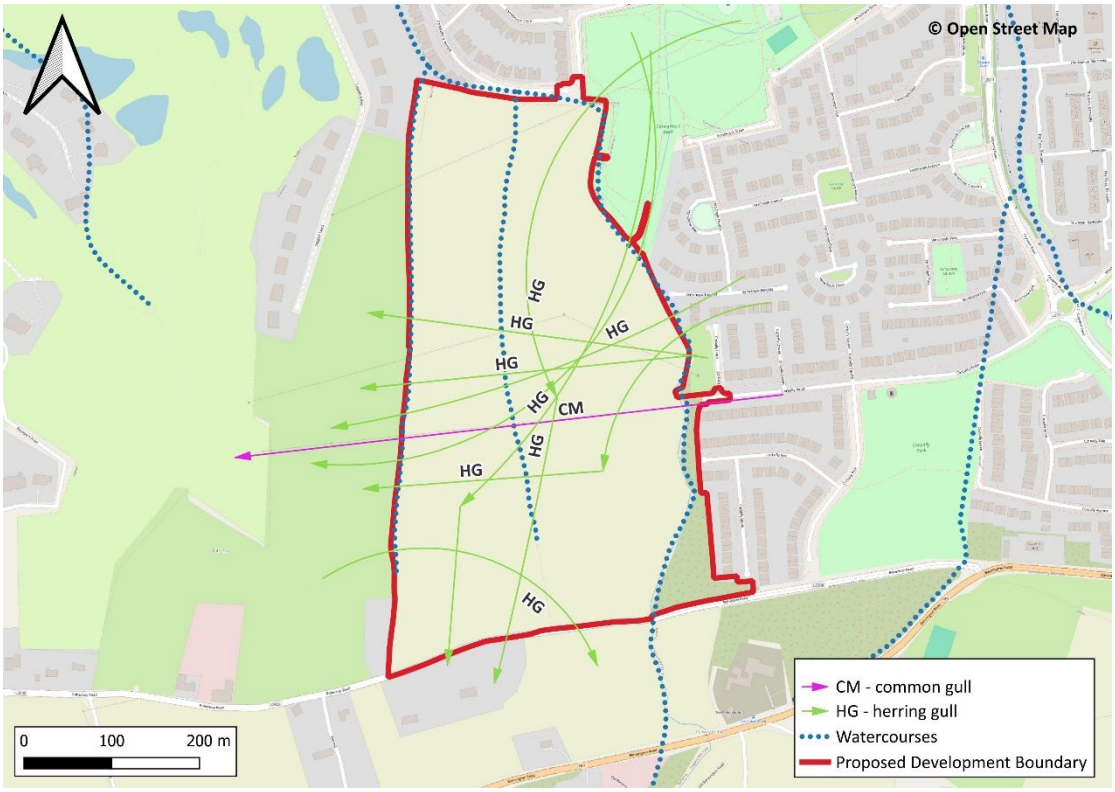


Figure 5-14 Records of flightlines of birds identified during wintering birds surveys within the site in September and October 2025.

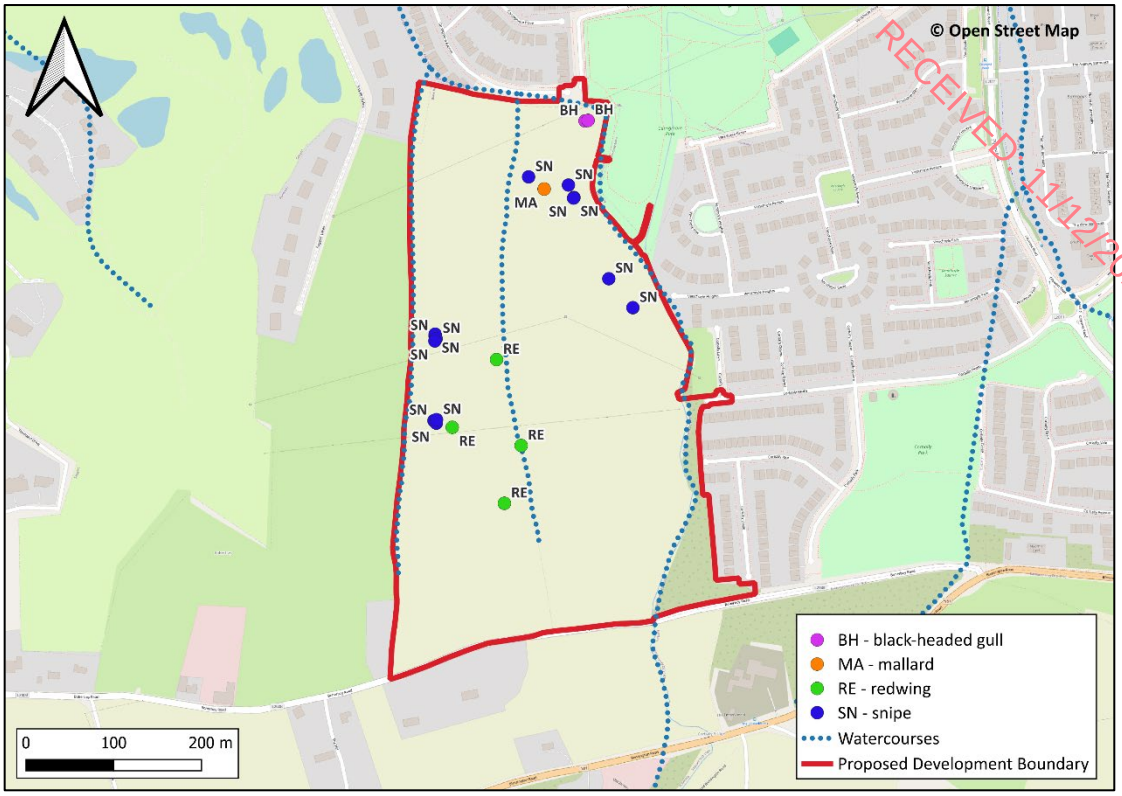


Figure 5-15 : Records of birds identified during wintering birds surveys (excluding flightlines) within the site between November 2023 and March 2024.

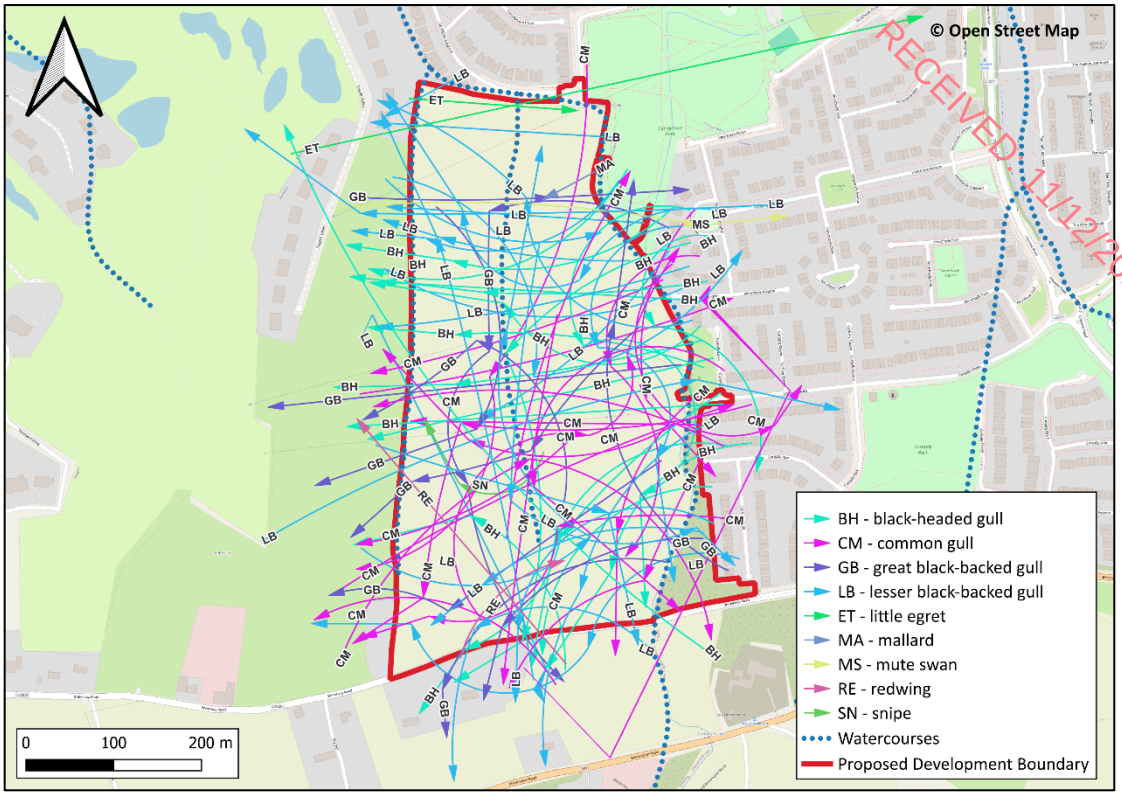


Figure 5-16: Records of flightlines of birds identified during wintering bird surveys (excluding herring gull) within the site between November 2023 and March 2024.

Figure 5-17 : Records of herring gull identified during wintering bird surveys within the site between November 2023 and March 2024.

The desk study records from the NBDC database search include 20 species of wintering waterfowl, gull and wader species within *c.* 2km of the proposed development site. These records are present in Appendix II.

Table 5-7 below provides a summary of the findings of the winter bird surveys with respect to those species which are of highest conservation concern, and were recorded within winter bird survey sites:

- Special Conservation Interests (SCIs), for a wintering population, of nearby SPAs
- Species listed under Annex I of the Birds Directive (2008/144/EC)
- Red, Amber and Green BoCCI species listed for their wintering populations

Table 5-7 Details of wintering bird species found within the proposed development site

Common name/Latin name/BoCCI Code	Distribution in the study area	Peak count/Site/Date	Conservation Importance		
			BoCCI (Breeding)	Annex I	SCI
Black-headed gull (BH) *Chroicocephalus ridibundus*	Observed flying over multiple areas of the site during three visits, landed during two survey visits.	No black-headed gull recorded in the 2020 or 2021 surveys. 1 bird observed in a flooded area in the north of the lands in December 2023 and January 2024. No birds observed in 2025.	Amber (B/W)	-	✓
Herring gull (HG) *Larus argentatus*	Observed flying over multiple areas of the site during all survey visit, did not land.	4 birds observed flying over the centre of the lands in March 2021 and a peak of 2 birds in the 2020 surveys. 8 birds observed flying over the south of the site in February 2024. 5 birds observed flying over the site in October 2025	Amber (B/W)	-	✓
Little egret (ET) *Egretta garzetta*	Observed flying over the site during one visit, landed on the site during one visit.	No little egret recorded in the 2020 or 2021 surveys. 2 birds observed a flooded area in the north of the lands in	Green (B/W)	✓	-

Common name/Latin name/BoCCI Code	Distribution in the study area	Peak count/Site/Date	Conservation Importance		
			BoCCI (Breeding)	Annex I	SCI
		December 2023 and flying over the north of the site in February 2024. No birds observed in 2025.			
Lesser black-backed gull (LB) *Larus fuscus*	Observed flying over multiple areas of the site during four visits, did not land.	A peak of 1 bird flying over in the 2020 and 2021 surveys. 3 birds observed flying over in November 2023. No birds observed in 2025.	Amber (B/W)	-	✓
Snipe (SN) *Gallinago gallinago*	Birds were flushed from an area of wet grassland in the north of the site during all five survey visits during the 2023/2024 surveys.	A peak of 2 no. birds were flushed from wet grassland in the March 2020 survey. 13 birds in the north of the site during January 2024 visit. No birds observed in the 2025 winter bird season.	Red (B/W)	-	-
Mallard (MA) *Anas platyrhynchos*	Observed in a flooded area in the north of the site during two visits.	A pair recorded in the eastern field in March 2021. 2 birds observed flying over during March 2024 visit. No birds observed in 2025.	Amber (B/W)	-	✓
Common gull (CM) *Larus canus*	Observed flying over multiple areas of the site during four visits, did not land.	1 bird observed flying in the south of the lands in February 2020. 3 birds observed flying over during March 2024 visit. 1 bird observed flying over the site in September 2025	Amber (B/W)	-	✓
Great black-backed gull (GB) *Larus marinus*	Observed flying over multiple areas of the site during four visits.	2 birds observed flying over during February 2020 and in the March 2024 visits.	Green (B/W)	-	✓

Common name/Latin name/BoCCI Code	Distribution in the study area	Peak count/Site/Date	Conservation Importance		
			BoCCI (Breeding)	Annex I	SCI
		No birds observed in 2025.			

During wintering bird surveys carried out in February and March 2020 and 2021, two SCI species from nearby European sites were identified within the lands: herring gull and lesser black-backed gull. Both of these species were identified flying over the site and did not land.

During wintering bird surveys carried out from November 2023 to March 2024, six species listed as SCIs under the Birds Directive (2009/147) were identified within the lands including:

- lesser black-backed gull, an SCI species of Poulaphouca Reservoir SPA located *c.* 11km south of the proposed development site;
- black-headed gull, an SCI species of South Dublin Bay and River Tolka SPA located *c.* 16km east of the proposed development;
- herring gull, an SCI of North-West Irish Sea SPA located *c.* 20km east;
- common gull, an SCI species of North-West Irish Sea SPA located *c.* 20km east;
- great black-backed gull, an SCI species of North-West Irish Sea SPA located *c*. 20km east, and;
- mallard, an SCI species of Dundalk Bay SPA, *c.* 66km northeast of the proposed development.

Herring gull, lesser black-backed gull, great black-backed gull and common gull were identified flying over the site and did not land, and therefore, the proposed development site is not used by these SCI species from nearby European sites.

Both black-headed gull and mallard were observed on the site during one survey visit each. There is suitable habitat for mallard and black-headed gull in a flooded area within the site to the north of the eastern field which is used by small numbers of both species. There is also suitable habitat other species of gull (i.e. herring gull and lesser black-backed gull) for roosting and foraging in this flooded area. The site is not suitable however, for light-bellied Brent geese *Branta bernicla hrota* and wintering waders which regularly use Dublin's amenity parks and sports grounds for foraging. The nearest known light-bellied Brent goose site is *c.* 6.1km north-east the proposed development site at Tymon Park (Scott Cawley Ltd., 2017). Given that there is no suitable foraging habitat, i.e. a large area of open short-sward grassland onsite, the proposed development site is unsuitable for light-bellied Brent goose, and/or other SCI wintering bird species that use similar habitat for foraging within County Dublin. Greylag goose is a SCI species of the Poulaphouca Reservoir SPA located *c.* 11.3km

southwest of the proposed development, and was not identified within the proposed development during wintering bird surveys. The proposed development is not on any known migrating routes of wintering bird species.

The wet grassland and marsh habitat in the north of the eastern field provides some suitable habitat for wading species such as snipe, which was identified in the north of the site during surveys. There is limited habitat for waterfowl species however due to the lack of open waterbodies in the site.

The treelines and scrub offer suitable foraging habitat and shelter for smaller overwintering species such as passerines for example redwings *Turdus iliacus* and fieldfare *Turdus pilaris,* the former species which was identified within the proposed development site.

Due to the presence of a small number of wintering bird species, and limited suitable habitat on site, the local wintering bird population are valued to be of local importance (higher value).

Amphibians and Reptiles

The Wildlife Acts provide protection to Ireland's only reptile species, common lizard, *Zootoca vivipara* and two amphibian species, common frog *Rana temporaria* and smooth newt *Lissotriton vulgaris*. All of these three species are listed as of "Least Concern" in terms of conservation (Marnell *et al*., 2019).

The NBDC database holds five records for common frog *Rana temporaria* within *c.* 2km of the subject lands. The nearest record is from *c.* 1.4km west of the proposed development, and one record of smooth newt, from 2023.

Common frog

Common frogs can be typically found associated with standing water. Open streams recorded within the proposed development site provide potential habitat for this species. Streams on the site are partially shaded by vegetation in places with the Corbally Stream experiencing low flow at the time most recent survey in April 2025. Given the continuous flow present in the Corbally Stream it is unlikely to be utilised by breeding frogs, however the potential stagnant nature of the Cooldown and Coldwater streams provides some limited potential breeding habitat. In addition, a small area of marsh, in the northern part of the eastern field, is wet all year round and partly floods due to overflow from the Corbally Stream. Therefore, the proposed development site offers small areas of suitable breeding habitat within this area and within the Cooldown and Coldwater streams following periods of heavy rainfall.

Although no common frogs were observed during the surveys, their presence on site cannot be ruled out, based on availability of potentially suitable habitat within the subject lands and their wider distribution across the local area. West of the proposed development is the Citywest and Hibernian Golf Course. This golf course has multiple pond features, with the closest feature being c. 100m west of the proposed development site. Whilst these areas were not surveyed, it is likely that these ponds

are suitable for amphibians, and individuals could travel between the habitats within and outside of the proposed development site. Considering the presence of suitable habitat for common frog in the proposed development site and in its vicinity, as well as the number of records of common frog in the area, the local common frog populations are valued to be of local importance (higher value).

Smooth newt

No individuals were observed at the time of the survey. The Corbally, Cooldown and Coldwater streams located within the proposed development site are considered less than ideal for breeding smooth newt, considering they are ephemeral in places and unlikely to contain slow-flowing or stagnant water deep enough (0.5-1meter) for a sustained period. However, the presence of suitable dense vegetation in the form of hedgerows, treelines and scrub may provide suitable habitat for hibernation during the winter months. Local smooth newt populations are of local importance (higher value), however, they are not considered to be a key ecological receptor due to lack of suitable habitat, provided that there will be no indirect off-site effects.

Common lizard

There were no records of common lizard in the NBDC database within *c.* 2km of the site. No individuals were observed at the time of the survey, and it is considered unlikely that reptiles are present within the site, as common lizard is typically associated with heath and coastal scrub habitat in Ireland. This species is therefore not considered further.

Local amphibian populations are of local importance (higher value), due to the presence of suitable habitat within the proposed development and in close proximity in the wider environs, and the local records of these species.

Aquatic surveys

The NBDC database search returned no records for protected and/or rare fish species.

White-clawed crayfish and Small Stream Risk Score (SSRS)

The NBDC database search returned one record for freshwater white-clawed crayfish *Austropotamobius pallipes* within *c.* 2km of the proposed development site from 2013. This record was located *c.* 1.2km west of the proposed development, along the Camac River. The record was located *c.* 2.5km upstream of the confluence of the Camac and the Corbally Stream. The proposed development site is therefore hydrologically connected to white-clawed crayfish habitat.

The Corbally Stream within the proposed development provides limited suitable habitat for white-clawed crayfish, with limited rocks present instream, and heavily silted and muddy substratum for the majority of its length within the proposed development site. There is a higher cover of stones at the southern part of the site (sampling site 1), which is more suitable habitat for white-clawed crayfish than elsewhere within the site, as they require a high cover of cobbles and gravel. However, the shallow nature of the

stream (approximately 10-30cm maximum depth), and evidence of cattle poaching and dumping in-stream greatly reduces the suitability of the watercourse for white-clawed crayfish. Furthermore, the Corbally stream is culverted immediately north of the proposed development. The results of the hand-searches confirmed white-clawed crayfish are absent from the Corbally Stream within the proposed development site.

The closest river station to the proposed development is along the Camac River, located *c.* 3km downstream of the site, and has 'moderate' ecological status or potential, however is 'at risk' of not achieving good water quality status. The most recent EPA risk score for the Corbally Stream was 'at risk' from 2021. The results of the SSRS from the Corbally Stream in 2025 indicated that the watercourse within the site is 'at risk', with a low diversity of macroinvertebrates recorded at sampling sites 2 and 3 (Appendix 5.5). There was a higher macroinvertebrate diversity sampled at sampling site 1, with an SSR score indicating that the stream is 'Probably not at risk', indicating that water quality upstream is of better quality. It is likely that nutrient input from the site's agricultural use impacts the change in water quality on site.

It is unlikely that the Corbally, Coldwater and Cooldown Streams within the proposed development would support white-clawed crayfish populations given the survey results from the Corbally Stream, the lack of suitable refugia and poor ecological status of the watercourses on the site.

Nevertheless, as the proposed development is connected hydrologically to white-clawed crayfish habitat and due to the presence of downstream records of the species within *c.* 2km, the white-clawed crayfish is of local importance (higher value) and is included as a KER.

Invertebrates

No rare or protected macro-invertebrate species (according to national red lists) were recorded in the biological water quality samples collected from the Corbally Stream in the SSRS and white-clawed crayfish surveys in July 2023.

The NBDC database returned records for one rare invertebrate: Narrow-bordered Five-spot Burnet *Zygaena lonicerae* which is listed as "Vulnerable".

This species can be found in unimproved, flower-rich, lowland grassland, and is classified as Vulnerable due to a population reduction due to a decline in area of occupancy, extent of occurrence or habitat quality, and a suspected/projected future population reduction. [38]. There is no suitable habitat for this species wothon the proposed development site (i.e. unimproved, flower-rich, lowland grassland), which is dominated by improved agricultural grassland.

[38] Allen, D., O'Donnell, M., Nelson, B., Tyner, A., Bond, K.G.M., Bryant, T., Crory, A., Mellon, C., O'Boyle, J., O'Donnell, E., Rolston, T., Sheppard, R., Strickland, P., Fitzpatrick, U., & Regan, E. (2016) Ireland Red List No. 9: Macro-moths (Lepidoptera). National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

There is no suitable habitat for Annex II species marsh fritillary *Euphydryas aurinia*, Annex II and/or Annex II and V species freshwater pearl mussel *Margaritifera margaritifera* within the proposed development site. The marsh fritillary is typically found associated with damp grasslands containing its larval foodplants devil's-bit-scabious *Succisa pratensis,* which is absent from the proposed development site.

Although majority of the proposed development site is comprised of heavily managed arable crop habitat, the surroundings are still largely of agricultural nature and rough grassland which provide important resources to the local invertebrate populations in a wider setting. The presence of the Corbally Stream provides suitable habitat for aquatic macroinvertebrates. However, the Cooldown and Coldwater streams are unlikely to support a high diversity of macroinvertebrates due to their seasonality. The local invertebrate populations are of local importance (higher value).

5.3.5 Summary of Ecological Evaluation

Table 5-8 and Table 5-9 below summarises the ecological evaluation of all receptors taking into consideration legal protection, conservation status and local abundance, and identifies the Key Ecological Receptors (KERs). Species, habitats and features not qualifying as KERs are not subjected to impact assessment in line with current best practice of assessing the impacts on what are determined to be important ecological or biodiversity features: CIEEM and TII guidelines (CIEEM (2024), and National Roads Authority (2009)).

Table 5-8: Summary of the ecological evaluation of designated sites

Ecological Receptor	Ecological Valuation	KER?
Designated Sites		
Glenasmole Valley SAC	International	**Yes**
Wicklow Mountains SAC	International	**Yes**
South Dublin Bay SAC	International	**Yes**
North Dublin Bay SAC	International	**Yes**
Red Bog, Kildare SAC	International	**Yes**
Rockabill to Dalkey Islands SAC	International	**Yes**
Rye Water Valley/Carton SAC	International	**Yes**
Wicklow Mountains SPA	International	**Yes**
North Bull Island SPA	International	**Yes**
South Dublin Bay and River Tolka Estuary SPA	International	**Yes**
Poulaphouca Reservoir SPA	International	**Yes**
North-west Irish Sea SPA	International	**Yes**
All other European sites	International	No
Lugmore Glen pNHA	National	**Yes**
Slade of Saggart and Crooksling Glen pNHA	National	**Yes**
Dodder Valley pNHA	National	**Yes**
Glenasmole Valley pNHA	National	**Yes**
Grand Canal pNHA	National	**Yes**
Kilteel Wood pNHA	National	**Yes**
Liffey Valley pNHA	National	**Yes**
South Dublin Bay pNHA	National	**Yes**
North Dublin Bay pNHA	National	**Yes**
All other NHA or pNHA sites	National	No

Table 5-9: Summary of the ecological evaluation of habitats and fauna

Ecological Receptor	Ecological Valuation	KER?
Habitats and Flora		
Rare and protected flora	Local importance (higher value)	No
Non-native invasive flora	N/A	-
Buildings and artificial surfaces (BL3)	Local importance (lower value)	No
Recolonising bare ground (ED3)	Local importance (lower value)	No
Improved agricultural grassland (GA1)	Local importance (lower value)	No
Improved amenity grassland (GA2)	Local importance (lower value)	No
Dry meadows and grassy verges (GS2)	Local importance (lower value)	No
Wet grasslands (GS4)	Local importance (higher value)	**Yes**
Marsh (GM1)	Local importance (higher value)	**Yes**
Depositing/lowland rivers (FW2)	Local importance (higher value)	**Yes**
Drainage ditches (FW4) (wet variant)	Local importance (higher value)	**Yes**
Drainage ditches (FW4) (dry variant)	Local importance (lower value)	No
Scrub (WS1)	Local importance (lower value)	**No**
Immature woodland (WS2)	Local importance (higher value)	**Yes**
Hedgerows (WL1) (Townland boundaries only)	County importance	**Yes**
Hedgerows (WL1)	Local importance (higher value)	**Yes**
Treelines (WL2)	Local importance (higher value)	**Yes**
Fauna Species		
Badger	Local importance (higher value)	**Yes**
Otter	County importance	**Yes**
Bats	Local importance (higher value)	**Yes**
Small non-volant terrestrial mammals protected under the Wildlife Acts	Local importance (higher value)	**Yes**
Other mammal species not protected under the Wildlife Acts (fox, rabbit)	Local importance (lower value)	No
Non-native Invasive Terrestrial Mammals	N/A	**-**
Birds	Local importance (higher value)	**Yes**
Wintering birds	Local importance (higher value)	**Yes**
Amphibians	Local importance (higher value)	**Yes**
Reptiles	N/A	**No**
White-clawed crayfish	Local importance (higher value)	**Yes**
Invertebrates listed as Vulnerable, Endangered or Critically Endangered on the relevant Red List	Local importance (higher value)	**No**

5.4 Characteristics of the Proposed Development

Kelland Homes Ltd. and Aderrig 4 Residential Ltd. intend to apply for permission for a Large-scale Residential Development (LRD) at a site located at Boherboy, Saggart, County Dublin. To the immediate north of the site is the Carrigmore residential estate, to the west are agricultural lands and a single dwelling, to the east is the Corbally residential estate and Carrigmore Park while to the south is the Boherboy Road.

The development will consist of 611 no. dwellings, comprised of 306 no. 2, 3, & 4 bed, 2 & 3 storey, detached, semi-detached & terraced houses, 133 no. 1, 2, & 3 bed duplex units in 12 no. 2-3 storey blocks, and 172 no. 1, 2, & 3 bed apartments in 5 no. buildings ranging in height from 4-5 & 5 storeys. The proposed development also includes a 2-storey crèche (c.630m²). A detailed description of the proposed development is included in Chapter 2 of the EIA report.

Access to the development will by via one no. new vehicular access point from the Boherboy Road, along with vehicular, pedestrian and cyclist connections to adjoining developments at Corbally Heath and Corbally Glade to the east and Carrigmore Green to the north, and pedestrian/cyclist access into Carrigmore Park to the east.

The proposed development provides for (i) all associated site development works above and below ground, including surface water attenuation & an underground foul sewerage pumping station at the northern end of the site, (ii) public open spaces (c. 2.19Ha), (iii) communal open spaces (c. 4,337sq.m), (iv) hard & soft landscaping and boundary treatments, (v) surface car parking, (vi) bicycle parking, (vii) bin & bicycle storage, (viii) public lighting, and (ix), plant (M&E), utility services & ESB sub-stations, all on an overall application site area of c.18.7Hha. In accordance with the South Dublin County Development Plan (2022-2028), an area of c.1.03Ha within the site is reserved as a future school site.

Surface water drainage infrastructure

The surface water drainage design has been carried out in accordance with the Greater Dublin Regional Code of Practice (GDSDS). The internal drainage system has been designed as a completely separate foul and surface water system. The site is to be drained following a SuDS treatment train philosophy and replicating a nature based solution in providing swales, tree-pits, bio-retention, use of open watercourse, over grassland flow, open detention basins, rain garden planters and permeable paving. All runoff is to be slowed down and treated naturally throughout the SuDS process before been attenuated to the site Qbar greenfield rate and out falling the Corbally stream to the east & north and to the Coldwater watercourse to the west. The QBar for the main site west of the Corbally Steam was determined to be 55.0 l/s and 1.3 l/s for the smaller site to the east of the stream. The surface water drainage is divided into 9No. separate catchment areas, each with its own SuDS interception, treatment, attenuation and storage. There is a potential c.1Ha future school site reserved on the lands that does not form part of this application but has been allowed for in the drainage calculations. The surface water drainage infrastructure for the development will collect and treat the

rainfall on the site and convey the runoff via roadside swales, tree pits, bio-retention areas, rain garden planters, open course conveyance swales, pipes, manholes, catchpit manholes and direct the flows via 9No open detention basins and 1No. below ground attenuation system towards vortex flow restricting devices (Hydrobrake or similar) and petrol interceptors before outfalling to the existing on site open watercourses.

Foul water

A new gravity foul sewer is to be constructed to an existing manhole located in Verschoyle Green via the SDCC lands to the NE of the site. c.25% of the site foul drainage will be pumped from a new pumping station in the NE corner into the proposed new gravity sewer while the remaining 75% flows by gravity in the same main. The 10 no.units on the “east” Corbally site will drain foul by gravity into the existing sewer in Corbally Rise. Uisce Eireann have issued a Confirmation of Feasibility for this site noting the proposal was “feasible subject to upgrades”. The minimum public sewer diameter is to be 225mm. The proposed foul pumping station is to be in accordance with the Irish Water Code of Practice for Wastewater Infrastructure 2017 – Part 5 – Pumping Stations. This network will then carry the foul water to the Ringsend Wastewater Treatment Plant (WWTP) prior to its discharge into the Liffey Estuary/Dublin Bay.

Construction Programme

The duration of construction activities is expected to last 5 years (+/-), completed in three phases. There will be no piling or blasting of the site, and there is no contaminated land present on site.

5.5 Potential Impact of the Proposed Development

5.5.1 Construction Phase

Potential Impacts on Designated Sites during Construction Stage

European Sites

The assessment presented in the Appropriate Assessment Screening Report in respect of the proposed development (Scott Cawley Ltd., 2025) concluded that the potential impacts associated with the proposed development do not have the potential to affect the receiving environment and, consequently, do not have the potential to affect the conservation objectives supporting the Qualifying Interests (QI) or Special Conservation Interests (SCI) of any European sites; either alone or in combination with any other plans or projects.

The proposed development does not traverse any European sites, so there is no potential for habitat fragmentation to occur.

The proposed development site does not support populations of any fauna species linked with the QI/SCI populations of any European site(s).

The closest European site, Glenasmole Valley SAC is located 4.1km southeast of the proposed development. Glenasmole Valley is designated for its Annex I Habitats, including Petrifying springs with tufa formation (Cratoneurion) [7220], Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410], and Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]. This European site is located in the same groundwater body as the proposed development site (i.e. the Kilcullen Groundwaterbody). However, the Kilcullen GWB is considered to have short groundwater flow paths (in the order of a couple of hundred metres), with groundwater discharging to the closest surface water feature (i.e., the Corbally Stream, the Cooldown Stream and the Coldwater Stream in the case of the proposed development site). Therefore, there is no perceived direct pathway from groundwater beneath the site to Glenasmole Valley SAC (Scott Cawley Ltd., 2025; DNV, 2025). There is no hydrological or hydrogeological pathway between this European site and the proposed development.

The next nearest European site with groundwater dependent terrestrial habitats is Rye Water Valley/Carton SAC, c. 10.3km north-west of the proposed development, which lies within the Dublin GWB at a significant distance from the proposed development site. The proposed development site partially overlaps both the Kilcullen and Dublin GWBs. The Dublin GWB beneath the proposed development site is considered to have short groundwater flow paths (in the order of a couple of hundred metres), with groundwater discharging to the closest surface water feature (i.e., the Corbally Stream, the Cooldown Stream and the Coldwater Stream). Therefore, there is no perceived direct pathway from groundwater beneath the site to the Rye Water Valley/Carton SAC and therefore the proposed development cannot influence groundwater conditions in the European site (Scott Cawley Ltd., 2025; DNV, 2025).

A potential source-pathway-receptor link through hydrological means has identified connectivity via the surface water and foul water networks from the proposed development site and Dublin Bay European sites. However, effects on European sites in Dublin Bay, which are North Dublin Bay SAC, North Bull Island SPA, South Dublin Bay SAC, and South Dublin Bay and River Tolka Estuary SPA, North-west Irish Sea SPA and Rockabill to Dalkey Island SAC located *c*. 23km downstream of the proposed development site, have been excluded for the following reasons, which are discussed in more detail in the AA Screening report (Scott Cawley, 2025):

- Results of the CSM carried out by DNV[39] and which informs the AA screening report, indicate that surface run-off from the proposed development, during both construction and operational phases respectively, will not result in any perceptible impact on water quality in downstream receiving waters in Dublin Bay (and thus in the European sites therein).

[39] *Large-scale Residential Development on Lands at Boherboy, Saggart, Co. Dublin, Hydrological & Hydrogeological Risk Assessment.* DNV 2025.

- The DNV report also concludes that the cumulative or in-combination effects of effluent arising from the proposed development with that of other developments discharging to Ringsend WWTP will not be significant having regard to the size of the calculated discharge from the proposal.

- Considering the above, particularly the current unpolluted status of Dublin Bay, and that foul water discharges from the proposed development would equate to a very small percentage of the overall discharge volumes sent to Ringsend WWTP for treatment, it is concluded that the proposed development will not impact on the overall water quality status of Dublin Bay.

Due to the above reasons, there are no hydrological or hydrogeological risks associated with the construction stage of the proposed development, and therefore there are no European sites at risk of habitat degradation.

There are two species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 on the proposed development site: *Allium triquetrum* and *Hyacinthoides hispanica*. *A. triquetrum* is known to invade a range of habitats include hedgerows, parks, footpaths, roadsides, waste areas, disturbed/cultivated sites, orchards, open woodlands, forests, moist pastures and riparian areas and can rapidly colonise and dominate waste ground outcompeting native vegetation[40]. *H. hispanica* is an invasive species of woodland and hedgerow habitats, and it poses a threat to the native bluebell population *Hyacinthoides nonscripta*, through extensive hybridisation, threatening the genetic integrity of, and possibly causing introgression (hybridisation out of existence) of the native plant[41]. The proposed development site is hydrologically connected European sites in Dublin Bay. These sites are designated for a range of coastal and intertidal QI habitats. However, due to the ecology, mechanism of impact and habitat requirements of the Third Schedule non-native invasive species recorded within the proposed development site, as well as the QI habitats within North Dublin Bay SAC and South Dublin Bay SAC, there is no risk of non-native invasive species spreading from the proposed development site and affecting the conservation objectives supporting the QI habitats of to any European site.

Construction-related disturbance and displacement of fauna species could potentially occur within the vicinity of the proposed development. For mammal species such as otter, disturbance effects would not be expected to extend beyond 150m[42]. For birds, disturbance effects would not be expected to extend beyond a distance of *c*.300m, as noise levels associated with general construction activities would attenuate to close to

[40] O'Rourke, E. and O'Flynn, C. (2014) *Risk Assessment of Allium triquetrum.* Inland Fisheries Ireland and National Biodiversity Data Centre.

[41] O'Rourke, E. and Lysaght, L. (2014) *Risk Assessment of Hyacinthoides hispanica, including H. non-scripta x H. hispanica.* Inland Fisheries Ireland and National Biodiversity Data Centre.

[42] This is consistent with Transport Infrastructure Ireland (TII) guidance (*Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes* (2006) and *Guidelines for the Treatment of Badgers prior to the Construction of National Road Scheme s(2005)*) documents. This is a precautionary distance, and likely to be moderated by the screening effect provided by surrounding vegetation and buildings, with the actual ZoI of construction related disturbance likely to be much less in reality.

background levels at that distance[43]. There are no European sites designated for QI species within the disturbance ZoI for mammal species. There are no European sites within the disturbance ZoI; the next nearest European site to the proposed development is c. 4.1km away.

There are no habitat areas within the disturbance ZoI of the proposed development that support populations of qualifying/special conservation interest species of any European site. The nearest SAC designated for otter is the Wicklow Mountains SAC, c. 5.3km south-east of the proposed development. The Corbally stream is a small order stream located in a different sub-catchment than the Wicklow Mountains SAC. Considering the size of otter territories in Ireland, and its location relative to the Wicklow Mountains SAC, any otters potentially using the Corbally stream do not form part of or support any SAC population. Therefore, as the proposed development will not result in the disturbance/displacement of the qualifying/special conservation interest species of any European site, there is no potential for any in combination effects to occur in that regard.

Nationally Designated Sites

In the case of NHAs and pNHAs the assessment considers whether the integrity of any such site would be affected by the proposed development with reference to the ecological features for which the site is designated, or is proposed.

The proposed development does not overlap with any nationally designated sites and it is not located in their immediate vicinity. The nearest national site is Lugmore pNHA, located c. 1.4km south east of the proposed development. This national site is designated for its habitats, and is not hydrologically connected to the proposed development. Therefore it is outwith the ZoI of the proposed development and does not have the potential to affect the habitats within.

As the proposed development does not traverse any nationally designated sites there is no potential for habitat fragmentation or loss to occur.

A potential source-pathway-receptor link through hydrological means has identified connectivity via the surface water and foul water networks from the proposed development site and Dublin Bay national sites. There are no other national sites hydrologically connected to the proposed development. However, effects on national sites in Dublin Bay, which are North Dublin Bay pNHA, South Dublin Bay pNHA, and Booterstown Marsh pNHA located c. 23km downstream of the proposed development site, have been excluded for the following reasons, which are discussed in more detail

[43] The disturbance zone of influence for waterbirds is based on the relationship between the noise levels generated by general construction traffic/works (BS 5228:2009 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1 Noise) and the proximity of those noise levels to birds – as assessed in Cutts, N. Phelps, A. & Burdon, D. (2009) *Construction and Waterfowl: Defining Sensitivity, Response, Impacts and Guidance*, and Wright, M., Goodman, P & Cameron, T. (2010) *Exploring Behavioural Responses of Shorebirds to Impulsive Noise*. Wildfowl (2010) 60: 150–167. At 300m, noise levels are below 60dB or, in most cases, are approaching the 50dB threshold below which no disturbance or displacement effects would arise.

in the AA Screening report in relation to European sites in Dublin Bay which overlap with national sites (Scott Cawley, 2021):

- Results of the CSM carried out by DNV[33] and which inform the AA screening report, indicate that surface run-off from the proposed development, during both construction and operational phases respectively, will not result in any perceptible impact on water quality in downstream receiving waters in Dublin Bay (and thus in the national sites therein).

- The DNV Hyrdological Risk Assessment report also concludes that the cumulative or in-combination effects of effluent arising from the proposed development with that of other developments discharging to Ringsend WWTP will not be significant having regard to the size of the calculated discharge from the proposal.

- Considering the above, particularly the current unpolluted status of Dublin Bay, and that foul water discharges from the proposed development would equate to a very small percentage of the overall discharge volumes sent to Ringsend WWTP for treatment, it is concluded that the proposed development will not impact on the overall water quality status of Dublin Bay.

  Considering these, the following conclusions can be made:

- The likelihood of an accidental pollution event occurring during the construction phase of the proposed development is considered to be very low;

- Any accidental pollution event is likely to be short in duration (i.e. confined to storm events) and would only occur during the construction phase which is estimated to continue for five years, limiting the magnitude and extent of effects; and,

- The distance between the proposed development outfall of surface water runoff and the nearest national site in Dublin Bay (c. 23km), means that sediments or pollutants from the proposed development will not result in any discernible effects on national sites in Dublin Bay.

Due to the above reasons, there are no hydrological or hydrogeological construction risks associated with the proposed development, and therefore there are no nationally designated sites at risk of habitat degradation.

There are two species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 on the proposed development site: *Allium triquetrum* and *Hyacinthoides hispanica*. *A. triquetrum* is known to invade a range of habitats include hedgerows, parks, footpaths, roadsides, waste areas, disturbed/cultivated sites, orchards, open woodlands, forests, moist pastures and riparian areas and can rapidly colonise and dominate waste ground outcompeting

native vegetation[44]. *H. hispanica* is an invasive species of woodland and hedgerow habitats, and it poses a threat to the native bluebell population *Hyacinthoides nonscripta*, through extensive hybridisation, threatening the genetic integrity of, and possibly causing introgression (hybridisation out of existence) of the native plant[45]. The proposed development site is hydrologically connected nationally designated sites in Dublin Bay. These sites overlap with the SACs within Dublin Bay and are likely designated for the same coastal and intertidal habitats. However, due to the ecology, mechanism of impact and habitat requirements of the Third Schedule non-native invasive species recorded within the proposed development site, as well as the habitats within nationally designated sites in Dublin Bay, there is no risk of non-native invasive species spreading from the proposed development site to any nationally designated site.

Construction-related disturbance and displacement of fauna species could potentially occur within the vicinity of the proposed development. For mammal species such as otter, disturbance effects would not be expected to extend beyond 150m[46]. For birds, disturbance effects would not be expected to extend beyond a distance of c. 300m, as noise levels associated with general construction activities would attenuate to close to background levels at that distance[47]. There are no nationally designated sites within the disturbance ZoI; the nearest national site to the proposed development designated for wildfowl species is Slade of Saggart and Crooksling Glen pNHA, located c. 1.5km south west of the proposed development, and therefore beyond the ZoI for disturbance related impacted from the proposed development on bird species associated with this national site.

Potential Impacts on Habitats and Flora during Construction Stage

Habitat Loss

Construction of the proposed development will result in the loss of habitat area; totalling approximately 17.4 ha. None of the habitats directly affected by the proposed

[44] O'Rourke, E. and O'Flynn, C. (2014) *Risk Assessment of Allium triquetrum.* Inland Fisheries Ireland and National Biodiversity Data Centre.

[45] O'Rourke, E. and Lysaght, L. (2014) *Risk Assessment of Hyacinthoides hispanica, including H. non-scripta x H. hispanica.* Inland Fisheries Ireland and National Biodiversity Data Centre.

[46] This is consistent with Transport Infrastructure Ireland (TII) guidance (Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes and Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes) documents. This is a precautionary distance, and likely to be moderated by the screening effect provided by surrounding vegetation and buildings, with the actual ZoI of construction related disturbance likely to be much less in reality.

[47] The disturbance zone of influence for waterbirds is based on the relationship between the noise levels generated by general construction traffic/works (BS 5228:2009 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1 Noise) and the proximity of those noise levels to birds – as assessed in Cutts, N. Phelps, A. & Burdon, D. (2009) Construction and Waterfowl: Defining Sensitivity, Response, Impacts and Guidance, and Wright, M., Goodman, P & Cameron, T. (2010) Exploring Behavioural Responses of Shorebirds to Impulsive Noise. Wildfowl (2010) 60: 150–167. At 300m, noise levels are below 60dB or, in most cases, are approaching the 50dB threshold below which no disturbance or displacement effects would arise.

development are of higher importance, from a biodiversity perspective, than local importance (higher value). The majority of the habitats within the proposed development boundary (*c.* 18.6 ha) are of local biodiversity importance (lower value) and predominantly comprised of improved agricultural grassland (*c.* 15.0ha), but also include improved amenity grassland, buildings, artificial surfaces and recolonising bare ground (c. 0.4a), *c.* 1.0ha of species-poor dry meadows and grassy verges, and *c.* 0.9ha of scrub. As these habitats are of local biodiversity importance (lower value), their loss or modification will not result in a likely significant effect on biodiversity at any geographic scale.

The habitat types within the proposed development boundary, and the area of each, that are considered to be of a higher local biodiversity value and will be lost are as follows:

- Wet grassland (GS4) – *c.* 1.0ha of this habitat will be lost
- Marsh (GM1) – c. 0.05ha of this habitat will be lost
- Immature woodland (WS2) – c. 0.2ha of this habitat in a mosaic with scrub (WS1)
- Hedgerows (WL1) – *c.* 353 linear metres of hedgerow will be lost
- Trees – 66 No. trees will be removed

The aquatic habitat types within the proposed development boundary that are considered to be of a higher local biodiversity value and will be impacted by the proposed development are as follows:

- Lowland/Depositing Rivers (FW2) – *c.* 20m linear length of this habitat along the Corbally Stream, and *c.* 70m linear length along the Cooldown stream to facilitate a road crossings and installation of a culvert,

The central watercourse, the Cooldown, is to be maintained as much as practically feasible and the watercourse within is re-used as a conveyance swale as part of the overall SuDS strategy. Sections of the Cooldown are to be diverted into a number of attenuation areas (storage areas 2, 5 and 8) as per the site's drainage and water infrastructure report. The Coldwater watercourse is also to be used as a conveyance swale. Additional planting is proposed in these areas as part of the SuDS strategy for the site. However, in the absence of any mitigation, there is potential for the construction of the temporary outfall to have an impact on water quality within local watercourses, the Corbally Stream and the receiving aquatic environment downstream of the proposed works area. Some examples by which water quality in the receiving aquatic environment could be compromised include the following:

- Entry of construction personnel and/or vehicles into the drainage ditches on site;

- Clearance of vegetation and exposure of topsoil within the vicinity of the drainage ditches;
- Storage of unbunded construction materials in the vicinity of the drainage ditches;
- Refuelling of vehicles in the vicinity of the drainage ditches; and
- Washing of equipment, or release of wheel wash and other construction process waters to the drainage ditches and the downstream watercourses.

The most likely impacts on water quality arising from the aforementioned practices would be elevated levels of suspended solids in the water column, and entry of hydrocarbon and other chemical pollutants to the watercourse. Although rivers such as the Corbally Stream are likely to undergo periods when suspended solids are elevated, such as after a storm, construction in the vicinity of the stream would result in an increase in the frequency of these periods. Silts and sediments from the construction site could potentially smother existing gravel and sand beds, and the aquatic benthic invertebrates that inhabit this habitat. Sedimentation also has the potential to affect fish species resident in the aquatic environment downstream. The introduction of pollutants such as hydrocarbons to the stream could result in both a reduction in habitat quality and a reduction in oxygen levels, affecting the aquatic species that reside in this habitat. The effects of water quality impacts on aquatic habitats during construction and operation is considered to be significant at a local to county level, in the absence of any mitigation.

Habitat degradation from spread of invasive species

Two species of non-native, invasive plant species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 were recorded within the proposed development site: Three cornered garlic *Allium triquetrum* and Spanish bluebell *Hyacinthoides hispanica*. Due to the ecology, mechanism of impact and habitat requirements of these non-native invasive species, as well as the habitats within European and nationally designated sites in Dublin Bay (which have hydrological connectivity to the site), there is no risk of non-native invasive species spreading from the proposed development site to any nationally or European designated sites. However, there is the potential for habitat degradation from spread of both invasive species within the proposed development site via the movement of contaminated soil. Both species reproduce by seed and vegetatively via bulbs. [40, 41]

Habitat degradation from dust generated during construction

The proposed development has the potential to generate dust during construction works which could affect vegetation in habitat areas within and adjacent to the proposed development boundary. This has the potential to affect highly sensitive and ecologically important habitat areas (e.g. designated area for nature conservation or areas of Annex I habitat), however no such designations or Annex I habitats have been identified within close proximity of the proposed development that could potentially be impacted by dust arising from the construction works. As such dust impacts could result in a likely significant negative effect, at a local geographic scale only.

An Accidental Pollution Event Affecting Surface Water Quality in the Receiving Environment

During construction, contaminated surface water runoff and/or an accidental spillage or pollution event into any surface water feature has the potential to have a significant negative impact on water quality and consequently affect aquatic and wetland habitats in the local receiving environment.

However, it is considered unlikely that a pollution event of such a magnitude would occur during construction or be any more than temporary in nature. Particularly considering the environmental protection controls that are in accordance with policies and objectives in the relevant county development plans and local area plans. Nevertheless, a precautionary approach is being taken in assuming a level of risk of water quality impacts. In stream/near stream works and the excavation, handling, stockpiling, reprofiling and removal offsite of soils and subsoils during construction works at the site could result in generation of runoff with entrained sediment or other contaminants which could potentially impact on the receiving water quality and WFD status of the receiving surface waterbodies (i.e., Corbally, Coldwater, and Cooldown Streams) and locally within the downstream Camac River (DNV, 2025). Consequently, detailed mitigation measures are required to further minimise the risk of the proposed development having any perceptible effect on water quality.

Habitat degradation as a consequence of effects on surface water quality has the potential to affect the conservation status of aquatic or wetland habitats and therefore, has the potential to result in a significant negative effect at a local geographic scale.

Habitat loss

Badger

Badgers, and their breeding and resting places, are protected under the Wildlife Acts. Due to their stable Irish populations, they are classified as “Least concern” in terms of conservation (Nelson *et al.*, 2019). The proposed development site has the potential to be used by badger due to suitable habitat for foraging and sett building, however no evidence of this species was identified during field surveys carried out within the lands. During the construction stage of the development, badgers could be impacted by the removal of foraging areas and feeding resource available. However, the overall loss of habitat is small and not significant at any scale, considering the typical badger territory size of more than 60ha in Ireland (Hayden and Harrington, 2000), and the abundance of available suitable habitat surrounding the proposed development site. Although the actual effect of foraging habitat loss cannot be quantified in terms of any threshold value that could be predicted, any affected badger groups would be expected to adapt to the changed landscape. It is therefore predicted that, despite any temporary effects, the loss of foraging habitat associated with the proposed development is unlikely to affect the conservation status of the local badger population and will not result in a likely significant negative effect, at any geographic scale.

Otter

No evidence of otter was noted on site, however the Corbally Stream is suitable for commuting and/or foraging otter. There are no otter holts or couch sites present within

the proposed development boundary. Therefore, the proposed development will not result in the loss of any breeding or resting places and construction works will not disturb any such sites.

In the context of river systems, the Threat Response Plan Otter *Lutra lutra* 2009-2011 document (Department of the Environment, Heritage and the Gaeltacht, 2011) defines terrestrial otter habitat as a 10m zone of riparian habitat along the riverbanks. The proposed development will be a minimum of 15m set back from the banks of the Corbally Stream. The Corbally Stream contains *c.* 5.3km of suitable otter habitat, and as only *c.* 20-30m will be lost during construction, this is not considered a likely significant effect on any geographic scale.

Other mammals

The proposed development site has the potential to be used by hedgehogs, pygmy shrews, Irish hare, and Irish stoat due to suitable habitat for foraging and breeding and the presence of these species from the local area from the findings of the desktop review. The construction stage of the development will reduce the amount of semi-natural habitat available for foraging in this area for small mammals, however, the overall loss of habitat is small and not significant at any scale, considering that the peripheries of the site and the drainage ditches will largely be retained and still provide commuting and/or foraging habitat for these species, and the abundance of available suitable habitat surrounding the proposed development site for all of the aforementioned species.

Given the relatively low numbers of individuals of each species that are likely to be affected, and that they are highly mobile species, vegetation clearance is unlikely to result in a level of mortality that would affect the species' conservation status, and result in a significant negative effect, even at a local geographic scale.

Birds

In the absence of mitigation to protect birds and their nests, there is potential for direct impacts on breeding birds due to loss of suitable breeding bird habitat and/or the risk of direct mortality and injury to birds, which may arise from the clearance of vegetation within the proposed development site. This potential impact would be most likely to arise if clearance works are undertaken during the time of year when birds are likely to be nesting (*i.e.* 1st March to 31st August, inclusive).

With the exception of treelines, hedgerows and scrub, the habitats in the lands are of low suitability for nesting bird species. Species that commonly nest in grassland vegetation were not encountered during surveys of the lands in 2020, 2021, 2023 or 2024. The bird species recorded at the proposed development site during surveys include those that are commonly found in suburban and urban habitats (*e.g.* blackbird, hooded crow, robin and wren). These habitats include hedgerows, treelines and grasslands, which can be found in the wider surrounding area, such as to the west and south of the proposed development site.

The clearance of vegetation may result in a loss of breeding bird habitat, however considering the amount of suitable foraging habitat located within the wider environs,

the habitat loss will result in a significant negative effect on the populations of bird species at a local scale only.

Under the Wildlife Acts, it is an offence to disturb birds while on their nests, or to wilfully take, remove, destroy, injure or mutilate their eggs or nests. Mitigation measures have been provided to ensure adherence to the Wildlife Acts.

Bats

All bat species and their roost sites are strictly protected under both European and Irish legislation including: -

- Wildlife Act 1976 and Wildlife (Amendment) Act, 2000 (S.I. No. 38 of 2000)
- Council Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna 1992 (Council Directive 92/43/EEC)

European Communities (Birds and Natural Habitats) Regulations, 2011

It is an offence under Section 23 of the Wildlife Acts 1976-2017 and under Section 51 of the European Communities (Birds and Natural Habitats) Regulations, 2011 to kill a bat or to damage or destroy the breeding or resting place of any bat species. Under the European Communities (Birds and Natural Habitats) Regulations it is not necessary that the action should be deliberate for on offence to occur. This places an onus of due diligence on anyone proposing to carry out works that might result in such damage or destruction. Under Section 54 of S.I. 477 of 2011, a derogation may be granted by the Minister where there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species to which the Habitats Directive relates at a favourable conservation status in their natural range.

The proposed development will not directly, or indirectly, affect any known bat roosts. The trees on site with the potential to support roosting bats and which could be occupied at the time of site clearance, therefore could result in the potential for bats to be injured or killed. All the bats recorded using the site are common species in Ireland that are classified as being of “least concern” in the Ireland Red List No. 3: Terrestrial Mammals (Marnell et al., 2019). The trees within the proposed development site that have some potential for roosting bats, are not considered to be of significant in size and are unlikely to hold enough space for them to be maternity or hibernation roosts. Some of these trees are deemed for removal to facilitate the development, and so mitigation measures are provided. The effects of loss of these potential roost sites on bats are not considered to be significant at any geographic scale for these reasons.

The proposed development will include the removal of bat foraging habitat and, although there are no bat roosts present within the proposed development site, construction works will result in the removal of trees and buildings onsite.

With regards to the loss of foraging habitat, the majority of the treelines along the boundaries are to be retained within the design of the scheme and will therefore continue to provide foraging opportunities for bats. While there will be a loss of vegetation in the south of the site, proposed native planting along the western boundary and within the site will compensate for this loss of habitat and provide additional screening of the development on the local landscape. The effects of loss of

foraging habitats on bats are predicted to be temporary in nature, until planted vegetation can develop, and significant at a local geographic scale.

Disturbance/displacement

Badger

While the proposed development will result in increased human presence on site, the potential effects on badgers in terms of disturbance are not significant in this instance. This is because, the proposed construction works are limited in terms of scale, and as works will largely be confined to daylight hours, when badgers are least likely to forage within the proposed development site, and there was no evidence identified within the proposed development of this species. Even in the event that the construction phase of the proposal coincides with construction of other projects in the immediate vicinity, there will be no significant disturbance or displacement effects on badgers. Badgers are widespread in Ireland and found in close proximity to human settlements, including in Dublin City, and therefore are likely to adapt to changes in human activity levels in the proposed development site and surrounding area.

Birds

The potential for disturbance is likely to arise from noise associated with the construction phase of the proposed development. For birds, construction-related disturbance effects would not be expected to extend beyond a distance of *c.* 300m, as noise levels associated with general construction activities would attenuate to close to background levels at that distance (Cutts et al., 2009). A range of bird species utilise the proposed development site to forage within. While there is some potential for short-term disturbance of bird species foraging within the lands at the early stage of construction, it is anticipated that birds will acclimatise to human presence. This is because the lands are in a semi-urban locality, and the bird species noted onsite are generally associate with gardens and other urban habitats frequented by people. The potential for disturbance of foraging bird species during construction is not considered to be significant at any geographic scale.

Bird species are protected under the Wildlife Acts as per Section 2.1 and it is an offence to disturb birds while on their nests, or to wilfully take, remove, destroy, injure or mutilate their eggs or nests. The proposed development site contains several common species of bird, many of which are likely to nest within hedgerows, treelines, woodland and scrub. There is potential for direct impacts on nesting birds and/or mortality of birds arising from the clearance of vegetation within the site. This scenario would be most likely if works were to occur during the time of year when birds are likely to be nesting (1st March to 31st August, inclusive). The potential for disturbance of breeding bird species during construction is considered to be significant at local geographic scale.

Amphibians

Site clearance works have the potential to result in disturbance to, and the direct mortality of amphibians. Given the size of the suitable habitats within the site (drainage ditches), and the retention of same, the number of individuals that would potentially be at risk is very low and impacts on such individuals would be unlikely to affect the local populations in the long-term. However, common frog is protected under the Wildlife

Acts and it is an offence to hunt, take or kill them, or wilfully to interfere with or destroy their breeding places. Mitigation measures have been provided to ensure adherence to the Wildlife Acts.

Bats

The removal of trees and buildings onsite to facilitate the construction of the proposed development has the potential to result in disturbance of bats or their roosts, or in a worst-case scenario, the mortality of bats roosting in features within the trees or structures. The disturbance or mortality of bat species in the absence of mitigation is considered to result in a likely significant effect, at a local scale only.

Disturbance/displacement effects may also arise from the introduction of artificial lighting during construction. While *Myotis* species and brown long-eared bats are sensitive to light pollution, the most commonly recorded species within the proposed development site (i.e. Leisler's bat, soprano pipistrelle and common pipistrelle) are some of the least sensitive species to artificial light spill, and given the presence of artificial lighting within the immediate vicinity of the proposed development area (i.e. along the northern and eastern boundary) the local bat population would be expected to be habituated to local levels of artificial light spill. In addition, bats recorded using the proposed development site are widespread and common across Ireland and frequently utilise urban and sub-urban environments where they are regularly exposed to levels of noise from urban activities. It is possible that temporary lighting required during the construction stage of the proposed development may illuminate previously unlit feeding and/or commuting areas, e.g. areas away from treeline retention areas, making them unsuitable for bats. Any effects associated with artificial lighting during construction of the proposed development, is likely to be short-term (over the 5-year phased construction period) and confined to specific areas within the site. It is therefore predicted that, despite any short-term effects, disturbance from artificial lighting associated with construction of the proposed development is unlikely to affect the conservation status of the local bat population and will not result in a likely significant negative effect, at any geographic scale.

<u>Potential Impacts from Habitat degradation</u>

Otter

During construction, contaminated surface water runoff and/or an accidental spillage or pollution event into any surface water feature has the potential to have a significant negative impact on water quality in the Corbally Stream, and consequently an impact on otter; either directly (e.g. acute or sub-lethal toxicity from pollutants) or indirectly (e.g. affecting their food supply or supporting habitats).

An accidental pollution event affecting surface water quality during construction or operation has the potential to result in a likely significant negative effect, at a county geographic scale.

However, it is considered unlikely that a pollution event of such a magnitude would occur during construction or operation, or be any more than temporary in nature. Nevertheless, a precautionary approach is being taken in assuming a level of risk of water quality impacts and detailed mitigation measures are required to further minimise

the risk of the proposed development having any perceptible effect on water quality in the local area.

Amphibians

During construction, contaminated surface water runoff and/or an accidental spillage or pollution event into any surface water feature has the potential to have a significant negative impact on water quality and consequently an impact on amphibian species, either directly (e.g. species coming into direct contact with pollutants) or indirectly (e.g. acute or sub-lethal toxicity from pollutants affecting their food supply or supporting habitats). The effects of frequent and/or prolonged pollution events in a waterbody have the potential to be extensive and far-reaching and could potentially have significant long-term effects.

However, it is considered unlikely that a pollution event of such a magnitude would occur during construction or be any more than temporary in nature. Nevertheless, a precautionary approach is being taken in assuming a level of risk of water quality impacts and detailed mitigation measures are required to further minimise the risk of the proposed development having any perceptible effect on water quality during construction.

Habitat degradation as a result of effects on surface water quality during construction has the potential to affect the species' conservation status and result in a likely significant negative effect, at a local geographic scale. Mitigation measures have been designed to protect water quality during construction (see Chapter 7 Water, and in the project CEMP[48]).

White-clawed crayfish

White-clawed crayfish were not identified within the proposed development site during aquatic surveys in July 2023, however the NBDC database search identified records within c. 2km of the proposed development site.

Whilst the habitat within the site is deemed unsuitable for this species, an accidental pollution event resulting in degradation of water quality downstream to areas of suitable habitat, could result in a significant effect on white-clawed crayfish at a local geographic scale.

5.5.2 Operational Phase

Potential Impacts on Designated Sites during Operational Stage

European Sites

The assessment presented in the Appropriate Assessment Screening Report concluded that the potential impacts associated with the proposed development do not have the potential to affect the receiving environment and, consequently, do not have the potential to affect the conservation objectives supporting the qualifying interests or

[48] DNV (2025) Construction Environmental Management Plan (CEMP). Large-Scale Residential Development on lands at Boherboy, Saggart, Co. Dublin

special conservation interests of any European sites; either alone or in combination with any other plans or projects.

Chapter 7 of this EIAR submitted with this application deals with the hydrology of the proposed development site, alongside a Hydrological and Hydrogeological Risk Assessment (DNV, 2025) for the site. The chapter and risk assessment assess the hydrological and hydrogeological risks associated with the proposed development. The assessments noted that based on the potential sources of pollution from the proposed development during construction and operation phases, there is no potential for impacts to occur on European sites in Dublin Bay. This conclusion is based on a good understanding of the hydrological and hydrogeological environment, plausible sources of impact and knowledge of receptor requirements. This allows possible source-pathway-receptor linkages to be identified. Potential sources of impacts during construction and operation were considered in the assessments and all potential sources of contamination were considered in relation to European sites without taking account of any measures intended to avoid or reduce harmful effects of the proposed development (mitigation measures) i.e. a worst-case scenario.

The results of the assessments carried out by DNV indicate that surface run-off from the proposed development, during both construction and operational phases respectively, will not result in any impact on water quality in downstream receiving waters in Dublin Bay (and thus in the European sites therein).

In line with good practice effective mitigation measures have been included in the construction design, management of construction programme and during the operational phase of the proposed development. However, it must be noted that these are included in the design, not for the purposes of avoiding or reducing any potential harmful effects to any European sites but are required for new developments under the under the objectives of the Greater Dublin Strategic Drainage Study and South Dublin County Council Development Plan and in line with good construction practice.

It is an objective of the Greater Dublin Strategic Drainage Study, and the South Dublin County Council Development Plan 2022-2028, to incorporate Sustainable Urban Drainage Systems (SUDS) within new developments. The SUDS features associated with the proposed development are not included within the design to avoid or reduce any potential harmful effects to any European sites.

Therefore, there is no possibility of the proposed development during operational stage undermining the conservation objectives of any of the qualifying interests or special conservation interests of the European sites in, or associated with, Dublin Bay as a result of surface water run-off or discharges.

National Sites

Nationally designated sites would be subjected to the same potential impacts from operational stage described above with respect to potential impacts on European sites. In absence of mitigation, such potential impacts may result in a likely significant effect at the national geographic scale.

There is a hydrological connection between the proposed development site and the nationally designated sites within Dublin Bay, North Dublin Bay pNHA and South Dublin Bay pNHA, however, the Hydrological and Hydrogeological Risk Assessment (DNV, 2025) has concluded that there is no pathway for potential impacts to occur via this hydrological connection due to the hydrological ZOI not extending into Dublin Bay.

Potential Impacts on Habitats and Flora during Operation Stage

The majority of the habitats within the proposed development will be either removed or replaced during the construction stage, prior to operation of the proposed development. The primary remaining sensitive habitats located within the proposed development site are the hedgerows and treelines that are to be retained along the boundaries of the site. No further impacts on these habitats and flora are expected during the operational stage of the proposed development, with the exception of a likely increase in footfall and human traffic within these habitats.

Habitat degradation from spread of invasive species

In the absence of invasive species management prior to construction, the existing invasive species on site (i.e. Three cornered garlic *Allium triquetrum* and Spanish bluebell *Hyacinthoides hispanica*) could be spread due to landscaping activities such as trimming of hedgerows and roadside verges, inappropriate dumping and transportation of soil or vegetation with seed or bulbs, or grass cutting[40, 41] during the operational phase of the proposed development. Therefore, there is the potential for habitat degradation from the spread of both invasive species within the proposed development site during the operational phase.

Potential Impacts on Fauna during Operational Stage

Badger

The proposed development site has the potential to be used by badger due to suitable habitat for foraging and sett building, however no evidence of this species was identified during field surveys carried out within the lands. The conversion of the lands to buildings and artificial surfaces, with associated planting and other landscaping elements, will reduce the amount of semi-natural habitat available for foraging in this area for badgers, however, the overall loss of habitat is small and not significant at any scale, considering the typical badger territory size of more than 60ha in Ireland (Hayden and Harrington, 2000), and the abundance of available suitable habitat surrounding the proposed development site. Periphery commuting corridors will also be maintained and will be available to badger as wildlife corridors in the long-term.

Other mammals

The proposed development site has the potential to be used by hedgehogs, pygmy shrews, Irish hare, and Irish stoat due to suitable habitat for foraging and breeding and the presence of these species from the local area from the findings of the desktop review. The conversion of the lands to buildings and artificial surfaces, with associated planting and other landscaping elements, will reduce the amount of semi-natural habitat available for foraging in this area for small mammals, however, the overall loss of habitat is small and not significant at any scale, considering that the peripheries of

the site and the drainage ditches will be retained and still provide commuting and/or foraging habitat for these species, and the abundance of available suitable habitat surrounding the proposed development site for all of the aforementioned species.

Given the relatively low numbers of individuals of each species that are likely to be affected, that they are highly mobile species and the suitability of the habitat in the surrounding lands in the south and west, the change in habitat is unlikely to result in a level that would affect the species' conservation status, and result in a significant negative effect, even at a local geographic scale.

Birds

With the exception of treelines, hedgerows and scrub, the habitats in the lands are of low suitability for nesting bird species. Species that commonly nest in grassland vegetation were not encountered during surveys of the lands in 2020, 2021, 2023 and 2024. The effects of habitat loss on bird species arising from the proposed development during operation will not be significant at any geographic scale for the following reasons:

- While the lands will be of lower suitability for foraging species for the duration of the construction phase of the development, the implementation of landscape planting will enhance the lands in terms of foraging opportunities for common garden bird species; and,

- Majority of the habitat with suitability for nesting bird species i.e. treelines, is being retained in the proposed development, and the implementation of landscape planting (incl. additional trees and treelines) will enhance the lands in terms of breeding opportunities.

Wintering birds will benefit of implementation of landscape planting similarly to breeding birds. Due to aforementioned factors, the effects of habitat loss on wintering bird species arising from the proposed development will not be significant at any geographic scale.

Bats

Bats are considered to be light-sensitive species, and increased illumination of a site can affect how bats may utilise a site (ILP, 2023). For roosting bats, increased light levels can affect predation, as avian predators tend to rely on vision to catch their prey, and increased light levels at night-time may increase bats vulnerability to predation. Illumination of foraging and commuting habitat can result of abandonment of habitat. The response to lighting in Ireland by foraging bats varies by species, with Leisler's bat, a high-flying species, as well as common pipistrelle bat and soprano pipistrelle bat appearing to be least affected by lighting (Roche et al., 2014).

The habitat within the subject lands were mostly unlit during the surveys in 2020, however the eastern and northern boundaries were partially illuminated with streetlights. During its operation, and in the absence of any mitigation, it is anticipated that the proposed development will result in an increase in lighting of the site. Light spill will originate both from installation of public lighting in the residential areas, as well

as from the residential properties themselves (e.g. incidental light pollution from house windows). The cumulative increase in light spill will be minor, as the development site suffers from some light spill from the adjacent public road and adjoining properties, and commuting and foraging areas and located away from any potential light spill areas. However, in the absence of mitigation this is likely to result in a likely significant effect, at a local scale.

5.5.3 Potential Cumulative Impacts

This section of the report presents the assessment carried out to examine whether any other proposed developments have the potential to act cumulatively with the proposed development to give rise to likely significant effects on biodiversity.

As set out in the South Dublin County Development Plan 2022-2028, the lands surrounding the site are a combination of different zoning objectives. The lands to the east and north are zoned as 'R2 - Existing residential' under Objective – to protect and-or improve residential amenity in the South Dublin County Development Plan 2022-2028 (South Dublin County Council, 2022). To the west, and partially to the north eastern corner of the site are zoned as 'G1 - Open space, park' under Objective – to preserve and provide for open space with ancillary active recreational amenities. The south of the site is zoned as 'P1 – Agriculture' under the Objective – To protect and improve rural amenity and to provide for the development of agriculture. The proposed development land itself, form an area earmarked as 'R1 – New/proposed residential' within the South Dublin County Development Plan (South Dublin County Council, 2022).

Potential cumulative impacts may arise during construction and operation, as a consequence of the proposed development acting in-combination with other plans and projects, on water quality in the downstream surface water environment, disturbance to birds, bats, small mammals and badger, as well as habitat loss to bats, birds, small mammals, otters and badger.

The most likely cumulative effect of other future development with the proposed development on the receiving environment is the potential for other pollution sources within the River Liffey catchment, to cumulatively affect water quality in the receiving surface water, estuarine and marine environments. There will be no significant cumulative impacts on water quality in the downstream surface water environment in the downstream Camac River, River Liffey or Dublin Bay as a consequence of the proposed development acting in-combination with other plans and projects, as the development itself will not have any adverse effects on the downstream surface water environment. The potential for in combination effects to arise in downstream environments from any existing or proposed land use plans or developments is regulated and controlled by the environmental protective policies and objectives of the South Dublin County Development Plan 2022-2028 and any other county level land use plans which can influence conditions in Dublin Bay: Dublin City Development Plan 2022-2028 (Dublin City Council, 2022), the Dún Laoghaire-Rathdown County Development Plan 2022-2028 (Dún Laoghaire-Rathdown County Council, 2022), the Fingal Development Plan 2023-2029 (Fingal County Council, 2023), or any other county level land use plans which can influence conditions in Dublin Bay via rivers and

other surface water features. Any existing/proposed plan or project that could potentially affect downstream environments, must adhere to these overarching environmental protective policies and objectives. These policies and objectives will ensure the protection of the downstream environments within the zone of influence of the proposed development, and include the requirement for any future plans or projects to undergo Screening for Appropriate Assessment and/or Appropriate Assessment to examine and assess their effects on European sites, alone and in combination with other plans and projects. Therefore, there is no possibility of any other plans or projects acting in combination with the proposed development to undermine the conservation objectives of any of the qualifying interests or special conservation interests of Natural Heritage Areas or European sites in, or associated with, Dublin Bay as a result of water quality effects.

There are general overarching policies in the South Dublin County Development Plan 2022-2028 to ensure that proposals for development integrate the protection and enhancement of biodiversity (NCBH5 Objective 1) and to ensure developments do not have a significant adverse impact on rare and threatened species. There are also specific objectives to protect European sites (NCBH3 Objective 1), prevent development that would adversely affect the integrity of any European site(s) or National site(s) (NCBH4), to ensure that development does not have significant impact on protected habitats and species (NCBH5 Objective 2), to encourage the retention of hedgerows and prevent the loss and fragmentation (NCBH11 Objective 3). The South Dublin County Development Plan 2016-2022 also has specific policies and objectives relating to the protection of surface water and groundwater resources (e.g. NCBH2 Objective 4, Policy G 5).

Considering the predicted impacts associated with the proposed development, the mitigation measures proposed to protect the local biodiversity resource and the receiving environment, and the protective policies and objectives on the land-use plans that will direct future development locally, significant cumulative negative effects on biodiversity are not predicted.

5.5.4 “Do Nothing” Impact

The continuation of the existing management practices at the proposed development site in a “do-nothing” scenario, would maintain the current habitats present. The proposed development site would continue to provide suitable foraging and breeding habitat for badgers, as well as bird and small mammal species, suitable foraging and roosting habitat for common bat species, and suitable foraging and commuting habitat for otters. The eastern field would continue to be used for cattle grazing, and the drainage ditches would likely become degraded further due to this. The western field would be cut regularly and potentially also used for grazing animals.

As set out in the South Dublin County Development Plan 2022-2028, the lands are zoned as ‘R1 – New/proposed residential’. Therefore the lands would eventually be developed for residential purposes in the future, and would remain in its current state until this time.

5.6 Avoidance, Remedial & Mitigation Measures

5.6.1 Construction Phase

Mitigation Measures for Habitats during Construction Stage

Any vegetation (including trees, hedgerows or scrub adjacent to, or within, the proposed development boundary) which is to be retained shall be afforded adequate protection during the construction phase in accordance with the Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, During and Post Construction of National Road Schemes (National Roads Authority, 2006b), as follows:

- All trees along the proposed development boundary that are to be retained, both within and adjacent to the proposed development boundary (where the root protection area of the tree extends into the proposed development boundary), will be fenced off at the outset of works and for the duration of construction to avoid structural damage to the trunk, branches or root systems of the trees. Temporary fencing will be erected at a sufficient distance from the tree so as to enclose the Root Protection Area (RPA) of the tree.

- The RPA will be defined based upon the recommendation of a qualified arborist

- Where fencing is not feasible due to insufficient space, protection for the tree/hedgerow will be afforded by wrapping hessian sacking (or suitable equivalent) around the trunk of the tree and strapping stout buffer timbers around it

- The area within the RPA will not be used for vehicle parking or the storage of materials (including soils, oils and chemicals). The storage of hazardous materials (e.g. hydrocarbons) or concrete washout areas will not be undertaken within 10 m of any retained trees, hedgerows and treelines

- A qualified arborist shall assess the condition of, and advise on any repair works necessary to, any trees which are to be retained or that lie outside of the proposed development boundary but whose RPA is impacted by the works. Any remedial works required will be carried out by a qualified arborist

- A buffer zone of at least 5m will be maintained between construction works and retained hedgerows to ensure that the root protection areas are not damaged

In the case of the marsh habitat on site, it is not practical to retain the marsh habitat in its current location owing to changes in the ground levels to address site accessibility requirements. Therefore, it is instead proposed to translocate the habitat (comprising approximately 0.05 ha) to another location within the proposed development site. The proposed translocation approach is based on a review of case studies and is considered to be a pragmatic and feasible solution in light of design constraints, and has been developed through a multidisciplinary iterative design approach with input from the design team's engineers, hydrogeologist, landscape design team and ecologists. The area identified for habitat translocation and creation is to provide a greater area (0.13 ha) to that being permanently lost to the proposed development. A

replacement ratio greater than one-to-one is used in this instance because of the uncertainty inherent in habitat compensation and translocation.[49] This is detailed in the accompanying Marsh Translocation Report (Gannon & Associates, 2025).

Prior to works commencing, a detailed Ecology Site Management Plan specific to the contract programme will be prepared by a suitably qualified ecologist with reference to the construction programme. This may influence the timing and co-ordination of these works and the requirement for storage of soils. The management plan will be issued to the site contractor and team involved in the translocation works, and will include a site specific method statement outlining step-by-step actions for the site contractor to implement within a specified timescale, under the supervision and advice of the ecologist. It will also include a check-list of conditions to be assessed by the ecologist at the receptor site during ecological monitoring to be carried out prior to, during and post translocation works. The requirement for an Ecology Site Management Plan by the Contractor does not reflect any current inadequacy in the information presented here and relied upon in the EIA Report; rather the management plan to be prepared will merely serve to provide more site-specific detail and methodological steps to the principles and proposals already outlined in this report.

Engineering solutions will be implemented as required to complement the site's existing hydrological and hydrogeological regime to create an appropriate degree of waterlogging at the receptor site to allow for habitat establishment and long-term persistence on site. These solutions will include diversion of subsurface drains into the receptor site area and/or creating areas of low elevation or depressions that can be flooded and retain water and/or excavating to the depth of the seasonal water-table[50]. The receptor site will be prepared in conjunction with any required engineering solutions through the removal of surface vegetation and the creation of suitable hollows/depressions to receive the translocated vegetation.

Once the receptor site has been suitably prepared, translocation involves the removal of turves, soil and/or plant species from the impacted donor site to the new receptor site. Turves of habitat will be carefully removed from the chosen donor site using a suitable excavator (*i.e.* with adequate capacity to carefully remove the intact turve). The excavated turves will be temporarily stored in standing water. Some of the underlying soils will then be excavated and used to line the receptor site hollow. Due to the wetness of soils associated with the habitat, it is recommended that, where possible, they are translocated immediately from the donor site to the receptor site. In the event of this not being possible, the duration of storage should be minimal. Soil translocation is useful to introduce chemically and physically suitable substrate for growth of target plant species, as well as a mixture of soil organisms such as bacteria, fungi and invertebrates, and a mixture of wetland vegetation (as seeds,

[49] CIEEM (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine V1.3. Chartered Institute of Ecology and Environmental Management, Winchester.

[50] Gilbert, O.L., and Anderson, P. (1998) *Habitat Creation and Repair.* Oxford University Press.

tubers or rhizomes).[51] The turves should be translocated into the receptor site in early spring, at the end of dormancy, just before full growth.

In addition to turves excavated from the existing marsh habitat, supplemental landscape planting on and around the translocated turves of suitable species reflecting those recorded on site and typical of marsh may be implemented during the establishment phase as monitoring identifies gaps where the translocated vegetation may be locally slow to establish. Species that may be used would include those typical of a marsh habitat, and is detailed in Marsh Translocation Report. Many of these species have been proposed to be utilised in the ongoing SDCC ICW projects, such as at Tymon Park[52].

In compensating for the losses of these habitat types, the proposed development is not likely to result in a significant residual effect, at any geographic scale, on marsh (GM1).

Prevention of spread of invasive species during construction

Any Third schedule invasive species (*Allium triquetrum* and *Hyacinthoides hispanica*) must be removed from the proposed development site in advance of construction works.

- A confirmatory pre-construction invasive species survey will be undertaken by an ecologist, arranged by the appointed contractor/client to confirm the absence, presence and / or extent of all Third Schedule non-native invasive species within the footprint of the proposed development site

- During advance works and prior to commencement of construction, any areas where Third Schedule non-native invasive species have been recorded must be clearly fenced off (in order to avoid spreading seeds or plant fragments around or from the site) prior to their excavation and removal off-site to a licenced facility for invasive species by an appointed invasive species management (ISM) contractor which shall be completed prior to the commencement of construction works. Earthworks or machinery movement must be avoided in any areas where non-native invasive species have been identified during the pre-construction surveys, until the relevant stands have been eradicated, by the ISM contractor and/or under the supervision of the ISM contractor.

- All equipment and machinery will be cleaned prior to entry into the proposed development site as biosecurity measures to avoid transfer of invasive species on equipment and machinery which may have been used elsewhere.

[51] Taylor N.G., Grillas P., Smith R.K. & Sutherland W.J. (2021) *Marsh and Swamp Conservation: Global Evidence for the Effects of Interventions to Conserve Marsh and Swamp Vegetation*. Conservation Evidence Series Synopses. University of Cambridge, Cambridge, UK.

[52] Nicholas O'Dwyer Ltd. (2019*) River Poddle Flood Alleviation Scheme, Volume 4 EIAR: Appendix 5-3 Integrated Constructed Wetland Report.*

- Erection of clear signage will be undertaken at the construction compound (and any discrete construction areas) and inclusion of detail during tool-box talks or similar (environmental induction) for construction staff in respect of the management of Third Schedule non-native invasive species. The signage and notification should be easily understood so that users are aware of the measures to be taken for the locations of non-native invasive species on site

- In consultation with the ISM contractor, identify dedicated access points into and out of fenced off areas. These shall not be breached until such time that the ISM contractor, 1) has confirmed eradication / removal of non-native invasive species, or 2) is present to supervise works to commence the treatment / eradication process;

- Where possible, the locations of dedicated footwear and wheel wash facilities should be identified and updated by the ISM contractor. Where a dedicated / bespoke wheel wash cannot be installed owing to space limitations, the ISM contractor shall, in conjunction with the appointed contractor, ensure that no excavated loose material is allowed offsite from within an exclusion zone. Similarly, where plant that is used to excavate soils, it shall be visually checked for loose soil before movement to another part of site (where possible, the movements of tracked machinery should remain outside the non-native invasive species exclusion zone as defined by the ISM contractor or strictly supervised by the ISM contractor where unavoidable). Loose soil shall be scraped off and the material double-bagged and brought to a clearly demarcated and dedicated quarantine area for disposal to an authorised facility, and a solution of Virkon© (or similar approved disinfectant) applied to machinery to ensure that no obscured seed/root material remains viable.

- Vehicular movements within any exclusion area shall be minimised as far as is practical.

- Machinery which has been used for the transport and / or excavation of infected / suspected infected vector material shall be thoroughly washed down, and the washings captured in a quarantined bunded container for disposal. All such machinery / plant shall not be permitted to commence work elsewhere on or off-site until written confirmation of clearance of vector material has been undertaken.;

- Dedicated wash down and solution capture should be set up in the construction compound. All washings should be stored in a quarantined bunded container that is rated for such storage until such time that they are removed offsite for disposal and a facility that is authorised to accept such waste;

- Except in very particular circumstances, under the guidance of the ISM contractor, there shall be no temporary storage of infected / suspected infected soils on-site;

- Where small volumes e.g., volume capable of being double bagged in quarantine bags such as cut plants, bulbs or loose soil occur, it may be practical to bag and/or containerise the material and bring it to a clearly demarcated and dedicated quarantine area within the construction compound until such time that the material is disposed of to an authorised facility, similar to the process of disposing of bulk excavated infected soil. The temporary storage of small amounts of infected material shall not occur within 50m of any watercourse and any land within an identified flood zone.

- Where the movement of any Third Schedule species is required off-site, a licence will be required from NPWS under Section 49 of the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended) in advance of any movement to a site/facility licenced to accept such waste.

- In the case of *Allium triquetrum* and *Hyacinthoides hispanica* within the proposed development site, eradication of infestations can be achieved through physical removal. Hand digging of individuals should be carried out when above-ground biomass is visible (i.e. early spring) ensuring that all biomass including bulbs collected.

Protection of Vegetation from Dust during Construction

To control dust emissions during construction works standard mitigation measures shall include: spraying of exposed earthwork activities and site haul roads during dry and/or windy conditions; provision of wheel washes at exit points; control of vehicle speeds and speed restrictions (20 km/h on any un-surfaced site road); covering of haulage vehicles; and, sweeping of hard surface roads. These procedures will be strictly monitored and assessed on a daily basis.

Protection of water quality

Mitigation measures to protect surface water in the receiving environment during construction are described in Chapter 7 of this EIAR, and in the project CEMP, and include the following:

- A riparian buffer zone of 20 metres will be maintained at all waterbodies. Entry to the stream channel by vehicles and/or personnel will not be permitted under normal circumstances. Works will be carried out from the bank side. Where instream works are proposed however, they will be restricted to the period 1st July through 30th September, inclusive to minimise the risks to any salmonids downstream,
- Road stream crossings will be box culverts in design due to the associated site constraints (i.e. the presence of trunk watermains at the location of the proposed crossings and the requirement for the achievement of greater than minimum vertical separation), the requirement to tie into existing roads, and the narrow width of the watercourse on site. Embedded culverts will be buried to a depth of 500mm below the stream bed at the natural gradient, and will be back filled with clean gravel to match the existing stream profile. The culvert will be

sized to maintain the natural channel width. The stream crossings will be implemented as per a method statement agreed by the appointed contractor and IFI,

- There will be no direct discharges to surface waters during the construction phase,
- Prior to any machinery working on site for any purpose, the working area will be marked out with wooden stakes and where deemed necessary, hazard tape will be erected to identify the working limits,
- Provision of measures to prevent the release of sediment during the construction work will be installed prior to any site clearance. In respect to works adjacent to the drainage ditches and streams with flowing water, these measures may include but not be limited to the use of silt fences, sedimentation mats etc.,
- Provision of exclusion zones and barriers (sediment fences) between earthworks, stockpiles and temporary surfaces to prevent sediment washing into the receiving water environment,
- Temporary construction surface drainage and sediment control measures will be in place before earthworks commence,
- Working limits to be checked at the end of every day by the Site Manager
- If pouring of cementitious materials is required for the works adjacent to a pond, surface water drainage features, or drainage features connected to same, this will be carried out during dry weather
- Discharge water generated during placement of concrete will be removed off site for treatment and disposal
- Where stockpiling is required, temporary stockpiles will be located >20 metres from any water features. Three sides will be surrounded with silt fences with access from the fourth (uphill) side. Sides will be smoothened and collection of run-off considered i.e. discharging to a settlement pond etc.
- The contractor will avoid work involving moving of soil during heavy rainfall to minimise potential for entrainment of silt. Where forecasts indicate heavy rainfall events, works should be rescheduled accordingly
- Pumped concrete will be monitored to ensure no accidental discharge. Mixer washings and excess concrete will not be discharged to surface water. Concrete washout areas will be located remote from any surface water drainage features to avoid accidental discharge to watercourses
- No storage of hydrocarbons or any polluting chemicals will occur within 50m of the surface water network. Fuel storage tanks will be bunded to a capacity at least 110% of the volume of the storage tank (plus an allowance of 30mm for rainwater ingress). Re-fuelling of plant will not occur within 50m of the surface water network and only in bunded refuelling areas
- Emergency procedures and spillage kits will be available and construction staff will be familiar with emergency procedures
- Implementation of measures to minimise waste and ensure correct handling, storage and disposal of waste
- If any heavily contaminated land is encountered during construction, it will be removed off-site and be disposed of at a licenced waste facility

- Contaminated groundwater, if encountered on site, could result in contaminated waters being discharged from the construction site. Any such contaminated waters will be treated using best practice, appropriate measures/controls dependent on the nature of the contamination prior to discharge to the surface water network
- There will be no direct pumping of contaminated water from the works to the surface water drainage/stream network at any time
- Foul drainage from site offices and compounds, where not directed to the existing wastewater network, will be contained and disposed of off-site in an appropriate manner and in accordance with the relevant statutory regulations, to prevent the pollution of watercourses
- An Emergency Response Plan detailing the procedures to be undertaken in the event of flooding, a spill of chemical, fuel or other hazardous wastes, a fire, or non-compliance incident will be prepared
- Ensure site staff are trained in the implementation of the Emergency Response Plan and the use of any spill control equipment as necessary
- The contractor will employ an environmental specialist who will monitor water quality upstream and downstream of the area of works. Data on pH, conductivity, and suspended solids will be collected as follows:
    - Twice weekly visits during general site works
    - Daily site visits during key construction activities (to be agreed between the environmental specialist and Dun Laoghaire-Rathdown County Council), e.g. during installation of the proposed outfall, during and immediately after clearance of on-site vegetation.
    - Event inspection e.g. following heavy rainfall events or during concreting works
- Monitoring will be undertaken for a period of at least two months prior to works commencing and one-month post construction. Trigger concentrations should be agreed at commencement and based on the baseline established in the two months prior to works commencing. Note: Additional measures will be implemented in the event that threshold concentrations are surpassed
- All monitoring data should be collated to show trends for indicator parameters pH, conductivity, suspended solids and hydrocarbons, and will be shared at regular intervals with South Dublin County Council.

These mitigation measures are for the protection of the water quality within the Corbally, Coldwater, and Cooldown streams only, and not for the protection of European Sites downstream as there are no significant effects likely to arise on European sites as a result of water quality impacts associated with the proposed development, as discussed above in Section 6.1.

Mitigation Measures for Badgers during Construction Stage

The mitigation measures described below follow the recommendations set out in the Guidelines for the Treatment of badgers during the Construction of National Road Schemes (National Roads Authority, 2006). These guidelines set out the best practice approach in considering and mitigating impacts on badgers during construction works.

As badger could potentially establish new setts in the future within the ZoI of the proposed development, a pre-construction check of all suitable habitat within the proposed development boundary will be required within 12 months of any constructions works commencing. Any new badger setts present will be afforded protection in line with the requirements set out in the TII/NRA guidance document as follows:

- Badger setts will be clearly marked and the extent of bounds prohibited for vehicles clearly marked by fencing and signage
- No heavy machinery shall be used within 30m of badger setts; lighter machinery (generally wheeled vehicles) shall not be used within 20m of a sett entrance; light work, such as digging by hand or scrub clearance shall not take place within 10m of sett entrances
- During the breeding season (December to June inclusive), none of the above works shall be undertaken within 50m of active setts, nor blasting or pile driving within 150m of active setts
- Works can be undertaken within these zones following consultation with, the approval of and, if required, under the supervision of a badger ecologist

As the proposed development will not result in the permanent loss of any badger setts, there is no requirement to construct any artificial setts as part of the mitigation strategy.

Mitigation Measures for Otter During Construction Stage

The mitigation measures as described above in Section 5.9.1.1 to protect water quality within the local receiving environment, will also mitigate for habitat degradation impacts on otter species.

Mitigation for Birds during Construction Stage

Where feasible, vegetation (e.g. hedgerows, trees, scrub and grassland) will not be removed, between the 1st March and the 31st August, to avoid direct impacts on nesting birds. Where the construction programme does not allow this seasonal restriction to be observed, then these areas will be inspected by a suitably qualified ecologist for the presence of breeding birds prior to clearance. Areas found not to contain nests will be cleared within 3 days of the nest survey, otherwise repeat surveys will be required.

Mitigation for Amphibians during Construction Stage

Disturbance and Mortality Risk

If works to clear any of the habitat features suitable to support amphibian species are to begin during the season where frogspawn or tadpoles may be present (February – mid-summer), or where breeding adult newts, their eggs or larvae may be present

(mid-March – September), a pre-construction survey will be undertaken to determine whether breeding amphibians are present.

In the case of common frog, any frog spawn, tadpoles, juvenile or adult frogs present will be captured and removed from affected habitat by hand net and translocated to the nearest area of available suitable habitat beyond the ZoI of the proposed development by a suitably licensed individual.

In the case of smooth newt, individuals will be captured and removed from affected habitat either by hand net or by trapping and translocated to the nearest area of available suitable habitat, beyond the ZoI of the proposed development by a suitably licensed individual. If used, the type and design of traps shall be approved by the NPWS. This is a standard and proven method of catching and translocating smooth nest.

If the size or depth of the habitat feature is such that it cannot be determined whether all amphibians have been captured, it will be drained under the supervision of a suitably experienced ecologist to confirm that no amphibian species remain before it is destroyed or infilled. Any mechanical pumps used to drain the habitat feature will have a screen fitted, and be sited, such that no amphibian species can be sucked into the pump mechanism.

Any capture and translocation works shall be undertaken immediately in advance of site clearance/construction works commencing.

Protection of Water Quality

The mitigation measures as described above in Section 5.6.1 to protect water quality within the local receiving environment, will also mitigate for habitat degradation impacts on amphibians.

Mitigation Measures for White-clawed crayfish during construction stage

The mitigation measures as described above in Section 5.6.1 to protect water quality within the local receiving environment, will also mitigate for habitat degradation impacts on white-clawed crayfish.

Mitigation Measures for bats during Construction Stage

Measures to Protect Bats during the Removal of Roosts

The following mitigation measures are proposed in relation to trees identified as having potential to support roosting bats (Figure 5-8). Bats could occupy suitable roosting features at any time prior to the commencement of works, even where they have not previously been identified. Therefore, there is an inherent risk that bats could be affected by the proposed felling works. The following mitigation procedures will be followed:

- Trees will only be felled if confirmed that the potential roost features are clear of bats. A bat ecologist / arborist with training in pre-felling checks of tree cavities for bats will check each feature with a high-powered torch, mirror and/or

endoscope. Access may require use of a mobile elevated walking platform (MEWP), or by climbing the tree, which will be determined by health and safety considerations. In cases where PRFs cannot be safely accessed via MEWP or tree climbing, it may be necessary to confirm absence by way of night-time emergence/re-entry survey. Once the feature is declared free of bats, the tree can be felled.

- In the unlikely event that a bat is encountered in a PRF, then works to the relevant tree will cease. The bat ecologist will prepare a mitigation strategy and may need to prepare a derogation application.

Measures to Control and Reduce Light Spill During Construction

During construction, any external lighting to be installed, including facilitating night-time working or security lighting, on the site shall be sensitive to the presence of bats in the area, downlighting, and time limited where possible. Lighting of sensitive wildlife areas and primary ecological corridors (e.g. along the central hedgerow/watercourse, and hedgerow boundaries of the site) and light pollution in general should be avoided.

Lighting of the site during construction is designed in accordance with the following guidance:

- Guidance Notes for the Reduction of Obtrusive Light GN01 (Institute of Lighting Professionals, 2020)
- Guidance Note Bats and Artificial Lighting at Night GN08 (Institute of Lighting Professionals, 2023)
- Bats & Lighting - Guidance Notes for Planners, Engineers, Architects and Developers (Bat Conservation Ireland, December 2010)
- Bats and Lighting in the UK – Bats and the Built Environment Series (Bat Conservation Trust UK, January 2008).

5.6.2 Operational Phase

Mitigation measures for habitat loss

The landscaping plan for the proposed development site includes for the replacement planting of hedgerows and trees throughout the site of native species to compensate for the loss of hedgerow within the site. In the case of the central hedgerow along the Cooldown watercourse, 186 linear metres of hedgerow habitat is to be lost across six separate sections. The landscape planting schedule will include for the planting of an additional 2070 m^2 of hedgerow habitat with 280 trees, thereby mitigating the loss of this habitat. While there will be some habitat loss in the short term during the construction phase of the proposed development, the planting schedule will result in an overall net gain for hedgerow habitat, and therefore the proposed development is not likely to result in a significant residual effect on these habitats, at any geographic scale,

Prevention of spread of invasive species during operation

The bulk importation of material from offsite could potentially result in the accidental spread of Third Schedule species, as it is uncertain if these site(s) are free from non-native invasive species. This is likely less an issue for road building material. However, in terms of landscaping, if soil is imported to the site for landscaping, infilling or embankments, the appointed contractor shall seek documentation from suppliers confirming that the material is free from invasive species.

Following the construction of the proposed development, there may be ongoing treatment programmes which extend for a number of years into the operational phase. Notwithstanding this fact, it is important that the proposed development site is systematically re-surveyed during its early operational phase, particularly around areas where management / eradication measures were enacted, to determine the success of control measures and to identify areas where invasive plants may be reinvading. This post-construction surveillance should be carried out for at least two years post completion (or as advised by the ISM contractor of all mitigation measures).

The above measures are important for all Third Schedule species, where they occur, as maintenance works associated with landscaping, such as mowing and hedge cutting have the potential to spread these species via the dispersal of very small amounts of plant material.

Mitigation Measures for Bats during Operation Stage

Any light spill affecting bat use of habitats outside of the proposed development boundary will be minimised, particularly along the boundaries of the site, and along the central boundary. Light levels during construction and operation in these areas will be maintained as close to baseline levels as is practicable.

Ecological input was provided to the lighting design, to ensure the sensitive siting and design of the lighting elements with respect to bats. This includes careful consideration of light placement on buildings, column heights and luminaire design. Luminaires have been selected which do not emit UV light (e.g. metal halide and fluorescent light sources have been avoided), and which are designed using full cut off. These will be mounted horizontally, with no tilt, to ensure there is no direct upward light.

Through the implementation of sensitive lighting design and the use of forward throw luminaires, lux levels on the eastern, western, and central hedgerows (with the exception of road/footpath crossing points) has been kept at or below 1.0 lumen.

5.6.3 Enhancement

The majority of native hedgerows and trees on site be found along the boundaries and central border between the two fields, have been retained wherever possible to ensure wildlife corridors and green infrastructure is maintained. The central hedgerow/treeline will also be enhanced by the addition of native tree species *Alnus glutinosa, Corylus avellana, Betula pubescens,* and *Ilex aquifolium*, with wetland/marginal species planted adjacent, including; *Filipendula ulmaria, Silene flos-cuculi, Argentina anserina*

and *Cardamine pratensis*[53], proposed in the stream area to be utilised as a swale. All planting within the site has been in specific regard to the 'All Ireland Pollinator Plan 2021-2025'. The riparian buffer zones along the Cooldown, Coldwater and Corbally streams will be maintained as no-mow zones to distinguish the riparian corridor from adjacent amenity areas. The total area within the riparian buffer zones within the proposed development site is 3.02 Ha. The Cooldown stream (i.e. the central watercourse) will be enhanced through the incorporation of boulders to provide some artificial sinuosity to create a more natural flow within the channel without excessive intervention. By improving the physical complexity and potentially adding more ecological niches, the interrelationship between green infrastructure, and biodiversity within the proposed development may be achieved and enhanced.

The planting of native trees including; *Quercus robur, Quercus petraea,* and *Alnus glutinosa* is proposed throughout the main open space areas and along the peripheries of the site, where they will mature into large, parkland specimens. The retention of existing trees, and planting of additional trees will screen the development from the habitats in the surrounding lands, and will ensure nocturnal species *e.g.* bats, badgers, small mammals, can continue to use the boundaries as foraging and/or commuting areas. Planting within the site of additional trees, hedgerows and shrubs will act as 'stepping stones', allowing fauna species to pass through the site from adjoining lands.

The introduction of wildflower planting within the open space areas in the north of the site will provide new habitat for the local wildlife, and will help increase biodiversity in the local area. This will extend the whole way along the eastern boundary alongside the Corbally Stream, where mature native trees are being retained and additional trees planted, which will act as canopy cover over the ground flora planting enhancing the area further to benefit pollinators, birds, bats, and small mammals.

5.6.4 "Worst Case" Scenario

The assessments carried out under sections 5.5.1 and 5.5.2 above are undertaken based on the design received and in the absence of mitigation. Therefore, this assessment represents the worst-case scenario of the Proposed Development prior to the inclusion of mitigation measures. In a general worst-case scenario for the Proposed Development site, all vegetation would be removed, and fauna would cease to use the lands over the long-term.

5.7 Residual Impacts

Following the implementation of the mitigation measures outlined in Section 5.9 above, the proposed development will not result in any significant residual effect on the Key Ecological Receptors identified (see Table 5-8 and Table 5-9) on its own, or cumulatively together with other proposed developments.

[53] Gannon & Associates Landscape Architecture (2025) *Landscape design rationale, Proposed Residential Development at Boherboy, Co. Dublin.*

5.7.1 Residual Effects for European Sites

Following an examination, analysis and evaluation of the best available information, and applying the precautionary principle, it can be concluded that the possibility of any significant effects on any European sites, whether arising from the project alone or in combination with other plans and projects, can be excluded, for the reasons set outlined in section 5.5 of this chapter, and in an Appropriate Assessment Screening report (Scott Cawley Ltd., 2025) accompanying this application. In reaching this conclusion, the nature of the project and its potential relationship with all European sites within the Zone of Influence, and their conservation objectives, have been fully considered. Therefore, the Proposed Development is not likely to have significant residual effects on any European designated sites.

5.7.2 Residual Effects for Nationally designated sites

The assessment presented in section 5.5, concluded that there was no risk of the Proposed Development resulting in a likely significant effect on any nationally designated sites, either alone or in combination with other plans or projects. Therefore, the Proposed Development is not likely to have significant residual effects on any nationally designated sites.

5.7.3 Residual Effects for Habitats

With regard to the KER habitats identified within the Proposed Development area, there will permanent loss of dry meadows and grassy verges, wet grassland and marsh habitat as well as a loss of sections of treeline and hedgerow habitats. However, the proposed marsh habitat relocation and creation, the retention of the majority of hedgerows and treelines, the extensive landscaping design (including tree planting and creation of wildflower meadows and no mow zones within the riparian buffer zone) and the mitigation strategy to protect trees to be retained, will minimise the impact of those effects on habitats over the medium to long--term. Although there will be a temporary impact during the construction phase until the proposed planting becomes established, the Proposed Development is not likely to result in long-term effects on habitats and will not result in a likely significant negative residual effect, at any geographic scale.

5.7.4 Residual Effects for Badger

The potential effects of the Proposed Development are considered in Section 5.5. Significant effects are not predicted with regards to badgers, and therefore residual effects for badgers are not deemed significant.

5.7.5 Residual Effects for Otter

The potential effects of the Proposed Development are considered in Section 5.5. However, assuming the full and successful implementation of the mitigation measures, no long-term significant impacts are predicted on otter at any geographical scale.

5.7.6 Residual Effects for Small Terrestrial Mammals

The potential effect of the Proposed Development on small terrestrial mammals is documented in section 5.5. Significant effects are not predicted with regards to small

terrestrial mammals, and therefore residual effects for small terrestrial mammals are not deemed significant.

5.7.7 Residual Effects for Breeding Birds

The potential effect of the Proposed Development on breeding birds is documented in section 5.5. However, assuming the full and successful implementation of the mitigation measures, no long-term significant impacts are predicted on breeding birds at any geographical scale.

5.7.8 Residual Effects for Bats

The potential effect of the Proposed Development on bats is documented in section 5.5. However, assuming the full and successful implementation of the mitigation measures outlined within this Chapter, no residual impacts are predicted on bats.

5.7.9 Residual Effects for Amphibians

The potential effect of the Proposed Development on amphibians is documented in section 5.5. However, assuming the full and successful implementation of the mitigation measures outlined within this Chapter, no residual impacts are predicted on amphibians.

5.7.10 Residual Effects for White-Clawed Crayfish

The potential effect of the Proposed Development on white-clawed crayfish is documented in section 5.5. However, assuming the full and successful implementation of the mitigation measures outlined within this Chapter, no residual impacts are predicted on white-clawed crayfish.

Table 5-10: Summary of the significant residual ecological effects of the proposed development

Ecological Receptor	Ecological Valuation	Impacts with Potentially Significant Effects	Potential Significance of Effects	Mitigation Measures	Significance of Residual Effects
Designated Sites					
Glenasmole Valley SAC	International	None	International	None	None
Wicklow Mountains SAC	International	None	International	None	None
South Dublin Bay SAC	International	None	International	None	None
North Dublin Bay SAC	International	None	None	None	None
Wicklow Mountains SPA	International	None	None	None	None

Poulaphouca Reservoir SPA	International	None	International	None	None
South Dublin Bay and River Tolka Estuaries SPA	International	None	International	None	None
North Bull Island SPA	International	None	International	None	None
Lugmore Glen pNHA	National	None	National	None	None
Slade of Saggart and Crooksling Glen pNHA	National	None	National	None	None
North Dublin Bay pNHA	National	None	National	None	None
South Dublin Bay pNHA	National	None	National	None	None
Booterstown Marsh pNHA	National	None	National	None	None
Habitats					
Dry meadows and grassy verges (GS2)	Local (High)	Permanent loss of habitat (c.0.2ha)	Local (High)	Measures to avoid the spread of non-native invasive species Meadow planting	None
Marsh (GM1)	Local (High)	Permanent loss of habitat (c.0.05ha)	Local (High)	Translocation of vegetation and habitat creation in the northern western corner of the site at a ration of greater than 1:1	None
Immature woodland (WS2)	Local (High)	Permanent loss of habitat (c. 0.2ha)	Local (High)	Native tree planting	None
Hedgerows (WL1)	Local (High)	Permanent loss of habitat (c. 321m)	Local (High)	Native hedgerow planting and bolstering of existing hedgerows Protection from dust emissions and construction activities by dust screens and fencing	None

Treelines (WL2)	Local (High)	Permanent loss of habitat (c. 538m)	Local (High)	Native tree planting Protection from dust emissions and construction activities by dust screens and fencing	None
Depositing/lowland Rivers (FW2)	Local (High)	Permanent loss of habitat (c. 30m) Effects on water quality changes in local aquatic habitats	Local (High)	Measures to protect surface waters in the receiving environment during construction. Maintenance of a riparian buffer zone and planting appropriate to a riparian zone Inclusion of small boulders to increase sinuosity and create habitats within the site's central watercourse	None
Fauna Species					
Badger	Local (High)	Injury or mortality arising from construction	Local (high)	Pre-construction checks for new setts	None
Otter	County	Habitat degradation as a result of a change in water quality	Local (High)	Measures to protect surface waters in the receiving environment during construction	None
Birds	Local (high)	Disturbance and mortality during breeding season Habitat loss	Local (high)	Seasonal vegetation clearance Landscape planting	None
Amphibians	Local (high)	Disturbance and mortality Habitat degradation as a result of a change in water quality	Local (High)	Pre-construction checks of water bodies Translocation of individuals	None

White-clawed crayfish	Local (High)	Habitat degradation as a result of a change in water quality	Local (High)	Measures to protect surface waters in the receiving environment during construction	None
Bats	Local (High)	Disturbance and mortality Increased light levels	Local (high)	Roost presence/absence surveys prior to demolition of structures/felling of suitable bat roost trees Soft felling of suitable bat roost trees Directional lighting to control light spill	None

5.8 Monitoring

5.8.1 Construction Phase

A suitably experienced and qualified Ecological Clerk of Works (ECoW) will be retained by the appointed contractor. The ECoW will advise the appointed contractor on ecological matters during construction, undertake preconstruction surveys as necessary, communicate all findings in a timely manner to the appointed contractor and statutory authorities, acquire any licenses / consents required to conduct the work, and supervise and direct the ecological measures associated with the Proposed Scheme. Pre-construction checks for PRFs, invasive species, amphibians, breeding birds and badger will be carried out as described in the respective sections above.

5.8.2 Operational Phase

Post installation monitoring of any bat boxes that are installed as part of the mitigation measures outlined in Section 5.6.1 will be carried out to determine the efficacy of this measure. These checks will be undertaken in years 1, 3 and 5 post construction with a memo provided to the client following each check.

Post-construction monitoring for invasive species will be carried out for at least two years post completion, as outlined above.

Hydrocarbon interceptors installed as part of the SuDS features will be regularly inspected, cleaned, and professionally serviced to prevent pollution to the downstream environment.

Monitoring of the receptor site for Marsh habitat will be carried out by a suitably qualified and experienced ecologist pre-compensation, during and post-compensation as described in Marsh Translocation Report in order to:

- Ensure that potential issues that may deter the success of the compensation are identified at an early stage and addressed through adaptive management measures; and
- Determine the overall success of the habitat compensation.

Adaptive management measures will be targeted to address the specific issues identified by the monitoring and may be varied. For example, they could include translocation of additional turves to replace those that have failed, and/or additional seeding where this is deemed necessary to improve vegetation cover/presence.

This area of habitat should be monitored in years 1, 3 and 5 post-construction by a suitably qualified and experienced ecologist to monitor habitat quality, species richness, as well as potential scrub encroachment and invasive species spread/colonisation.

5.9 Interactions

Biodiversity interacts with several environmental factors including land and soils, hydrology, air quality, climate and microclimate and, noise and vibrations Chapters of the EIAR. Changes to these environmental factors could result in significant impacts on biodiversity such as the following:

5.9.1 Land & soils

Interactions between soils & land and biodiversity can occur through the spread of any hazardous material/contaminated land which may occur during the construction stage. The spread of land contaminated with potentially hazardous material could result in habitat degradation of habitats within the Proposed Development site and adjacent/downstream designated sites and their associated qualifying interests. Following the implementation measures outlined within the Construction Environmental Management Plan (CEMP) impacts to habitats, flora and fauna from soils and land interactions are not predicted to be significant.

5.9.2 Hydrology

Interactions between hydrology and biodiversity including habitats, flora and fauna can occur through impacts to water quality either arising from an accidental pollution event or increased sedimentation during the construction stage or an accidental pollution event during the operational stage. This interaction has the potential to result in significant impacts on hydrologically connected habitats and sensitive fauna that rely on these habitats.

5.9.3 Air Quality

Interactions between air quality and flora and fauna in adjacent habitats and designated sites can occur during the construction stage due to dust emissions arising from construction works. This interaction has the potential to result in significant impacts on biodiversity. However, once the dust minimisation measures outlined in the CEMP accompanying this report are implemented, impacts to flora and fauna are not predicted to be significant.

5.9.4 Noise & vibrations

Interactions between noise and sensitive fauna, namely birds, bats and badgers can occur and arise from increased noise levels during the construction stage. This interaction has the potential to result in significant impacts and has been assessed when considering disturbance impacts during construction. However, for reasons outlined in the relevant sections above (i.e. 5.5) impacts to fauna from noise interactions are not predicted to be significant.

5.10 Difficulties Encountered When Compiling

Wintering bird surveys were not undertaken for the 2024-2025 season. However, habitat surveys undertaken in December 2024 and April 2025 show that there has been no significant change in the habitats present on the site. Therefore, the likelihood is that there has been no significant change in the ecological baseline for wintering bird species. Furthermore, survey results from wintering bird surveys undertaken between September and November 2025 show no significant change to the wintering bird baseline for the proposed development site. Therefore, the absence of these surveys does not pose any limitations to the survey results and assessment of potential impacts to Key Ecological Receptors from the proposed development.

5.11 Conclusion

The proposed development does not pose a risk of adversely affecting (either directly or indirectly) the integrity of any European site, either alone or in combination with any other plans or projects.

The proposed development does not have the potential to result in significant negative effects on nationally designated areas for nature conservation, either alone or cumulatively, with any other plans or projects.

The proposed development has the potential to affect the surface water quality or the ecology of the adjacent waterbodies during construction. The surface water systems are designed in accordance with the principles of SuDS as recommended in the Greater Dublin Strategic Drainage Study. The implementation of mitigation measures in Section 6 to avoid or minimise the effect of the proposed development with regard to water quality impacts, will ensure there is no significant effects on the local water quality.

The proposed development will result in some temporary habitat loss within the proposed development boundary, but this will not result in any significant negative effects following the implementation of mitigation and enhancement measures such as planting and strengthening existing treelines and hedgerows, as detailed in this report. The landscape design will ensure that the biodiversity value of the habitats to be retained and created as part of the proposed development, are maximised.

The proposed development does have the potential to result in significant negative effects on habitats, birds, white-clawed crayfish, amphibians and bats at local

geographic levels and on otter at a county geographic scale prior to mitigation. Following the implementation of mitigation measures, no residual impacts on any key ecological receptors is predicted.

A comprehensive suite of mitigation measures are proposed, some which have been incorporated into the design of the proposed development. All of the mitigation measures will be implemented in full and are best practice, tried and tested, and effective control measures to protect biodiversity and the receiving environment. All mitigation measures included within this report must be committed to and delivered through the planning conditions.

Considering the elements included within the design of the proposed development (as described in Section 5.4 and 5.5), and the implementation of the mitigation measures proposed in Section 5.6 to avoid or minimise the effects of the proposed development on the receiving ecological environment, no significant residual ecological effects are predicted, either alone or cumulatively with any other projects. The proposed development complies with relevant biodiversity policies of the South Dublin County Development Plan 2022-2028 (South Dublin County Council, 2022) considered in this report.

5.12 References

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