ECOLOGICAL IMPACT ASSESSMENT REPORT

FOR

PROPOSED DEVELOPMENT

AT

SITE AT CALMOUNT ROAD AND
BALLYMOUNT AVENUE,
BALLYMOUNT INDUSTRIAL ESTATE,
DUBLIN 12

ON BEHALF OF

BLACKWIN LTD

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1 INTRODUCTION

Enviroguide Consulting was commissioned by Blackwin Ltd to undertake an Ecological Impact Assessment for the Proposed Development at the Site at Calmount Road and Ballymount Avenue, Ballymount Industrial Estate, Dublin 12.

This Ecological Impact Assessment (EcIA) assesses the potential effects of the Proposed Development on habitats and species; particularly those protected by National and International legislation or considered to be of particular nature conservation importance. This report will describe the ecology of the Proposed Development area, with emphasis on habitats, flora and fauna, and will assess the potential effects of the Construction and Operational Phases of the Proposed Development on these ecological receptors. The report follows Guidelines for Ecological Impact Assessment in the UK and Ireland, by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018).

1.1 Quality assurance and competence

Synergy Environmental Ltd., T/A Enviroguide Consulting, is wholly Irish Owned multi-disciplinary consultancy specialising in the areas of the Environment, Waste Management and Planning. All of our consultants carry scientific or engineering qualifications and have a wealth of experience working within the Environmental Consultancy sectors, having undergone extensive training and continued professional development.

Enviroguide Consulting as a company remains fully briefed in European and Irish environmental policy and legislation. Enviroguide staff members are highly qualified in their field. Professional memberships include the Chartered Institution of Wastes Management (CIWM), the Irish Environmental Law Association and Chartered Institute of Ecology and Environmental Management (CIEEM).

All surveying and reporting have been carried out by qualified and experienced ecologists and environmental consultants. Shannen O'Brien, Ecologist with Enviroguide undertook the ecological surveys and desktop research for this report.

Shannen O'Brien has a B.A. in Zoology from Trinity College Dublin and a M.Sc. Hons. in Wildlife Conservation and Management from University College Dublin, and has experience in desktop research, report writing, and literature scoping-review, as well as practical field and laboratory experience (Pollinator surveying, sampling and identification, habitat surveying, invasive species surveying, etc.). Shannen has prepared Stage I and Stage II Appropriate Assessment Reports, Invasive Species Surveys, Ecology Statements, and Ecological Impact Assessments (EcIA).

2 RELEVANT LEGISLATION

An Ecological Impact Assessment (EcIA) is a process of identifying, quantifying, and evaluating potential effects of development-related or other actions on habitats, species and ecosystems (CIEEM, 2016). The Proposed Development is a sub-threshold for an Environmental Impact Assessment (EIA) under the Planning and Development Regulations 2011-2018.

When an EcIA is undertaken as part of an EIA process it is subject to the EIA Regulations (under the EU Planning and Development [Environmental Impact Assessment] Regulations 2001-2018). An EcIA is not a statutory requirement, however it is a best practice evaluation process. This EcIA has been undertaken to support and assess the Proposed Development planning application and assesses the potential impacts that the Proposed Development may have on the ecology of the site and its environs. Where potential for a risk to the environment is identified, mitigation measures are proposed on the basis that by deploying these mitigation measures the risk is eliminated or reduced to an insignificant level. This EcIA is provided to assist the Competent Authority with its decision making in respect of the Proposed Development.

2.1 National Legislation

2.1.1 Wildlife Act 1976 and amendments

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

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

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

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

2.1.3 Flora (Protection) Order, 2015

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

2.2 International Legislation

2.2.1. EU Birds Directive

The Birds Directive constitutes a level of general protection for all wild birds throughout the European Union. Annex I of the Birds Directive includes a total of 194 bird species that are considered rare, vulnerable to habitat changes or in danger of extinction within the European Union. Article 4 establishes that there should be a sustainable management of hunting of listed species, and that any large scale non-selective killing of birds must be outlawed. The Directive requires the designation of Special Protection Areas (SPAs) for: listed and rare species, regularly occurring migratory species and for wetlands which attract large numbers of birds. There are 25 Annex I species that regularly occur in Ireland and a total of 153 Special Protection Areas have been designated.

2.2.2. EU Habitats Directive

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

2.2.3. Water Framework Directive

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

2.2.4. Bern and Bonn Convention

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

2.2.5. Ramsar Convention

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

3 DESCRIPTION OF THE PROPOSED DEVELOPMENT

3.1 Location

The Site is currently comprised of a greenfield site, approximately 7.45ha, and is accessed via Ballymount Avenue, which abuts the east boundary of the Site. The south of the Site is bounded by Calmount Road, while the remaining boundaries are abutted by commercial units. The Site of the Proposed Development is located 0.5km north off of the M50, within Ballymount Industrial Estate. The surrounding environment is primarily urban in nature.

3.2 Description

The Proposed Development consists of the following:

e Proposed Development consists of the following:

- Construction of 5 no. warehouse / logistics units (Units 1, 2 3, 4 and 6), including ancillary office use and entrance / reception areas over two levels, with maximum heights of c. 17.09 metres and a combined total gross floor area (GFA) of 20,158 sq.m;
- Each warehouse / logistics unit includes car parking to the front, and service yards, including HGV loading bays, to the rear of each unit. Signage zones are proposed for each unit. A total of 200 no. car parking spaces and 110 no. cycle spaces are provided for the 5 no. warehouse / logistics units;
- Construction of 3 no. 3 storey own-door office buildings (Block 5A, 5B and 5C) with maximum heights of c. 13.35 metres and a combined GFA of 4,194 sq.m. Signage zones are proposed at the entrances to the buildings. A total of 77 no. car parking spaces and 50 no. cycle parking spaces are provided for the proposed office buildings;
- Construction of a café/restaurant unit with a maximum height of c. 5.29m and a GFA of 213 sq.m to be located in the south western section of the site. The proposal includes signage for the unit, associated outdoor seating and a bin store. 14 no. car parking spaces and 10 no. cycle spaces are provided for the café/restaurant unit;
- The proposal includes 5 no. ESB substation buildings;
- The development is to be accessed off Ballymount Avenue and Calmount Road and includes for alterations and upgrades to the public footpaths and road. The development provides for vehicular and service access points, associated internal access roads, circulation areas and footpaths; and
- The proposal includes landscaping and planting, entrance signage, boundary treatments, lighting, PV panels, green roofs, underground foul and storm water drainage network, including connections to the foul and surface water drainage network on the public roads, attenuation areas and all associated site works and development.

The incorporation of Sustainable Urban Drainage Systems (SUDS) into the design of the Proposed Development is mandatory for all new developments under the Greater Dublin Regional Code of Practice for Drainage Works. As such, the Proposed Development design entails a suite of SuDS measures. SUDS is a series of management practices and control structures that aim to mimic natural drainage. SUDS reduces flood risk, improves

water quality and provides amenity through the use of permeable paving, swales, green roofs, rainwater harvesting, detention basins, ponds and wetlands[1].

[1] https://www.dublincity.ie/dublin-city-development-plan-2016-2022/9-sustainable-environmental-infrastructure/95-policies-and-objectives/954-surface-water-drainage-and

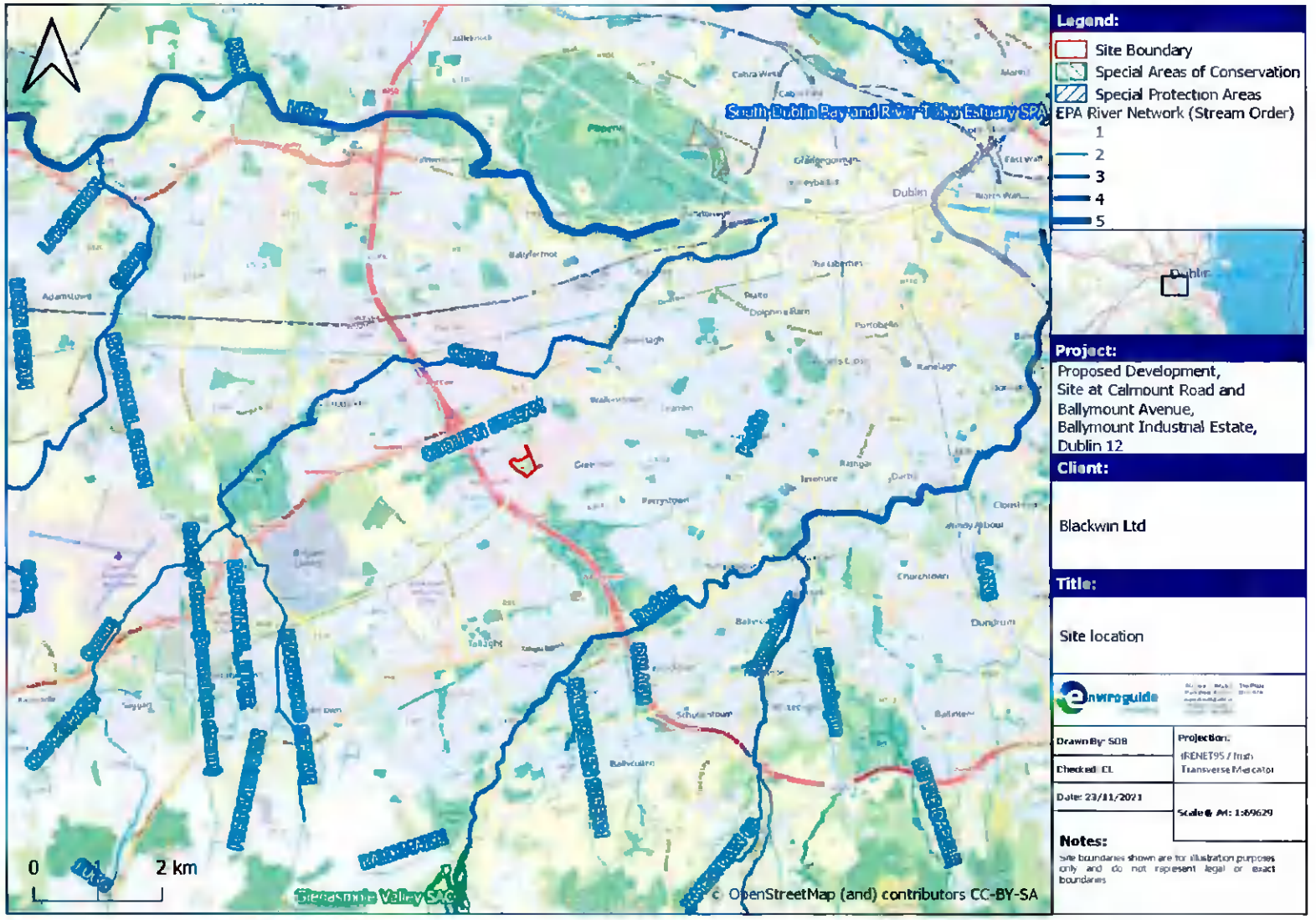

FIGURE 1. SITE LOCATION.

4 METHODOLOGY

This section details the steps and methodology employed to undertake an Ecological Impact Assessment of the Proposed Development.

4.1 Scope of Assessment

The specific objectives of the study were to:

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

4.2 Desk Study

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

- Information on species records and distributions, obtained from the National Biodiversity Data Centre (NBDC) at *www.maps.biodiversityireland.ie*.
- Information on waterbodies, catchment areas and hydrological connections obtained from the Environmental Protection Agency (EPA) at *www.gis.epa.ie*.
- Information on bedrock, groundwater, aquifers and their statuses, obtained from Geological Survey Ireland (GSI) at *www.gsi.ie* ;
- Information on the network of designated conservation sites, boundaries, qualifying interests and conservation objectives, obtained from the National Parks and Wildlife Service (NPWS) at *www.npws.ie* ;
- Satellite imagery and mapping obtained from various sources and dates including Google, Digital Globe and Ordnance Survey Ireland.
- Information on the existence of permitted developments, or developments awaiting decision, in the vicinity of the Proposed Development from Dublin City Council available at: http://www.dublincity.ie/main-menu-services-planning/planning-search
- Information on the extent, nature and location of the Proposed Development, provided by the applicant and/or their design team.
- The current conservation status of birds in Ireland taken from Gilbert et al. (2021).
- The pollinator friendly planting code provided by The All-Ireland Pollinator Plan (2015-2020) available at www.pollinators.ie
- South Dublin County Council County Development Plan 2016 – 2022
- Draft Biodiversity Action Plan for South Dublin County 2020-2026

A comprehensive list of all the specific documents and information sources consulted in the completion of this document is provided in Section 11, References.

4.3 Field surveys

4.3.1 Habitat Surveys

A habitat survey was carried out at the Site on the 11th of November 2021. Habitats were categorised according to the Heritage Council's '*A Guide to Habitats in Ireland*' (Fossitt, 2000) to level 3. The habitat mapping exercise had regard to the 'Best Practice Guidance for Habitat Survey and Mapping' (Smith et al., 2010) published by the Heritage Council. Satellite imagery was used together with GPS to accurately enable field navigation. Habitat categories, characteristic plant species, invasive species and other ecological features were recorded.

4.3.2 Bat Surveys

A bat habitat assessment was carried out on the 11th of November 2021, alongside the habitat survey.

4.3.3 Bird Surveys

A general activity bird survey was completed on the 11th of November 2021. All birds encountered on Site, through visual and/or audio means, were recorded during this survey.

4.3.4 Mammal Surveys

Mammal surveys of the Site were carried out in conjunction with the habitat survey. The Site was examined for tracks and signs of mammals. The habitat types recorded throughout the survey area were used to assist in identifying the fauna considered likely to utilise the area.

4.3.5 Invasive Species Surveys

The Site was assessed for the presence of invasive plant species during the habitat survey undertaken.

4.4 Consultation

No consultation was undertaken as part of this Ecological Impact Assessment.

4.5 Assessment

The value of the ecological resources, i.e., the habitats and species present or potentially present, was determined using the ecological evaluation guidance given in the National Roads Authority's Ecological Assessment Guidelines (NRA, 2009a), presented in Appendix I. This evaluation scheme, with values ranging from locally important to internationally important, seeks to provide value ratings for habitats and species present that are considered ecological receptors of impacts that may ensue from a proposal. As per the NRA guidelines, impact assessment is only undertaken of key ecological receptors (KERs).

The assessment of the potential effect or impact of the Proposed Development on the identified key ecological receptors was carried out with regard to the criteria outlined in the draft EPA Guideline (EPA, 2017), presented in Appendix II. These guidelines set out a number of parameters such as quality, magnitude, extent and duration that should be considered when determining which elements of the Proposed Development could constitute impact or sources of impacts.

4.6 Limitations

An extensive search of available datasets for records of rare and protected species within proximity of the Proposed Development has been undertaken as part of this assessment. However, the records from these datasets do not constitute a complete species list. The absence of species from these datasets does not necessarily confirm an absence of species in the area.

5 BASELINE ECOLOGICAL CONDITIONS

5.1 Site Overview

5.1.1 Geology, Hydrology and Hydrogeology

The Site of the Proposed Development is located primarily within the Liffey and Dublin Bay catchment and the Liffey_SC_090 sub-catchment. The closest watercourse to the Site is the Coolfan Stream, 300m northwest of the Site, which flows into the Camac River 1.2km north of the Site of the Proposed Development. The status of the Camac River was designated as *Poor* by the EPA in 2019 (station code: RS09C020500).

The Site is situated on the Dublin groundwater body, which is Not at Risk of not meeting its WFD objectives. The aquifer type within the Site boundary is a *Locally Important Aquifer* (Ll) aquifer on bedrock which is *Moderately Productive only in Local Zones*. The groundwater rock units underlying the aquifer are classified as *Dinantian Upper Impure Limestones* (GSI, 2021). The level of vulnerability of the Site to groundwater contamination via human activities is *High* in the northern half of the Site and *Extreme* in the southern area of the Site. The soil is classified as *Elton* (Fine loamy drift with limestones), and the subsoil is Limestone till (Carboniferous) (*TLs*) (EPA, 2021).

5.2 Designated Sites

The Habitats Directive (92/43/EEC) seeks to conserve natural habitats and wild fauna and flora by the designation of Special Areas of Conservation (SACs) and the Birds Directive (2009/147/EC) seeks to protect birds of special importance by the designation of Special Protection Areas (SPAs). It is the responsibility of each member state to designate SPAs and SACs, both of which will form part of Natura 2000, a network of protected sites throughout the European Community. SACs are selected for the conservation of Annex I habitats (including priority types which are in danger of disappearance) and Annex II species (other than birds). SPAs are selected for the conservation of Annex I birds and other regularly occurring migratory birds and their habitats. The annexed habitats and species for which each site is selected correspond to the qualifying interests of the sites; from these the conservation objectives of the site are derived.

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

Table 1 below presents details of the designated sites within a 15km radius of the Proposed Development. In addition, the potential for connectivity with designated sites at distances of greater than 15km from the Development was also considered in this initial assessment. In this case, there is no potential connectivity between the Development site and designated sites located at a distance greater than 15km from the Proposed Development.

The result of this preliminary screening concluded that there is a total of 6 SACs, 3 SPAs and 20 pNHAs located within the Zone of Influence of the Proposed Development Site. The distances to each site listed are taken from the nearest possible point of the Proposed Development Site boundary to nearest possible point of each Natura 2000 site or pNHA. In addition, Dublin Bay is designated as a UNESCO Biosphere[2]. Dublin Bay Biosphere contains three different zones, which are managed in different ways:

- The core zone of Dublin Bay Biosphere comprises 50km² of areas of high natural value. Key areas include the Tolka and Baldoyle Estuaries. Booterstown Marsh. Howth Head, North Bull Island, Dalkey Island and Ireland's Eye.
- The buffer zone comprises 82km² of public and private green spaces such as parks, greenbelts and golf courses, which surround and adjoin the core zones.
- The transition zone comprises 173km² and forms the outer part of the Biosphere. It includes residential areas, harbours, ports and industrial and commercial areas.

TABLE 1. DESIGNATED SITES WITHIN THE ZONE OF INFLUENCE (15KM) OF THE PROPOSED DEVELOPMENT, POTENTIAL PATHWAYS BETWEEN THE PROPOSED DEVELOPMENT SITE AND THE DESIGNATED SITES. SITES THAT HAVE BEEN SCREENED INTO THIS ECIA FOR FURTHER ASSESSMENT ARE SHADED IN GREEN.

Site Name & Code (Receptor)	Distance to Proposed Development	Potential Pathway to receptor
Special Area of Conservation		
Glenasmole Valley SAC (001209)	5.9km	No – Refer to AA Screening Report accompanying this application
Wicklow Mountains SAC (002122)	8.3km	
South Dublin Bay SAC (000210)	9.4km	
Rye Water Valley/Carton SAC (001398)	10.5km	
North Dublin Bay SAC (000206)	12.4km	
Knocksink Wood SAC (000725)	14.3km	
Special Protection Area		
Wicklow Mountains SPA (004040)	8.8km	No – Refer to AA Screening Report accompanying this application
South Dublin Bay and River Tolka Estuary SPA (004024)	9.4km	
North Bull Island SPA (004006)	12.4km	
Proposed Natural Heritage Area		
Grand Canal (002104)	1.9km	No – there is no hydrological connection with these pNHAs and the intervening distances between the Site and the pNHAs are sufficient to exclude the possibility of significant effects on the pNHAs arising from: emissions of noise, dust, pollutants and/or vibrations emitted
Dodder Valley (000991)	2.7km	
Liffey Valley (000128)	4.4km	

[2] A biosphere is a special designation awarded by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) but managed in partnership by communities, NGOs and local and national governments (https://www.dublinbaybiosphere.ie/).

Site Name & Code (Receptor)	Distance to Proposed Development	Potential Pathway to receptor
Lugmore Glen (001212)	5.8km	from the Site during the Construction Phase, increased traffic volumes during the Construction and Operational Phase and associated emissions, potential increased lighting emitted from the Site during Construction and Operational Phase, and increased human presence at the Site during Construction and Operational Phase.
Glenasmole Valley (001209)	5.9km	
Royal Canal (002103)	6.9km	
Slade Of Saggart And Crooksling Glen (000211)	8.1km	
Fitzsimon's Wood (001753)	8.9km	
North Dublin Bay (000206)	9.2km	No – there is an indirect hydrological connection to Dublin Bay via discharges from Ringsend WWTP and the surface water sewer serving the Site. However, the potential for surface water and/or foul water generated at the Site of the Proposed Development to reach Dublin Bay and cause significant effects, during both the Construction and Operational Phase, is excluded due to: • The fact that the surface water hydrological link will only exist during rainfall events; • The potential for dilution in the surface water network during these rainfall events; Effects on marine biodiversity and protected sites within Dublin Bay from the current operation of Ringsend WwTP are unlikely (see section 8.1.3 for more details).
South Dublin Bay (000210)	9.4km	
Booterstown Marsh (001205)	9.9km	No – see entry for Grand Canal
Rye Water Valley/Carton (001398)	10.5km	
Dolphins, Dublin Docks (000201)	10.7km	No – see entry for North Dublin Bay
Santry Demesne (000178)	11.5km	No – see entry for Grand Canal
Ballybetagh Bog (001202)	13.6km	
Dingle Glen (001207)	13.7km	
Kilteel Wood (001394)	14.3km	
Knocksink Wood (000725)	14.3km	
Glencree Valley (001755)	14.6km	
Dalkey Coastal Zone And Killiney Hill (001206)	14.8km	

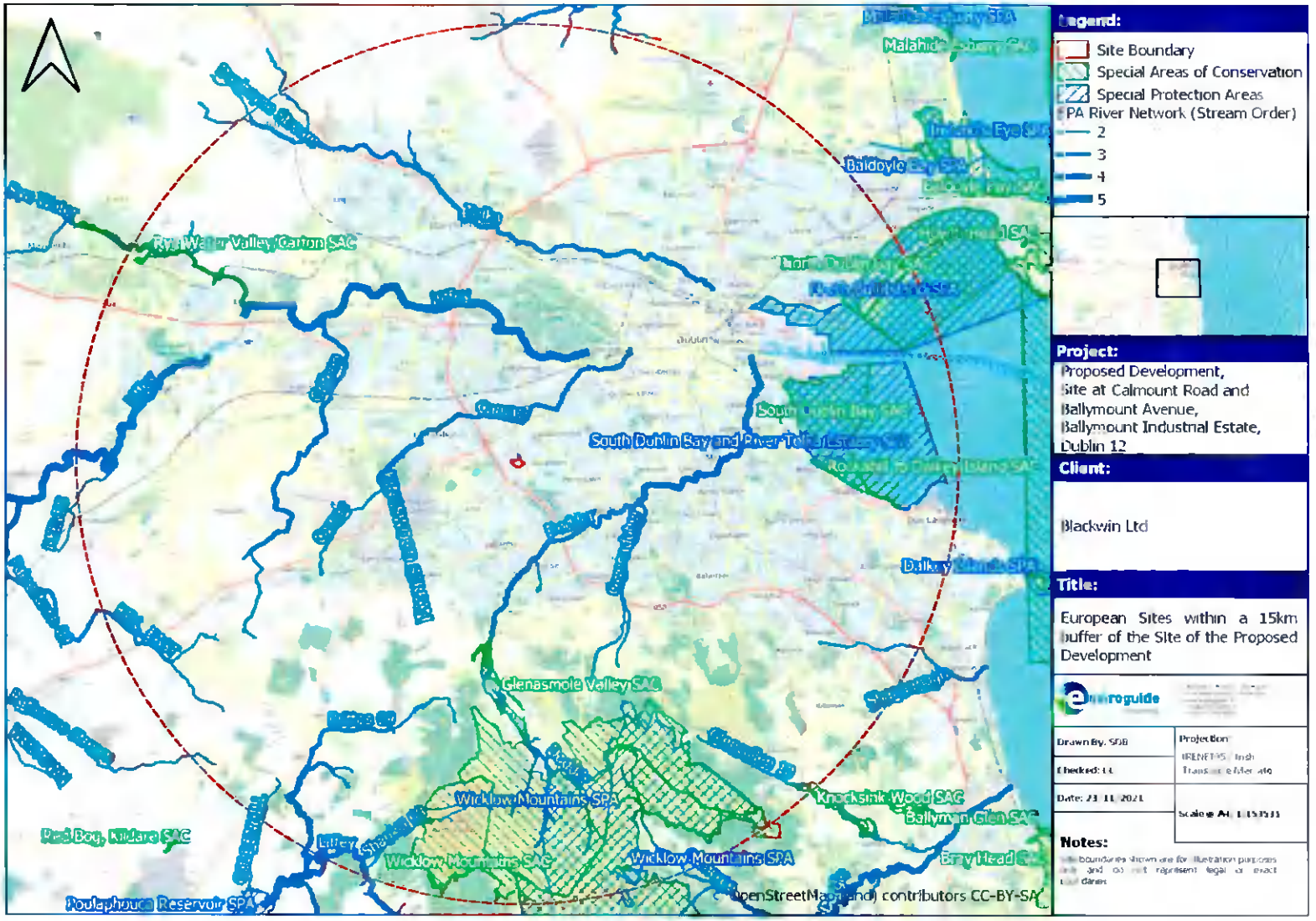

FIGURE 2. NATURA 2000 SITES WITHIN 15KM OF THE PROPOSED DEVELOPMENT SITE.

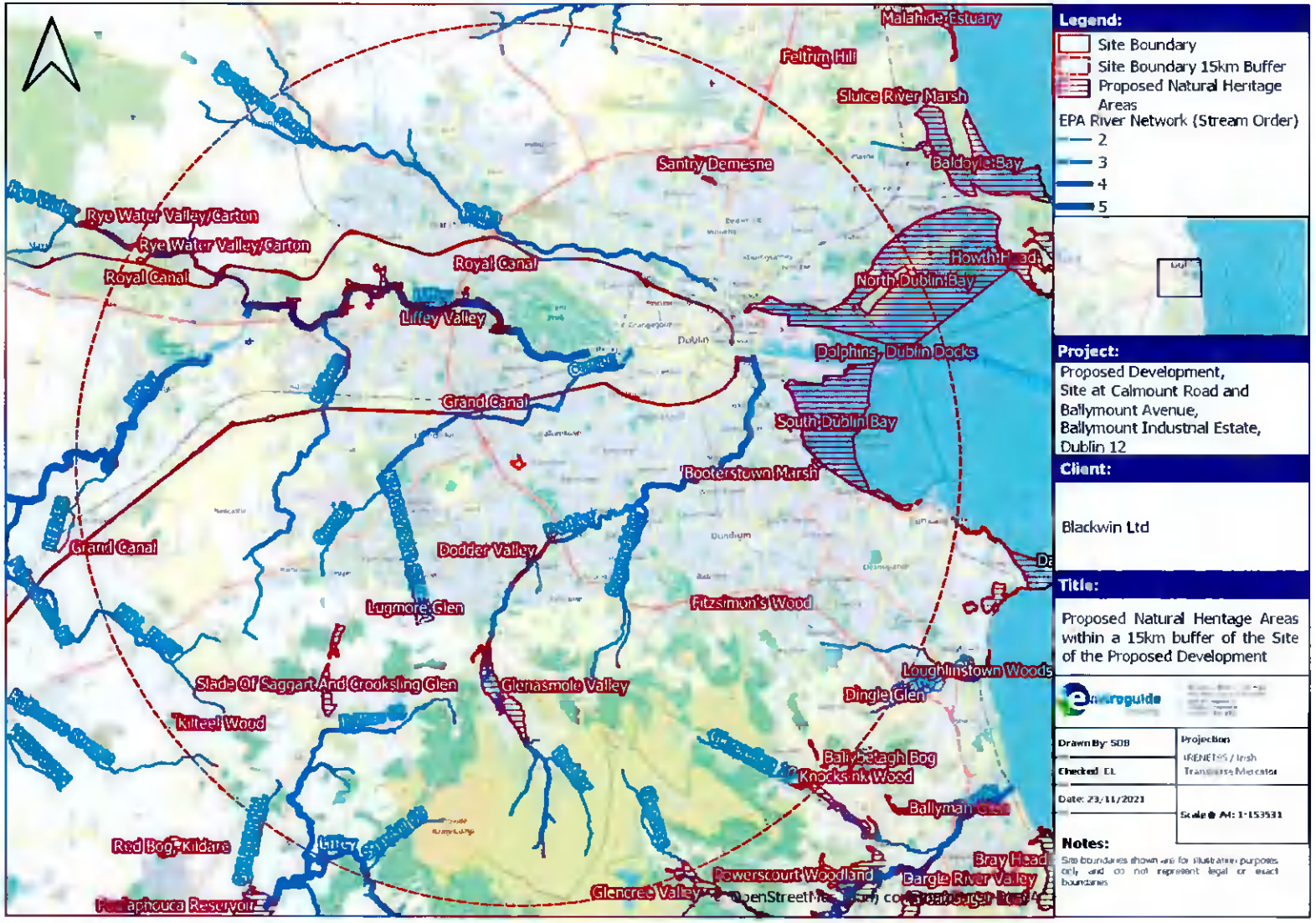

FIGURE 3. PROPOSED NATURAL HERITAGE AREAS WITHIN 15KM OF THE PROPOSED DEVELOPMENT SITE

5.3 Desk Study

5.3.1 Species and Species Groups

The Site of the Proposed Development is located within the Ordnance Survey Ireland National Grid 2km squares O03V and O13A. Species records from the National Biodiversity Data Centre (NBDC) online database for this grid square was studied for the presence of rare or protected flora and fauna. The following records were excluded:

- Records greater than 20 years old.
- Species records with no designation or conservation status (excluding mammals and birds).

In addition, data from various sources (e.g., Inland Fisheries Ireland) were used to determine the presence of species in the vicinity of the Proposed Development. The following sections outline the results of this assessment.

5.3.1.1 Flora

Rare and Protected Flora

Species records from the NBDC online database were studied for the presence of rare of protected flora and no records were found. There are no records for protected bryophytes within the area[3].

Invasive Plant Species

The NBDC have records (dated within the last 20 years) of *3 High Impact* and *2 Medium Impact* invasive plant species within the 2km (O03V and O13A) grid squares (Table 2).

TABLE 2. INVASIVE PLANT SPECIES WITHIN THE 2KM (O03V AND O13A) GRID SQUARES. THE RECORDS ARE DATED WITHIN THE LAST 20 YEARS AND ARE PROVIDED BY THE NBDC.

Name	Date of last record	Database	Legal status / Designation
Butterfly-bush *Buddleja davidii*	09/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	- Medium Impact Invasive
Indian Balsam *Impatiens glandulifera*	31/12/2017	National Invasive Species Database	- High Impact Invasive - Regulation S.I. 477 (Ireland)
Fallopia japonica x sachalinensis = F. x bohemica	17/06/2015	National Invasive Species Database	- High Impact Invasive - Regulation S.I. 477 (Ireland)
Japanese Knotweed *Reynoutria japonica*	09/05/2020, 19/08/2013	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards; National Invasive Species Database	- High Impact Invasive - Regulation S.I. 477 (Ireland)
Sycamore *Acer pseudoplatanus*	22/04/2016	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	- Medium Impact Invasive

[3] https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=71f8df33693f48edbb70369d7fb26b7e

5.3.1.2 Mammals (excl. bats)

Records for terrestrial mammals were retrieved from the NBDC online database. Table 3 lists these species, their last record date and summarises their legal status/designation. 5 terrestrial mammals were recorded within the 2km grid squares (O03V and O13A), three of which are native and the remaining two species, Grey Squirrel and Rabbit are invasive species. The Otter record refers to a road kill record on Walkinstown Avenue 1.3km north of the Site.

TABLE 3. TERRESTRIAL MAMMAL SPECIES WITHIN THE 2KM (O03V AND O13A) GRID SQUARE. THE RECORDS ARE DATED WITHIN THE LAST 20 YEARS AND ARE PROVIDED BY THE NBDC.

Name	Date of last record	Database	Legal Status / Designation
Eastern Grey Squirrel *Sciurus carolinensis*	31/12/2017; 17/09/2015	National Invasive Species Database, Atlas of Mammals in Ireland 2010-2015	- High Impact Invasive - EU Regulation No. 1143/2014 - Regulation S.I. 477 (Ireland)
European Otter *Lutra lutra*	23/09/2013	Atlas of Mammals in Ireland 2010-2015	- EU Habitats Directive Annex II & IV - Wildlife (Amendment) Act, 2000
European Rabbit *Oryctolagus cuniculus*	30/07/2018	Mammals of Ireland 2016-2025	- Medium Impact Invasive
Red Fox *Vulpes vulpes*	13/07/2017; 12/05/2018	Mammals of Ireland 2016-2025	- n/a
West European Hedgehog *Erinaceus europaeus*	23/12/2015	Atlas of Mammals in Ireland 2010-2015	- Wildlife (Amendment) Act, 2000

5.3.1.3 Bats

No bat species were recorded within the 2km grid squares associated with the Site (O03V and O13A). The NBDC maps landscape suitability for bats based on Lundy et al. (2011). The index ranges from 0 to 100 with 0 being least favourable and 100 most favourable for bats. The overall habitat suitability index for bats in the area is 23.67. The species with the highest individual suitability scores for the area encompassing the Site are Lesser Noctule *Nyctalus leisleri* and Common Pipistrelle *Pipistrellus pipistrellus*, with 42 and 39, respectively.

5.3.1.4 Birds

A total of 52 bird species have been recorded within the 2km grid squares by the NBDC. Of these, 7 are listed as *Red* and 16 are listed as *Amber* in *Birds of Conservation Concern in Ireland 2020-2026* (Gilbert et al., 2021).

Red listed species include:

Kestrel *Falco tinnunculus*
Pochard *Aythya ferina*
Snipe *Gallinago gallinago*
Teal *Anas crecca*
Meadow Pipit *Anthus pratensis*
Redwing *Turdus iliacus*
Yellowhammer *Emberiza citronella*

Amber listed species include:

Swallow *Hirundo rustica*
Black-headed Gull *Larus ridibundus*
Coot *Fulica atra*
Linnet *Carduelis cannabina*
Starling *Sturnus vulgaris*
Wigeon *Anas penelope*
Greenfinch *Carduelis chloris*
Herring Gull *Larus argentatus*
House Sparrow *Passer domesticus*
Lesser Black-backed Gull *Larus fuscus*
Mallard *Anas platyrhynchos*
Common Gull *Larus canus*
Mute Swan *Cygnus olor*
Skylark *Alauda arvensis*
Tufted Duck *Aythya fuligula*
Willow Warbler *Phylloscopus trochilus*

5.3.1.5 Fish

There were no fish species recorded within the 2km grid squares by the NBDC.

Atlantic salmon (*Salmo salar*) & Brown trout (*Salmo trutta*)

There are three species of salmonid associated with freshwater habitats in Ireland, namely Atlantic Salmon (*Salmo salar*), Brown Trout (*Salmo trutta*) and Arctic Char (*Salvelinus alpinus*), the latter of which is only associated with lake waterbodies in Ireland. The Atlantic salmon is listed as an Annex II species under the Habitat Directive. A fish survey of the Camac River in 2017 was carried out by Inland Fisheries Ireland, with the closet survey site at Landsdowne Valley, approximately 2.2km downstream of where the Coolfan Stream discharges into the Camac River, in which 1+ and older Brown Trout was recorded (Matson et al, 2018).

Petromyzonidae (Lamprey sp.)

There are three lamprey species native to Ireland including Sea Lamprey (*Petromyzon marinus*), River Lamprey (*Lampetra fluviatilis*) and Brook Lamprey (*Lampetra planeri*). All three species are listed under Annex II of the Habitats Directive and are protected by the Fisheries Acts 1959 to 2006. Lamprey sp. were not recorded at the Landsdowne Valley survey Site in 2017.

European eel (*Anguilla anguilla*)

European eel is a red listed species[4] and are currently considered to be one of the most threatened fish species in Ireland (King *et al.* 2011). Eel was not recorded at the Landsdowne Valley survey Site in 2017.

[4] The status of a species is designated by the relevant authorities as Red Amber or Green. Red list species range from vulnerable to extinct, Amber list species with unfavourable conservation status or declining population, and Green list species are those which are not currently of conservation concern.

5.3.1.6 Amphibians

Common Frog *Rana temporaria* was recorded within the 2km (O13A) grid square (NBDC: *Amphibians and reptiles of Ireland*). No suitable habitat exists for either species at the Site, with no pooling, ditches or wet grassland type habitats present. The Site is considered unsuitable for amphibian usage and therefore these species are not assessed further in this report.

5.3.1.7 Invertebrates

There are no NBDC records of protected invertebrates within the 2km (O03V and O13A) grid squares. However, one near threatened species was recorded:

- Large Red-Tailed Bumblebee *Bombus lapidarius*

5.3.1.8 Other species and species groups

There are no records of common lizard *Zootoca vivipara* within the 2km grid squares (O03V and O13A). In addition, this species is associated with coastal and heathland habitats, but also locally in rural gardens, stone walls and roadside verges (King et al., 2011). The habitat at the Site of the Proposed Development is not considered suitable for this species.

5.4 Field Surveys

5.4.1 Habitats & Flora

The habitats encountered and identified at the Site of the Proposed Development have been classified and coded as per Fossitt (2000). These are described below.

- Improved Agricultural Grassland (GA1)
- Scrub (WS1)
- Buildings and Artificial Surfaces (BL3)
- Amenity Grassland (improved) (GA2)

The predominant habitat on Site is Improved *Agricultural Grassland (GA1)*, upon which sheep were actively grazing, with a small area of *Scrub (WS1)* along the west boundary of the Site. The plant species recorded within the grassland habitat on Site include Thistle (*Cirsium sp.*), Clover (*Trifolium sp.*), Nettle (*Urtica dioica*). Ribwort Plantain (*Plantago lanceolata*), Knotgrass (*Polygonum aviculare*), and Round-leaved Cranes-bill (*Geranium rotundifolium*). Bramble (*Rubus fruticosus agg.*) primarily creates the Scrub habitat on Site. Calmount Road and Ballymount Avenue create *Buildings and Artificial Surfaces (BL3)* habitat within the Site boundary, with strips of managed *Amenity Grassland (improved) (GA2)* buffering these public roads.

FIGURE 4. IMPROVED AGRICULTURAL GRASSLAND (GA1) AT THE SITE OF THE PROPOSED DEVELOPMENT.

FIGURE 5 SMALL AREA OF SCRUB (WS1) HABITAT ALONG THE WEST BOUNDARY OF THE SITE

5.4.1.1 Invasive Plant Species

No species of non-native/invasive plant were recorded at the Site during the survey on 11th of November 2021. Non-native species in Ireland to date have been assessed by Kelly, O' Flynn and Maguire (2013) and attributed an impact rating of either 'High', 'Medium' or 'Low' impact based on a number of factors that determine a species' potential to become established in this country and have significant impacts.

No 'High Impact' invasive species, including Japanese Knotweed, listed in the Third Schedule of European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011, as amended) were recorded at the Site during the survey.

FIGURE 6 HABITATS FOUND WITHIN SITE OF THE PROPOSED DEVELOPMENT

5.4.2 Bats

There are no buildings on Site, and, apart from a very small area of scrub, there is no vegetation above groundcover on Site. The Site is also located within a highly urbanised environment. Therefore, the Site has '*Negligible*' bat potential with regards to roosting, commuting, or foraging habitat.

5.4.3 Birds

The bird species recorded on site visit 11th of November 2021 are outlined in

TABLE 4 BIRD SPECIES ENCOUNTERED ON SITE - 11TH NOVEMBER 2021

Species	Conservation Concern	Observations/Notes
Herring Gull *Larus argentatus*	Amber	Several individuals flying over the Site and roosting on the roofs of adjacent buildings
Starling *Sturnus vulgaris*	Amber	4 individuals calling from the electrical wires over the Site
Rook *Corvus frugilegus*	Green	Observed flying over the Site
Feral Pigeon *Columba livia f. domestica*	Green	Observed flying over the Site
Magpie *Pica pica*	Green	Several individuals foraging on Site, both in the grassland and on the grazing sheep
Jackdaw *Corvus monedula*	Green	Observed flying over the Site

5.4.4 Mammals (excl. bats)

No rare or protected mammals were recorded within the Site of the Proposed Development, nor were there any signs or evidence of mammal species utilising the Site at the time of the survey. As the Site is located within a highly urbanised environment, with little vegetative cover and intensively grazed by sheep, it is unlikely this Site would be utilised by local mammals, other than potential commuting habitat.

5.5 Designated sites, habitat and species evaluation

Fauna which have the potential to utilise habitat within the immediate area of the Proposed Development, or for which records exist in the wider area, have been evaluated below in Table 5 for their conservation importance. In addition, designated sites and habitats have been evaluated. This evaluation follows the Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009b). The rationale behind these evaluations is also provided. The term 'ecological receptors' is used when impacts upon them are likely.

TABLE 5. EVALUATION OF DESIGNATED SITES, HABITATS AND FAUNA RECORDED WITHIN THE SURROUNDING AREA.

Designated Sites/Species/Habitats	Evaluation	Key Ecological Receptor (KER)	Rationale
Designated Sites			
SACs & SPAs	International Importance	No	Significant effects on Natura 2000 sites ruled out in AA Screening.
pNHAs	National Importance	No	Refer to Table 1
Dublin Bay Biosphere	International Importance	No	No significant hydrological connection or otherwise to Dublin Bay Biosphere
Habitats			
Improved Agricultural Grassland (GA1)	Local importance (lower value)	No	Low diversity grassland of low biodiversity value.
Scrub (WS1)	Local importance (lower value)	No	Small area of low biodiversity scrub, with low biodiversity value.
Buildings and Artificial Surfaces (BL3)	Local importance (lower value)	No	Man-made habitat of negligible biodiversity value.
Amenity Grassland (improved) (GA2)	Local importance (lower value)	No	Low diversity grassland of low biodiversity value.
Fauna			
European Otter *Lutra lutra*	Local importance (lower value)	No	No significant hydrological connection to the Camac River.
Red Fox *Vulpes vulpes*	Local importance (lower value)	No	This species is not considered to be of conservation concern, and therefore is not assessed further in this report.
West European Hedgehog *Erinaceus europaeus*	Local importance (higher value)	**Yes**	No evidence of this species was recorded during the field survey However, this species may utilize the small area of scrub habitat at the Site which will be impacted by the Proposed Development.
Bat Assemblage	Local importance (lower value)	No	The bat potential of the Site was deemed to be '*Negligible*'.
Bird Assemblage	Local importance (lower value)	No	A small number of species were recorded on and around the Site during the field survey.
Amphibian Assemblage	Local importance (lower value)	No	No suitable habitat at the Site for this species (e.g., ditches, ponds).
Brown Trout *Salmo trutta*	Local importance (lower value)	No	No significant hydrological connection to the Camac River.

6 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

As per the relevant guidelines. likely significant effects have been assessed for Key Ecological Receptors only, as listed in Table 5. An impact is considered to be significant if it is predicted to affect the integrity or conservation status of a KER at a given geographical scale. All impacts are described in the absence of mitigation.

6.1 Construction Phase

6.1.1 Impacts on fauna

6.1.1.1 Mammals (excluding bats)

The Proposed Development could have a potential *negative*, *permanent*, *slight* impact at a local level on small mammal species, if they are present, such as Hedgehog, in the absence of mitigation measures, through the removal of scrub habitat within the Site of the Proposed Development.

Small mammal species, such as Hedgehog, have the potential to become entangled in construction materials such as netting and plastic sheeting, as well as other waste materials, causing entrapment and injury or death. This constitutes a *negative*, *short-term*, *significant* impact at a local level.

Disturbance of species due to noise and dust generated during the Construction Phase, although unlikely due to very limited resources on Site, is possible and, as such, a precautionary approach is adopted with these disturbances representing potential *negative*, *short-term*, *slight* impacts at a *local* scale.

6.1.1.2 Bats

While there is very limited suitable habitat or resources for bats on Site, noise generated during the Construction Phase has the potential to cause *negative, short-term, slight impacts* in the form of disturbance to bats should they roost in the surrounding landscape.

6.1.1.3 Birds

There will be some loss of foraging habitat for birds at the Site of the Proposed Development through the loss of grassland at the Site, and disturbance of species during the Construction Phase is possible. This could have a *negative, permanent, moderate impact* on birds in the locality.

The increased noise and dust levels associated with the Construction Phase of the Proposed Development may have the potential to cause *negative, short-term, slight impacts* to local bird populations.

6.1.1.4 Aquatic Fauna

Surface water discharges associated with the Construction Phase of the Proposed Development may have the potential to cause *negative*, *short-term*, *slight* impacts to aquatic fauna within the River Camac in the absence of suitable mitigation.

6.2 Operational Phase

6.2.1 Impacts on Fauna

6.2.1.1 Bats

While there is very limited suitable habitat or resources for mammals on bats, during the Operational Phase, there is potential for disturbance to bats utilising the Site in general through light pollution during the Operational Phase. Given the urban context of the Site, this could have a *negative, permanent, slight* impact on bats in the locality. In addition, there is potential for a *negative, permanent, slight* impact on bats in the locality through the loss of foraging resources.

6.2.1.2 Birds

No significant impacts on birds are anticipated during the Operational Phase.

6.2.1.3 Aquatic Fauna

No significant effects on fish species are anticipated during the Operational Phase. Mandatory SuDS measures have been incorporated into the design to treat and minimise surface water runoff from the site.

6.3 Do nothing impact

Under the do-nothing scenario, the Site would remain as is. The grassland would likely continue to be utilised as a grazing area for sheep, and flora within this habitat would potentially offer suitable habitat for a small number of species, such as pollinating insects. The scrub habitat would expand further into the grassland, potentially offering foraging and nesting habitat for local wildlife.

7 MITIGATION AND ENHANCEMENT MEASURES

7.1 Construction Phase

7.1.1 Planting of native flora and protecting pollinators

The planting of pollinator-friendly flora will improve local biodiversity and increase insect abundance. This will provide additional food for bats and birds at the Site.

The following measures have been incorporated into the landscape design:

- Native tree and shrub species will be planted as part of the Proposed Development, creating habitat for local bird species.
- Wildflowers areas will be included on Site, providing forage resources for pollinating insects.

7.1.2 Aquatic Fauna & Surface Waters

The following measures set out below will protect surface waters throughout the Construction Phase:

General Surface water mitigation measures

- Storm drain inlets which could receive stormwater from the project will be protected throughout the Construction Phase. Inlet protection will be installed before soil-disturbing activities begin.
- Any imported materials will, as much as possible, be placed on site in their proposed location and double handling will be avoided. Where this is not possible designated temporary material storage areas will be used.
- Refuelling of plant during Construction Phase will only be carried out at designated refuelling station locations on site. Each station will be fully equipped for spill response and a specially trained and dedicated Environmental and Emergency Spill Response team will be appointed before the commencement of works on site.
- Only emergency breakdown maintenance will be carried out on site. Drip trays and spill kits will be available on site to ensure that any spills from vehicles are contained and removed off site.
- All personnel working on site will be trained in pollution incident control response.
- Any other diesel, fuel or hydraulic oils stored on site will be stored in bunded storage tanks- the bunded area will have a volume of at least 110% of the volume of the stored materials as per best practice guidelines (Enterprise Ireland, BPGCS005).
- Portaloos and/or containerised toilets and welfare units will be used to provide facilities for site personnel. All associated waste will be removed from site by a licenced waste management contractor.

- Runoff from machine service and concrete mixing areas will not enter the nearby drainage network.

All wastewater generated on-site during the Construction Phase will be stored and disposed of appropriately. Under no circumstances will any untreated wastewater generated onsite (from equipment washing, road sweeping etc.) be released into the foul/surface water drainage network.

Contaminated soils if encountered will be segregated. If dewatering is required groundwater will be treated as required prior to discharge as agreed with Local Authority.

7.1.3 Reduction of noise and dust related impacts

Reduction of noise impacts

Short-term increases in disturbance levels as a direct result of human activity and through increased generation of noise during the Construction Phase can have a range of impacts depending upon the sensitivity of the ecological receptor, the nature and duration of the disturbance and its timing.

Noise generated during the Construction Phase of the Proposed Development could cause temporary disturbance to a number of faunal species in the vicinity of the Site of the Proposed Development. To mitigate this disturbance, the following measures will be implemented:

- Selection of plant with low inherent potential for generating noise.
- Siting of plant as far away from sensitive receptors as permitted by site constraints.
- Avoidance of unnecessary revving of engines and switch off plant items when not required.
- Keep plant machinery and vehicles adequately maintained and serviced.
- Proper balancing of plant items with rotating parts.
- Keep internal routes well maintained and avoid steep gradients.
- Minimise drop heights for materials or ensure a resilient material underlies.
- Use of alternative reversing alarm systems on plant machinery.
- Where noise originates from resonating body panels and cover plates, additional stiffening ribs or materials should be safely applied where appropriate.
- Limiting the hours during which site activities likely to create high levels of noise are permitted.
- Appointing a site representative responsible for matters relating to noise.
- Monitoring typical levels of noise during critical periods and at sensitive locations.

These measures will ensure that any noise disturbance to nesting birds or any other fauna species in the vicinity of the Site of the Proposed Development will be reduced to a minimum.

Reduction of dust related impacts

The following general dust control measures will be followed for the duration of the Construction Phase of the Proposed Development and will ensure no significant dust related impacts occur to nearby sensitive receptors including local faunal species.

- In situations where the source of dust is within 25m of sensitive receptors screens (permeable or semi-permeable) will be erected.
- Haulage vehicles transporting gravel and other similar materials to site will be covered by a tarpaulin or similar.
- Access and exit of vehicles will be restricted to certain access/exit points.
- Vehicle speed restrictions of 20km/hr will be in place.
- Bowsers will be available during periods of dry weather throughout the construction period.
- During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the stability of the soil thereby reducing the amount of dust.
- Stockpiles will be stored in sheltered areas of the site, covered, and watered regularly or as needed if exposed during dry weather.
- Gravel should be used at site exit points to remove caked-on dirt from tyre tracks.
- Equipment should be washed at the end of each work day.
- Hard surfaced roads will be wet swept to remove any deposited materials.
- Unsurfaced roads will be restricted to essential traffic only.
- If practical, wheel-washing facilities should be located at all exits from the construction site.
- Dust production as a result of site activity will be minimised by regular cleaning of the site access roads using vacuum road sweepers and washers. Access roads should be cleaned at least 0.5km on either side of the approach roads to the access points.
- Public roads outside the site shall be regularly inspected for cleanliness, as a minimum daily, and cleaned as necessary. A road sweeper will be made available to ensure that public roads are kept free of debris.
- The frequency of cleaning will be determined by the site agent and is weather and activity dependent
- The height of stockpiles will be kept to a minimum and slopes should be gentle to avoid windblown soil dust.
- The following will be dampened during dry weather:
    - Unpaved areas subject to traffic and wind
    - Stockpiles
    - Areas where there will be loading and unloading of dust-generating materials

- Under no circumstances should wastewater from equipment, wheel or surface cleaning enter the surface water drainage network.

7.1.4 Invasive Species

While no invasive species were recorded on Site of the Proposed Development, it is recommended that any non-native/invasive flora species encountered at the Site should be controlled/removed as per the appropriate best-practice guidelines and in consultation with the relevant qualified invasive species professional. Removal and disposal should be carried out in accordance with appropriate guidelines such as TII (formerly NRA) Guidelines on The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads (2010), with consideration given to the prevention of spread of these plants.

7.1.5 Biosecurity

The following will be adhered to, to avoid the introduction of invasive species to the Proposed Development site.

- Any material required on the site will be sourced from a stock that has been screened for the presence of any invasive species by a suitably qualified ecologist and where it is confirmed that none are present.
- All machinery will be thoroughly cleaned and disinfected prior to arrival on site to prevent the spread of invasive species.

7.2 Operational Phase

7.2.1 Bats

In order to minimise disturbance to bats utilising the site in general, the lighting and layout of the proposed development should be designed to minimise light-spill onto habitats used by the local bat population foraging or commuting. Luminaire design is extremely important to achieve an appropriate lighting regime. Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following should be considered when choosing luminaires. This is taken from the most recent BCT Lighting Guidelines (BCT, 2018).

- All luminaires used will lack UV/IR elements to reduce impact.
- LED luminaires will be used due to the fact that they are highly directional, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (<2700 Kelvins will be used to reduce the blue light component of the LED spectrum).
- Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Column heights should be carefully considered to minimise light spill. The shortest column height allowed should be used where possible.
- Only luminaires with an upward light ratio of 0% and with good optical control will be used.
- Luminaires will be mounted on the horizontal, i.e. no upward tilt.
- Any external security lighting will be set on motion-sensors and short (1min) timers.

- As a last resort, accessories such as baffles, hoods or louvres will be used to reduce light spill and direct it only to where it is needed.

8 CUMULATIVE IMPACTS

If the Proposed Development and existing or proposed projects or plans impact on the same KERs, there is potential to lead to cumulative impacts which could be of a higher level of significance. This applies to potential impacts on bats due to the combined loss of suitable commuting and/or foraging habitat in the locality and potential impacts on birds due to the combined loss of nesting or foraging habitat in the locality.

8.1.1 Existing granted planning permissions

There are several existing planning permissions on record in the area ranging from small-scale extensions and alterations to existing residential properties to some larger-scale developments. The larger-scale developments within the area are outlined below:

Planning Application Reference: : SD21A/0213

Extension of the existing depot to provide additional bus parking facilities comprising a total of 221 bus spaces (including 45 electric bus parking spaces), 33 car parking spaces (including 15 electric car parking spaces), 5 motorcycle parking spaces and 30 bicycle parking spaces; revisions to the layout and configuration of the existing bus and car parking areas; the installation of electric vehicle charging units and associated infrastructure; new vehicular entrance/egress arrangement (including barrier and ramp) to Ballymount Avenue on the north-eastern site boundary; the provision of 4 pedestrian entrances located on the south-eastern, south-western and north-eastern site boundaries; internal roads and pedestrian pathways; minor elevational amendments to the existing transport depot building (relocation and addition of roller shutter doors and relocation of signage); hard and soft landscaping; boundary treatments; changes in level; lighting; surface water drainage; piped infrastructure and ducting, and all associated site excavation and development works above and below ground. (The development will also include the underground diversion of the existing ESB power line traversing the south-eastern corner of the site). **(Decision: Grant Permission. Decision Date: 24/01/2022).**

Planning Application Reference: SD19A/0384

(i) Alterations to existing roofs to include increasing roof height of one bay to match adjoining bay; (ii) new wall & roof cladding including louvred ventilation panels and translucent panels over existing cladding and to altered areas of buildings and extensions; (iii) provision of new roller-shutter doors to three existing opes and three new opes; (iv) demolition of three ancillary structures attached to the north side of the building and provision of four new single storey pitched roof structures attached to the north side of the building; (v) demolition of some existing wall and roof structures to the eastern end of the building, and the provision of new walls & roofs to form new areas of the high-bay plant/fabricating area with raised roof on parapet levels; (vi) demolition of a detached single storey plant building on the north-west of the site and storage buildings on the east of the site and construction of 3 new single storey detached plant and storage buildings; (vii) provision of new signage to the west facing elevation of the building at high level; (viii) all other associated siteworks & services to facilitate the development. **(Decision: Grant Permission. Decision Date: 12/02/2020).**

Planning Application Reference: SD19A/0222

Construction of new 1269sq.m warehouse extension with ancillary trading area; offices; staff site entrance; reconfiguration of existing car park and other associated minor site works to existing 4569sq.m warehouse with existing ancillary showrooms and offices (including limited telemarketing use). **(Decision: Grant Permission. Decision Date: 10/12/2019).**

Planning Application Reference: SD19A/0404

Construction of a two storey motorcar retail showroom (c. 904sq.m); 2 floors of ancillary offices and associated uses; access to be provided from existing entrance the internal circulation road to the west; provision of 19 visitor and staff surface car parking (1 disabled access space, 2 electric vehicle charging spaces and 4 bicycle parking spaces); 89 spaces for the display and valet of vehicles, including display area; signage comprising 3 totem signs (2 x 6m and 1 x 7.5m in height) and 5 elevational signs (c. 20.19sq.m of signage in total); single storey substation and bin store as well as all associated infrastructure, landscaping and associated site development works including plant and PV panels at roof level all on a site of c. 0.59ha. **(Decision: Grant Permission. Decision Date: 23/04/2020).**

Planning Application Reference: SD21A/0214

Retention for as constructed extended floor areas to ground floor level reception area (approx. 38sq.m) and first floor level office areas (approx. 49sq.m). Permission to construct a new extension to the north-eastern corner of a permitted storage warehouse building together with associated external signage, site development works; provide additional storage space at second floor level only (approx. 2,198sq.m) and form an undercroft to the permitted access/entrance areas. **(Decision: Request Additional Information. Decision Date: 05/10/2021).**

Planning Application Reference: SD19A/0130

Retention for change of use from light industry/warehousing to office (Class 3, of Schedule 2, Part 4 of the Planning and Development Regulations 2000-2019); ancillary security call centre; storage area for the provision of security monitoring and surveillance services; staff canteen; office and meeting rooms; stair core; lift; reception area; lobby; business identification signage and ancillary internal changes and site works; physical subdivision of Unit G9 into two separate levels (Ground Level and Level 1) and amalgamation of Unit G9 (Level 1) with G10 to create a single commercial unit; construction of an internal concrete floor at Unit G10 to create a full mezzanine floor within the unit (and additional floorspace area of 161sq.m approximately). **(Decision: Grant Permission for Retention. Decision Date: 11/06/2019).**

Planning Application Reference: SD15A/0173/EP

Detached industrial unit comprising 960sq.m of workshop area plus 720sq.m stores/offices/staff facilities on two floors totalling 1680sq.m together with hardstanding area, diesel storage tanks, wash bay facilities, site boundary walls/fencing and all associated site development works. **(Decision: Grant Extension of Duration of Permission. Decision Date: 17/05/2021).**

At the time of writing, there are no proposed or permitted forestry operations (thinning, clear felling, road construction) in close proximity to the Site of the Proposed Development[5].

Given the lack of natural habitat within the proposed sites and distance and urban buffer between the Proposed Development site and the above-mentioned permitted developments, it is concluded that there is no potential for in-combination effects to arise as a result of the Proposed Development on local ecology.

8.1.2 Relevant policies and plans

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

- South Dublin County Council County Development Plan 2016 – 2022
- Draft Biodiversity Action Plan for South Dublin County 2020-2026

The South Dublin County Council County Development Plan 2016 – 2022 has directly addressed the protection of European Sites through specific policies (HCL12 Objective 1 - 2). The relevant recommendations and mitigation measures have been integrated into the plan. The Draft Biodiversity Action Plan for South Dublin County 2020-2026is set out to protect and improve biodiversity, and as such will not result in negative in-combination effects with the Proposed Development.

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

In addition, sustainable development including SuDS measures for all new developments is inherent in the objectives of all development plans within the Greater Dublin Area.

8.1.3 Operation of Ringsend WwTP

In June 2018 Irish Water applied for (and subsequently received) planning permission for upgrade works to the Ringsend Wastewater Treatment (WwTP) facility. These upgrade works are currently on-going and will increase the capacity of the facility from 1.6 million PE to 2.4 million PE. This plant upgrade will result in an overall reduction in the final effluent discharge of several parameters from the facility including BOD, suspended soils, ammonia, DIN and MRP. An Environmental Impact Assessment Report (EIAR) was submitted by Irish Water as part of this application. The EIAR contains sections relating to Marine Biodiversity and Terrestrial Biodiversity. and each contains a section on the 'do-nothing scenario'. These review the effects of the WwTP on biodiversity in Dublin Bay in the absence of the upgrade works and so are relevant to this report.

The EIAR report acknowledges that under the do-nothing scenario "the areas in the Tolka Estuary and North Bull Island channel will continue to be affected by the cumulative nutrient loads from the river Liffey and Tolka and the effluent from the Ringsend WwTP", which could result in a decline in biodiversity (Irish Water, 2018). Nevertheless, the negative impacts of nutrient over-enrichment, which could result in the deterioration of the biological status of Dublin Bay are considered "unlikely" (Irish Water, 2018). This is because historical data suggests that pollution in Dublin Bay has had little or no effect on the composition and richness

[5] https://forestry-maps.apps.rhos.agriculture.gov.ie/

of the benthic macroinvertebrate fauna. The EIAR notes that "although a localised decline could occur, it is not envisaged to be to a scale that could pose a threat to the shellfish, fish, bird or marine mammal populations that occur in the area." Furthermore, the EIAR notes that significant impacts on waterbird populations foraging on invertebrates in Dublin Bay due to nutrient over-enrichment are "unlikely" to occur (Irish Water, 2018). What is important in the context of this EcIA is that the do-nothing scenario predicts that nutrient and suspended solid loads from the WwTP will "continue at the same levels and the impact of these loadings should maintain the same level of effects on marine biodiversity" and that "if the *status quo* is maintained there will be little or no change in the majority of the intertidal faunal assemblages found in Dublin Bay which would likely continue to be relatively diverse and rich across the bay."

Therefore, it can be concluded that significant effects on marine biodiversity and the Natura 2000 sites within Dublin Bay from the *current* operation of Ringsend WwTP are unlikely. Importantly, this conclusion is not dependent upon any future works to be undertaken at Ringsend. Thus, in the absence of any upgrading works, significant effects to habitats, fauna and Natura 2000 sites are not likely to arise.

On examination of the above it is considered that there are no means for the Proposed Development to act in-combination with any plans or projects.

9 Residual Impacts

Residual impacts are impacts that remain once mitigation has been implemented or impacts that cannot be mitigated. Table 6 provides a summary of the impact assessment for local biodiversity and details the nature of the impacts identified, mitigation proposed and the classification of any residual impacts.

Provided all mitigation measures are implemented in full and remain effective throughout the lifetime of the Development, no significant negative residual impacts on the local ecology or on any designated nature conservation sites are expected from the Proposed Development.

TABLE 6. SUMMARY OF POTENTIAL IMPACTS ON LOCAL BIODIVERSITY, MITIGATION PROPOSED AND RESIDUAL IMPACTS.

Key Ecological Resource	Level of Significance	Potential Impact	Impact Without Mitigation				Proposed Mitigation	Residual Impact
			Quality	Magnitude / Extent	Duration	Significance		
Bat assemblage	Local Importance (lower value)	Disturbance due to noise generated during Construction Phase. Disturbance/removal of foraging routes/habitat due to increased lighting as a result of the Proposed Development	Negative	Local	Short-term Permanent	Slight	Planting of shrub and tree species to take place as part of project design. Construction related noise control/minimisation measures to be implemented. Bat sensitive lighting measures incorporated into the Construction Phase and public lighting design described in section 7.2.1	**Positive; Permanent.** **Neutral.**
Breeding-Bird assemblage	Local Importance (lower value)	Loss of potential foraging habitat. Disturbance due to noise generated during Construction Phase.	Negative	Local	Permanent Short-term	Moderate Slight	Planting of native shrub and tree species to take place as part of project design. No removal of vegetation to take place during the nesting season. Construction related noise control/minimisation measures to be implemented.	**Positive; Permanent.** **Neutral.**

Key Ecological Resource	Level of Significance	Potential Impact	Impact Without Mitigation				Proposed Mitigation	Residual Impact
			Quality	Magnitude / Extent	Duration	Significance		
Hedgehog	Local Importance (higher value)	Mortality or injury during Construction Phase. Habitat loss during the Construction Phase of the Proposed Development. Disturbance due to noise generated during Construction Phase.	Negative	Local	Permanent Short-term	Significant Slight Slight	Best practise construction waste storage/handling measures to be implemented. Planting of shrub and tree species to take place as part of project design. Construction related noise control/minimisation measures to be implemented.	**Neutral.**
Aquatic Fauna	Local Importance (lower value)	Deterioration in water quality due to surface water discharges associated with the Construction Phase	Negative	Local	Short-term	Slight	Mitigation measures to protect surface waters as outlined in 7.1.2	**Neutral.**

10 CONCLUSION

It is considered that provided the mitigation measures proposed are carried out in full, there will be no significant negative impact to any valued habitats, designated sites or individual or group of species as a result of the Proposed Development.

Based on the successful implementation of these measures and proposed works, to be carried out in accordance with the landscape plan, there will be no significant negative ecological impacts arising from Construction and Operational Phases of the Proposed Development.

11 REFERENCES

CIEEM. (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester, UK.

City of Toronto. (2016). Bird-Friendly Best Practices: Glass. City Planning, Toronto. Canada.

City of Toronto. (2017). Best Practices Effective Lighting. City Planning, Toronto, Canada.

Department of the Environment, Heritage and Local Government. (2010). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. DEHLG, Dublin. (Rev. Feb 2010).

Dublin City Council (DCC). (2019). Basement Development Guidance Document Version 1.0. [ONLINE]. Available at: https://www.dublincity.ie/sites/default/files/content/Planning/Documents/Basement/BasementDevelopmentGuidanceDocument.pdf

Eastern Regional Fisheries Board. (2004). Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites. Blackrock, Dublin, Ireland.

Environmental Protection Agency. (2017). Guidelines on the information to be contained in Environmental Impact Assessment Reports (Draft). Published by the Environmental Protection Agency, Ireland.

Environmental Protection Agency. (2022). Environmental Protection Agency Online Mapping [ONLINE] Available at: http://www.epa.ie/ [Accessed March 2022].

European Commission. (2000). Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. European Communities, Luxembourg.

European Communities. (2002). Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. European Communities, Luxembourg.

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

Gauthreaux, S. A., and Belser, C. G. (2006). Effects of artificial night lighting on migrating birds. Pages 67–93 in C. Rich and T. Longcore, editors. Ecological consequences of artificial night lighting. Island Press, Washington, D.C., USA.

Geological Survey Ireland. (2022). Geological Survey of Ireland website [ONLINE] Available at: http://www.gsi.ie/ [Accessed March 2022].

Gilbert, G., Stanbury, A. and Lewis, L. (2021). Birds of Conservation Concern in Ireland 4: 2020–2026. *Irish Birds* 43: 1–22

Greater Dublin Strategic Drainage Study. (2005). Final Strategy Report. [ONLINE] Available at: http://www.greaterdublindrainage.com/wp-content/uploads/2011/11/GDSDS-Final-Strategy-Report-April-051.pdf [Accessed March 2022].

Igoe F., Quigley D.T.G., Marnell F., Meskell E., O'Connor W. & Byrne C. 2004. The sea lamprey *Petromyzon marinus* (L.), river lamprey *Lampetra fluviatilis* (L.) and brook lamprey

Lampetra planeri (Bloch) in Ireland: General biology, ecology, distribution and status with recommendations for conservation. *Biology and Environment* 104: 43–56.

Inland Fisheries Ireland. (2016). Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters. Available at: https://www.fisheriesireland.ie/documents/624-guidelines-on-protection-of-fisheries-during-construction-works-in-and-adjacent-to-waters/file.html

Inland Fisheries Ireland. (2018). Fish in Rivers Factsheet River Dodder Catchment. [Online] Available at: http://wfdfish.ie/wp-content/uploads/2019/10/ERBD_Dodder_2018-2.pdf

Institute of Lighting Professionals (ILP). (2018). Guidance note 08/18: Bats and artificial lighting in the UK. Bats and the Built Environment Series. [Online] Available at: https://cdn.bats.org.uk/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lighting-compressed.pdf?mtime=20181113114229

Kelleher, C. and Marnell, F. (2006). Bat Mitigation Guidelines for Ireland. Irish Wildlife Manuals, No. 25. National Parks and Wildlife Service, Department of Environment. Heritage and Local Government, Dublin, Ireland.

Kelly, F.L., Matson, R., Connor, L., Feeney, R., Morrissey, E., Wogerbauer, C. and Rocks, K. (2012). Water Framework Directive Fish Stock Survey of Rivers in the Eastern River Basin District. Inland Fisheries Ireland, Swords Business Campus, Swords, Co. Dublin, Ireland.

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

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

Macklin, R., Brazier, B. & Sleeman, P. (2019). Dublin City otter survey. Report prepared by Triturus Environmental Ltd. for Dublin City Council as an action of the Dublin City Biodiversity Action Plan 2015- 2020.

Marnell, F., Looney, D. & Lawton, C. (2019). Ireland Red List No. 12: Terrestrial Mammals. National Parks and Wildlife Service, Department of the Culture, Heritage and the Gaeltacht, Dublin, Ireland.

Matson, R., Delanty, K., Gordon, P., O'Briain, R., Garland, D., Cierpal, D., Connor, L., Corcoran, W., Coyne, J., McLoone, P., Morrisey-McCaffrey, E., Brett, T., Ní Dhonnabhain, L. and Kelly, F.L. (2018). Sampling Fish in Rivers 2017 – Camac, Factsheet No. 3. National Research Survey Programme. Inland Fisheries Ireland.

NBDC. (2022). National Biodiversity Data Centre online mapping [ONLINE]. Available at: http://maps.biodiversity.ie/Map.aspx. [Accessed March 2022].

NPWS. (2010). Circular NPW 1/10 & PSSP 2/10. Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Department of Environment, Heritage and Local Government.

NPWS. (2013a). The Status of Protected EU Habitats and Species in Ireland. Overview Volume 1. Unpublished Report, National Parks & Wildlife Services. Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland. Editor: Deirdre Lynn

NRA. (2009a). Environmental Assessment and Construction Guidelines. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

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

NRA. (2010). Guidelines on The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads(now Transport Infrastructure Ireland), Dublin.

O'Boyle, S., Trodd, W., Bradley, C., Tierney, D., Wilkes, R., Ní Longphuirt, S., Smith, J., Stephens, A., Barry, J., Maher, P., McGinn, R., Mockler, E., Deakin, J., Craig, M. and Gurrie, M. 2019. Water Quality in Ireland 2013-2018. Environmental Protection Agency, Johnstown.

Smith, G.F., O'Donoghue, P., O'Hora, K. and Delaney, E. (2011). Best practice guidance for habitat survey and mapping. The Heritage Council, Kilkenny.

Wyse Jackson, M., FitzPatrick, Ú., Cole, E., Jebb, M., McFerran, D., Sheehy Skeffington, M. & Wright, M. (2016) Ireland Red List No. 10: Vascular Plants. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, Dublin, Ireland.

APPENDIX I – VALUE OF ECOLOGICAL RESOURCES

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

Importance	Criteria

International Importance	- 'European Site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation.
	- Proposed Special Protection Area (pSPA).
	- Site that fulfills the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended).
	- Features essential to maintaining the coherence of the Natura 2000 Network.
	- Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive.
	- Resident or regularly occurring populations (assessed to be important at the national level) of the following:
	  - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or
	  - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive.
	- Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971).
	- World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage. 1972).
	- Biosphere Reserve (UNESCO Man & The Biosphere Programme).
	- Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979).
	- Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979).
	- Biogenetic Reserve under the Council of Europe.
	- European Diploma Site under the Council of Europe.
	- Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).

National Importance	- Site designated or proposed as a Natural Heritage Area (NHA).
	- Statutory Nature Reserve.
	- Refuge for Fauna and Flora protected under the Wildlife Acts.
	- National Park.
	- Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve: Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park.
	- Resident or regularly occurring populations (assessed to be important at the national level) of the following:
	  - Species protected under the Wildlife Acts; and/or
	  - Species listed on the relevant Red Data list.
	- Site containing 'viable areas' of the habitat types listed in Annex I of the Habitats Directive.

County Importance	- Area of Special Amenity. - Area subject to a Tree Preservation Order.

	- Area of High Amenity, or equivalent, designated under the County Development Plan.
	- Resident or regularly occurring populations (assessed to be important at the County level) of the following:
	  - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
	  - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
	  - Species protected under the Wildlife Acts; and/or
	  - Species listed on the relevant Red Data list.
	- Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance.
	- County important populations of species, or viable areas of semi-natural habitats or natural heritage features identified in the National or Local BAP (Biodiversity Action Plan), if this has been prepared.
	- Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county.
	- Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.

Local Importance (Higher Value)	- Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared;
	- Resident or regularly occurring populations (assessed to be important at the Local level) of the following:
	  - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
	  - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
	  - Species protected under the Wildlife Acts; and/or
	  - Species listed on the relevant Red Data list.
	- Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality;
	- Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.

Local Importance (Lower Value)	- Sites containing small areas of semi-natural habitat that are of some local importance for wildlife; - Sites or features containing non-native species that are of some importance in maintaining habitat links.

APPENDIX II – EPA IMPACT ASSESSMENT CRITERIA

Criteria used to define quality of effects

In line with the draft EPA Guidelines (EPA, 2017), the following terms are defined when quantifying the quality of effects:

Quality	Definition
Positive Effects	A change which improves the quality of the environment (for example by increasing species diversity; or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
Neutral Effects	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Negative/adverse Effects	A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property by causing nuisance).

Criteria used to define significance of effects.

In line with the draft EPA Guidelines (EPA, 2017), the following terms are defined when quantifying significance of impacts:

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

Criteria used to define duration of effects.

In line with the draft EPA Guidelines (EPA, 2017), the following terms are defined when quantifying duration and frequency of effects:

Quality of Effects	Definition
Momentary	Effects lasting from seconds to minutes
Brief	Effects lasting less than a day
Temporary	Effects lasting less than a year
Short-term	Effects lasting one to seven years
Medium term	Effects lasting seven to fifteen years

Long-term	Effects lasting fifteen to sixty years
Permanent	Effects lasting over sixty years
Reversible	Effects that can be undone, for example through remediation or restoration.