DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

EIAR FOR THE DEVELOPMENT OF A HEALTHCARE WASTE MANAGEMENT FACILITY AT BLARNEY BUSINESS PARK

Volume 2- Main Body of the EIAR
Chapter 8 – Biodiversity Chapter

Prepared for:

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8. BIODIVERSITY

8.1 Introduction

The proposed development is defined in Chapter 1 - Introduction and a detailed description of the proposed development is set out in Chapter 4 - Description of the Existing and Proposed Development.

This chapter presents a Biodiversity Impact Assessment of the proposed development. It describes the existing ecological environment at and surrounding the proposed development and examines the potential effects that the proposed development (described in Chapter 4) is predicted to have on biodiversity, flora and fauna. Appropriate mitigation measures are described to avoid, reduce or offset potential significant effect(s) on biodiversity where relevant.

8.2 Statement of Authority

The ecological walkover survey was undertaken to inform the ecological appraisal and was undertaken by Kate O'Regan (MSc. Marine Biology; BSc. Zoology) of Fehily Timoney and Company (FT). An ecological appraisal of the proposed development was undertaken by FT to inform this chapter. The lead authors of this chapter are Kate O'Regan and Donna O'Halloran (MSc. Ecological Assessment, MSc Environmental Resource Management, BSc, Landscape Hort). The chapter was reviewed by Barbara Kasl (FT Ecologist, B.SC.Hons in Zoology and a PhD in Animal, Plant and Environmental Sciences).

Biographies for the contributors to this Biodiversity Impact Assessment are presented in Table 8-1.

Table 8-1: Contributors to Biodiversity Impact Assessment

Assessor/Surveyor	Role	Biography
Kate O'Regan	Ecologist, author, site surveyor	Kate O'Regan is an Ecologist with three years' experience in consultancy with FT. She holds a first-class BSc. in Zoology and first-class MSc in Marine Biology from University College Cork. Since joining Fehily Timoney, Kate has prepared Appropriate Assessments and Ecological Impact Assessments for waste facilities and road improvement schemes along with ornithological chapters and collision risk models for renewable energy projects. Kate has previous experience in data management, statistical analysis, mapping and technical report writing. Kate has also completed a wide range of site work including habitat, bird, bat, freshwater aquatic, intertidal, subtidal, insect and mammal surveys.

Assessor/Surveyor	Role	Biography
Donna O'Halloran	Ecologist, Author	Donna is a Senior Ecologist working as part of the Circular Economy and Environment Team at FT. Donna holds a MSc. First Class Honours in Ecological Assessment, a MSc. First Class Honours in Environmental Resource Management, a BSc (Hons) in Landscape Horticulture and a National Diploma in Horticulture. Donna has over 10 years' experience preparing Appropriate Assessment Screening Reports, Natura Impact Statements (NIS) and Ecological Impact Assessment (EcIA) Reports for energy, circular economy and infrastructure projects. Donna has experience undertaking Appropriate Assessment (AA) and EcIAs of forestry related applications on behalf of the Minister of Department of Agriculture, Food and the Marine. Donna also has experience assisting County Councils and Government Departments in their delivery and implementation of planning services, reviewing the EcIA reports/ Biodiversity Chapters of EIARs, AA Screening Reports and NIS Reports of received planning applications.
Barbara Kasl	Ecologist, Report Reviewer	Barbara is a Senior Ecologist working as part of the Energy and Planning Team at FT. Barbara holds a B.Sc.Hons in Zoology and a PhD in Animal, Plant and Environmental Sciences from University of the Witwatersrand (Johannesburg, South Africa). She has 20 years' in the environmental and consulting sectors, predominantly as a terrestrial fauna specialist and behavioural ecologist, with experience in impact assessment and associated technical reporting across various projects, including mining and processing, renewable energy, servitudes (roads, pipelines, powerlines), supporting infrastructure and town-related development (housing and industrial).

8.3 Legislation and Policy

All species and habitats likely to be significantly impacted by the proposed development, including those provided with National and International protection under the following legislative and policy documents have been considered in this Impact Assessment.

8.3.1 European Legislation

The EU Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna) (as amended) (the 'Habitats Directive') together with the Birds Directive (Council Directive 2009/147/EC on the Conservation of Wild Birds) (as amended) (the 'Birds Directive') are the main legislative instrument for the protection and conservation of biodiversity within the European Union (EU).

The Habitats Directive lists habitats and species that must be protected within Special Areas of Conservation (SAC) within Annexes I and II, respectively. The Habitats Directive also identifies plant and animal species within Annex IV which are subject to strict protection anywhere they occur.

The Birds Directive provides for the identification of a network of Sites in all member states to protect birds at their breeding, feeding, or roosting areas. The Birds Directive identifies in Annex I, species that are rare, in danger of extinction, or vulnerable to changes in habitat and which require special protection and areas for their conservation: Special Protection Areas (SPA).

The Habitats Directive and Birds Directive have been transposed into Irish law, by Part XAB of the Planning and Development Act 2000 (as amended) and by the European Communities (Birds and Natural Habitats) Regulations 2011, as amended.

The EU Water Framework Directive (2000/60/EC) (as amended) requires all Member States to protect and improve water quality in all waters to achieve good ecological status under prescribed deadlines. This was transposed into Irish Law by the European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003) and by the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (as amended) and European Union Environmental Objectives (Freshwater Pearl Mussel) (Amendment) Regulations 2009 (as amended) and the European Communities Environmental Objectives (Groundwater) Regulations 2010 (as amended). The Directive applies to rivers, lakes, groundwater, and transitional coastal waters. The Directive requires management plans to be prepared on a river basin basis and specifies a structured method for developing these plans. Ireland's third cycle River Basin Management Plan 2022-2027 ('The Water Action Plan 2024: A River Basin Management Plan for Ireland') was published on 03rd September 2024.

8.3.2 National Legislation

The primary domestic statute providing for wildlife protection in Ireland is the Wildlife Act of 1976 (as amended) (the 'Wildlife Act') and associated Statutory Instruments.

Currently all bird species are protected under the Wildlife Act from offences including intentional killing or injury and disturbance during the breeding season (to include eggs, young, and nests which are also protected), although there is a provision under the Third Schedule of the Act to provide exemption to protection. The Act also provides protection to a range of terrestrial and aquatic mammal species including bats, three amphibian species (newt, frog and toad) and one reptile species (lizard) and these are all similarly protected from intentional killing or injury, whilst the breeding or resting sites of these species are also protected. The amendment to the Act in 2000 broadens its scope to allow the Minister to prescribe protection for fish and aquatic invertebrate species through statute, however none has been made to date. The Act also provides a mechanism to give statutory protection to Natural Heritage Areas (NHAs). The Act also requires that public bodies, in the performance of their functions, have regard to the National Biodiversity Action Plan.

A number of vascular (i.e. flowering) and non-vascular plant species (i.e. non-flowering) are afforded legal protection under the Flora (Protection) Order, 2022 enacted under Section 21 of the Wildlife Act, 1976. It is an offence to cut, pick, collect, uproot, or otherwise take, injure, damage, or destroy any specimens of the species listed under the Flora (Protection) Order.

The Third Schedule to the European Communities (Birds and Natural Habitats) Regulations 2011, as amended lists invasive alien plant species. These regulations make it an offence to plant, disperse, allow or cause to disperse, spread, or otherwise cause to grow any of the scheduled species. The more recently published European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374 of 2024) complements the Third Schedule of the European Union (Birds and Natural Habitats) Regulations 2011 by providing a legal framework for managing invasive alien species, particularly those of Union and National concern.

Beyond the national statutes which transpose the Water Framework Directive into national law, there are several older national Acts which are intended for the protection of fisheries and the aquatic environment as follows:

- Section 171 of the Fisheries (Consolidation) Act 1959 creates the offence of throwing, emptying, permitting or causing to fall onto any waters deleterious matter. Deleterious matter is defined as not only as any substance that is liable to injure fish but is also liable to damage their spawning grounds or the food of any fish or to injure fish in their value as human food or to impair the usefulness of the bed and soil of any waters as spawning grounds or other capacity to produce the food of fish.
- Under Section 3 of the Local Government (Water Pollution) Act, 1977 (as amended by Sections 3 and 24 of the 1990 Act) it is an offence to cause or permit any polluting matter to enter waters.

8.3.3 National Policy

Ireland's fourth National Biodiversity Action Plan (NBAP) was launched in January 2024 and sets the national biodiversity agenda for the period 2023-2030. The Plan includes five strategic objectives as follows:

- Objective 1 Adopt a Whole-of-Government, Whole-of-Society Approach to Biodiversity
- Objective 2 Meet Urgent Conservation and Restoration Needs
- Objective 3 Secure Nature's Contribution to People
- Objective 4 Enhance the Evidence Base for Action on Biodiversity
- Objective 5 Strengthen Ireland's Contribution to International Biodiversity Initiatives

This plan includes targeted actions for public authorities in relation to their obligations for biodiversity. One particularly important policy change in the plan (Objective 1) relates to the mainstreaming of biodiversity into decision-making across all sectors. Specifically, there is an obligation on all Public Authorities to "move towards no net loss of biodiversity through strategies, planning, mitigation measures, appropriate offsetting, and/or investment in Blue-Green infrastructure". This and other relevant policies in the plan have informed the valuation of ecological features, assessment of potential effects, and development of mitigation in this EIAR.

The Wildlife (Amendment) Act 2023 introduced a new public sector duty on biodiversity. The legislation provides that every public body, as listed in the Act, is obliged to have regard to the objectives and targets in the National Biodiversity Action Plan.

8.3.4 Local Policy

The main policy document governing the management of biodiversity in the area in which the proposed development is located is the Cork City Development Plan 2022 - 2028. The development plan consists of a series of overarching Strategic Objectives (SO) with specific policy objectives that outline actions to be undertaken to achieve each SO. The following objectives relate to general policy on biodiversity within the Local Authority Plan Area, as well as those specifically related to the town of Blarney where the proposed development is located:

Chapter 6 Green and Blue Infrastructure, Open Space and Biodiversity

Objective 6.1 Cork City Green & Blue Infrastructure Study and Strategy

To manage, protect and enhance the Green and Blue Infrastructure assets of Cork City in line with the Cork City Green and Blue Infrastructure Strategy set out in the Development Plan, and to support the actions, opportunities and projects identified in the Cork City Green and Blue Infrastructure Study 2021.

Objective 6.5 Trees & Urban Woodland

a. To protect and enhance the City's tree and urban woodlands in public and private ownership. Cork City Council will seek to survey, map and maintain existing important individual and groups of trees, using Tree Preservation Orders as appropriate;
b. To encourage the planting of new urban woodlands and trees where appropriate throughout the City and particularly where there are deficiencies in tree coverage as identified in the Cork City Green and Blue Infrastructure Study;
c. To support the preparation of a City Tree Strategy which provides a vision for long term planting, protection and maintenance of trees, hedgerows and woodlands;
d. To support retaining existing trees and the planting of new trees as part of new developments subject to care on the species of tree and the siting and management of the trees to avoid conflict with transport safety and residential amenity in particular; and
e. To promote the planting of pollinator friendly native deciduous trees and mixed forestry to benefit biodiversity.

Objective 6.6 Rivers, Waterway and Wetlands

a. To protect and maintain the integrity, and maximise the potential, of the natural heritage and biodiversity value of rivers, associated watercourses and wetlands in Cork City; and
b. To promote an integrated approach to optimising opportunities associated with rivers, waterways and wetlands generate biodiversity, recreation, tourism, and economic benefits.

Objective 6.7 Carbon Sequestration

To work with landowners, communities and other stakeholders in supporting initiatives to increase carbon sequestration through the effective and sustainable use of undeveloped, vacant and agricultural land. This could include opportunities to explore protecting soil fertility, reducing erosion, increasing soil organic matter, re-wetting bogs and peatland and restoring degraded soils.

Objective 6.9 Landscape

a. To discourage proposals necessitating the removal of extensive amounts of trees, hedgerows and historic walls or other distinctive boundary treatments; and
b. To support, as appropriate, any relevant recommendations contained in the National Landscape Strategy for Ireland 2015-2025.

Objective 6.22 Natural Heritage and Biodiversity

a. To protect, promote and enhance Cork City's natural heritage and biodiversity;
b. To support the implementation of the National Biodiversity Plan and the All-Ireland Pollinator Plan and successor publications in Cork City;
c. To support and implement the biodiversity actions from the Cork City Heritage and Biodiversity Plan (2021-2026) in partnership with all relevant stakeholders; and

f. Cork City Council will seek, where appropriate, to enhance the linear habitat connectivity, including the interconnection and enhancement of:
    - Woodlands, gardens, open spaces, fields and hedgerows.
    - Coastal habitats, river catchments, lakes, streams, ponds.
    - Aquatic, marginal and bank side habitats.
    - Parks, playing fields and recreational areas.
    - Upstream of mapped flood zones.
    - City transport routes.

Objective 6.23 Designated Sites and Protected Species

To protect and enhance designated sites and areas of natural heritage and biodiversity and the habitats, flora and fauna for which it is designated, and to protect, enhance and conserve designated species.

Objective 6.24 Information to be Considered for Development Affecting Designated Sites

To ensure that development proposals affecting designated sites have regard to the sensitivities identified in the SEA Environmental Report prepared in respect of this Plan.

Objective 6.26 Alien Invasive Species

To support the implementation of measures to control and prevent the introduction, establishment or spread of ecologically damaging alien invasive species (e.g. Japanese Knotweed and Himalayan Balsam).

Chapter 9 Environmental Infrastructure

Objective 9.2 Waste Water

a. To require all new proposals for development to provide a separate foul and surface water drainage system and to incorporate Sustainable Urban Drainage Systems in so far as practical.
b. As part of new proposals for development, evidence of consultation with Irish Water should be submitted as part of a planning application, demonstrating that adequate water services are available to service the development and that existing water services will not be negatively impacted.

Objective 9.5 Discharging

a. To ensure that onsite petrol/oil interceptors and silt traps shall be installed to all significant road projects/upgrades or for proposals where surface water otherwise discharges to watercourses, to prevent hydrocarbon pollution of the receiving waters.
b. To ensure that developments permitted by the Council which involve discharge of wastewater to surface waters or groundwaters, comply with the requirements of the EU Environmental Objectives (Surface Waters) Regulations and EU Environmental Objectives (Groundwater) Regulations.

Objective 9.7 – Water Quality

a. To ensure the delivery of the relevant policies and objectives of The River Basin Management Plan for Ireland 2018 – 2021 and any subsequent plan, including those relating to protection of water status, improvement of water status, prevention of deterioration and meeting objectives for designated protected sites.
b. To support Irish Water in its implementation of Water Quality Management Plans for ground, surface, coastal and estuarine waters as part of the implementation of the EU Water Framework Directive and in the development of Drinking Water Protection Plans.
c. To support the provision of mitigation and protection measures for all protected areas, including Drinking Water Protected Areas and associated Source Protection Plans in line with the Water Framework Directives and River Basin Management Plans.
d. To have cognisance of, where relevant, the EU's Common Implementation Strategy Guidance Documents No. 20 and 36 which provide guidance on exemptions to the environmental objectives of the Water Framework Directive.

Objective 9.19 External Lighting

To require that external lighting proposals minimise the harmful effects of light pollution, are energy efficient, and do not have an excessive impact on residential or visual amenity, biodiversity or result in the distraction of road users.

Urban Town Objectives – Blarney

None of the objectives listed for Blarney relate specifically to biodiversity. The council do however discuss their future intentions for the Clogheenmilcon Fen that is located in Blarney. This fen is an area of local biodiversity importance whose enhancement will be a critical component in the development of increased active and passive recreational spaces. The council is in the process of restoring and enhancing the fen to improve its overall amenity through funding received from the Town and Village renewal Scheme.

Note that Chapter 6 Green and Blue Infrastructure, Open Space and Biodiversity, includes objectives for the protection of Blarney Bog pNHA (001857), Blarney Castle Woods pNHA (001039), and Blarney Lake pNHA 001798).

8.4 Consultation

The full list of the bodies consulted as part of the environmental assessment are presented in Chapter 6 - Scoping and Consultation. Specific to biodiversity, the following responses were received:

- The Cork City Council Biodiversity Officer requested that the Applicant provide any landscaping proposals that may be prepared for the proposed development. Given the nature of the development proposed (change of use project with no construction of any built development) there are no landscaping proposals as such. The Consultee was informed of this, and information was provided of the existing landscape. The consultee had no further landscape comments after receiving this information. The Cork City Council Biodiversity Officer also stated that the proposed development must take heed of the Cork City Development Plan 2022-2028.

Biodiversity-related policy and objectives set out under the Cork City Development Plan (CDP) were considered when producing this EIAR. These policies and objectives informed the planning of the proposed development. The interaction between the proposed development and these policies and objectives is considered and assessed in this chapter.

- Cork City Council Planning Department listed the Natural Heritage Areas that could be impacted by the development.

An assessment of how the proposed development may potentially impact on designated sites is presented in Section 8.9. of this chapter.

- Inland Fisheries Ireland (IFI) Commented that the development proposes the disposal of septic/trade effluent to a public sewer. Requested that Irish water confirms there is sufficient capacity such that the disposal from the site will not result in an organic or hydraulic overload of existing waste treatment facilities or result in polluting matter entering waters. IFI also stated that any works with the potential to interfere with watercourses or their surrounding banks should not be commenced without approval from IFI and must be cognisant of IFI '*Guidelines on protection of fisheries during construction works in and adjacent to waters*'.

A characterisation of wastewater discharges from the proposed development is presented in Chapter 10 – Hydrology and Surface Water, of Volume 2 of the EIAR. The BOD levels in the wastewater discharges will be consistent with BOD levels found in domestic wastewater. The volume flow of wastewater discharges will be minimal. Consent for the wastewater discharges from the facility will be obtained from Uisce Eireann through the EPA Industrial Emissions licence application process in accordance with Section 99E of the EPA Act (as amended). The Uisce Eireann Wastewater Treatment Capacity Register indicates that the Blarney Wastewater Treatment Plant (EPA Licence Reference: D0043) currently has spare capacity available. The proposed development does not involve any in-stream or near stream works.

8.5 Methodology

8.5.1 Relevant Guidance

The methodology for this appraisal has been devised in compliance with the following guidance:

- ‘Guidelines on the information to be contained in Environmental Impact Statements' (EPA, 2022);
- ‘Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment’ (DoHPLG, 2018);
- 'Guidelines for Assessment of Ecological Impacts of National Road Schemes' Rev 2 (NRA, 2009a)
- 'Guidance document on wind energy developments and EU nature legislation'. Commission Notice C (2020) 7730 final, Brussels 18.11.2020
- ‘Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment’ (European Commission, 2013)

In addition, the following guidelines were consulted in the preparation of this document to provide the scope, structure and content of ecological assessment:

- *CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (Version 1.2) published by the Chartered Institute of Ecology and Environmental Management (CIEEM) (2018; last updated September 2024).
- NRA Guidelines on Ecological Surveying Techniques for Protected Flora and Fauna on National Road Schemes (NRA, 2009b).

8.5.2 Study Area and Zone of Influence

As per CIEEM guidelines (2018), the study area for the proposed development has been defined having regard to the spatial and temporal scale of potential biophysical changes in the environment which might occur as a result of the development and throughout its lifetime. Consideration is given to the following:

- The characteristics, size and location of the proposed development; and
- Whether there could be landscape[1] or ecological connectivity[2] to any ecological receptor which includes examination of the full extent of surface water catchments and potential for hydrologically connectivity.

As such the study area extends beyond the footprint of the works and associated red line boundary and considers potential for direct and indirect links to ecological receptors and associated ecological structure and function. From this, the key ecological receptors (KER)[3] are identified and are considered further in terms of their Zones of Influence (ZoI) i.e. the pathway for an effect on the KER (as determined through source-pathway-receptor (S-P-R) /target model[4]) and the sensitivity of the KER to the effect as informed by best available guidance / data.

[1] Landscape connectivity is a combined product of structural and functional connectivity, i.e. the effect of physical landscape structure and the actual species' use of the landscape.
[2] Ecological connectivity is defined as a measure of the functional availability of the habitats needed for a particular species to move through a given area. Examples include the flight lines used by bats to travel between roosts and foraging areas or the corridors of appropriate habitat needed by some slow colonising species if they are to spread.
[3] According to the National Roads Authority guidelines (NRA 2009), KERs will be features of sufficient value to be material in the decision-making process for which potential effects are likely. According to the NRA Guidelines, KERs are therefore defined as features of Local (Higher Value), County, National, or International Importance.
[4] Based on the guidance provided in the Office of the Planning Regulator practice notes (OPR, 2021a and OPR, 2021b).

The proposed development constitutes a change of use of the site. There will be no land take. Proposed works included as part of the construction phase will be limited to additions/alterations to existing infrastructure on site (built lands). It is not proposed to increase the size of the existing water, gas, electricity, wastewater or stormwater connections to the site. Existing services will accommodate the operational phase of the proposed development. The proposed development is serviced by a public foul sewer main which serves Blarney Business Park. Wastewater collected by this network is discharged to and treated at Blarney Wastewater Treatment Plant. The proposed development is serviced by an existing on-site SuDs system. This system discharges to stormwater drainage system for the entire Blarney Business Park. When operational, waste management activities will be regulated under an IE Licence. All waste management operations will be carried out inside the existing building on-site and there will be no waste storage, handling or processing in the external yard area. Furthermore, a firewater retention system has been designed to ensure that the internal area of the building can act as firewater retention structure and the system will provide complete retention of any firewater which could be generated in the event of a fire. As such, there is no potential for surface water contamination to affect local watercourses. The operation of a volatile organic compound (VOC) abatement system and a boiler will release air pollutant emissions (primarily NO_x, carbon monoxide (CO) and VOC emissions). An assessment of air quality which includes an assessment on ecological receptors is provided in Chapter 11 – Air Quality, of Volume 2 of the EIAR.

Further information on the study area for individual KERs is provided in Section 8.5.3 and Section 8.5.4.

8.5.3 Desktop Study

A desk study was carried out to collate and review available information, datasets and documentation sources pertaining to the natural environment in which the proposed development is situated.

8.5.3.1 Designated Nature Conservation Sites

Special Areas of Conservation (SACs) and Special Protection Areas for Birds (SPAs) are designated under the EU Habitats Directive and EU Birds Directive, respectively and are collectively known as ‘European Sites’.

In relation to European Sites, a Report to Inform Appropriate Assessment Screening has been submitted with the planning application to provide the Competent Authority with the information necessary to complete Appropriate Assessment Screening for the proposed development in compliance with the Habitats Directive and relevant transposing national regulations. The potential for likely, significant effects on European Sites is fully assessed in the Report to Inform Appropriate Assessment Screening that accompanies this application.

Natural Heritage Areas (NHAs) are designated under Section 18 the Wildlife (Amendment) Act 2000 and their management and protection is provided for by this legislation and planning policy. Proposed Natural Heritage Areas (pNHAs) were designated on a non-statutory basis in 1995 but have not since been statutorily proposed or designated; notwithstanding, this EIAR addresses them as if they had the same designation as NHAs. Nationally designated sites that are also designated as European Sites have been assessed as those designations within the Report to Inform Appropriate Assessment Screening, with the relevant conclusions recorded and referenced in this chapter.

The following data sources, accessed in June 2025 and again in October 2025, were used to identify designated sites: NPWS Protected Sites map-viewer[5], National Parks and Nature Reserves mapping[6] and Wildfowl sanctuaries[7].

8.5.3.2 Habitats, Flora and Fauna

Records of rare/sensitive species within the 2 km grid squares (W67H and W67I) and 10 km (W67) used (for Flora (Protection) Order data) for the proposed development site and surrounding areas were reviewed as available on the National Parks and Wildlife Services (NPWS) and the National Biodiversity Data Centre (NBDC) websites (last accessed October 2025). Note that 2 km grid square W67I overlaps with the proposed development site, whilst 2 km grid square W67H overlaps with the southern edge of the Blarney Business Park in which the proposed development is located. Historic records (dated 2004 or older) have been omitted.

Other data referenced included:

- Aerial imagery of the Site and surrounding lands
- Tailte Éireann National Land Cover Map
- OSI Aerial photography and 1:50000 mapping
- Geological Survey Ireland (GSI) maps and data
- OPW drainage and flood maps
- Flora (Protection) Order Map Viewer – Vascular Plants, Charophytes and Lichen
- Flora (Protection) Order Map Viewer – Bryophytes
- EPA website datasets (land, soil and water)
- Inland Fisheries Ireland open data portal[8]
- Wetland survey Ireland wetland maps.

The Botanical Society of Britain and Ireland (BSBI) does not hold any botanical data for 2 km grid squares (W67H and W67I) in which the proposed development and larger Blarney Business Park are located.

8.5.4 Field Study

The field study surveys were designed following the consideration of the findings of the desk study and scoping consultation. The following surveys were undertaken to inform the assessment

- Habitat and Flora Survey.
- Non-volant Mammal Survey
- Preliminary Bat Roost and Foraging/Commuting Habitat Assessment

[5] https://experience.arcgis.com/experience/edf34d92e28040fd87d3d14f55d8d95f
[6] https://www.npws.ie/national-parks and https://www.npws.ie/nature-reserves
[7] https://www.npws.ie/protected-sites/wildfowl-sanctuaries
[8] https://opendata-ifigeo.hub.arcgis.com/

These surveys were undertaken on 12th June 2025. A description of the surveys carried out is presented below.

8.5.4.1 Habitat and Flora

Habitat classification survey was undertaken of the proposed development site and habitats immediately adjacent to the site. The classification of habitats recorded during the field survey is based on 'A Guide to Habitats in Ireland' (Fossitt, 2000). The Guide to Habitats in Ireland classifies habitats according to a hierarchical framework with Level 1 habitats representing broad habitat groups, Level 2 representing habitat subgroups and Level 3 representing individual habitat types. The Field Survey focused on identifying habitats to Level 3 of the Guide to Habitats in Ireland. Any other records of interest (e.g., invasive plant species) were also marked on ArcGIS Field Maps. All species were readily identifiable during the survey. Plant nomenclature for vascular plants follows 'New Flora of the British Isles' (Stace, 2019).

In addition to habitat identification, each habitat was assessed for its ecological significance, based on the NRA Guidelines for Ecological Impact Assessment of National Road Projects (NRA, 2009a).

During habitat surveys, a search for non-native invasive species was undertaken. The survey focused on the identification of invasive species listed under the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).

The habitat mapping exercise had regard to the 'Best Practice Guidance for Habitat Survey and Mapping' (Smith *et al*., 2011) published by the Heritage Council. Habitat boundaries and associated attribute data were mapped using ArcGIS Field Maps and ArcGIS Pro, which was also used to calculate habitat areas and lengths.

Additionally, the habitats within the proposed development boundary were evaluated to determine their suitability to support protected species.

8.5.4.2 Non-Volant Mammals

A Mammal survey was undertaken at the proposed development site to determine the presence or absence of protected mammal species and habitat suitability to support protected mammal species. The survey was undertaken in accordance with the NRA (2009b) guidelines.

8.5.4.3 Preliminary Bat Habitat Assessment

During the site walkover the ecologist visually assessed the habitat/landscape features within the site of the proposed development for potential use as bat roosting habitats and commuting and foraging habitats. This was undertaken in accordance with the 'BCT Bat Surveys for Professional Ecologists: Good Practice Guidelines' (4th ed.) (Collins, 2023), which identifies a grading protocol for assessing bat structures, trees and commuting and foraging habitats. Trees within the study area were assessed via a ground level inspection of the exterior of each tree to identify potential roost features that could be used for roosting bats.

Given the limited value of the habitats for roosting/foraging/commuting bats no further bat surveys were undertaken.

8.5.4.4 Survey Limitations

No limitations in the scope, scale or context of surveys were encountered.

8.6 Ecological Resource Evaluation

The value of the ecological resources/features/receptors was evaluated using the ecological evaluation guidance given in the NRA guidance on assessment of ecological impacts of National Road Schemes (NRA, 2009a).

This guidance provides ratings for resources based primarily on geographic context and allows for resources at International, National, County and Local (higher and lower value) levels. Receptors considered as KERs (for assessment) are those deemed to be above the 'Local Importance (lower value) evaluation; confirmed as KERs where a pathway for impact has been identified.

8.6.1 Receptor Evaluation

Ecological features are assessed on a scale ranging from international-national-county-local. The local scale is approximately equivalent to one 10 km square but can be operationally defined to reflect the character of the area of interest.

Habitats and species were evaluated following the NRA (2009a) criteria on the basis of a number of characteristics and features defined as follows:

- The fisheries value of a watercourse refers to its suitability for fish, primarily Salmonids (Salmon and Trout), and to the associated value for recreational angling purposes.
- Annex II species are those that are listed under the EU Habitats Directive (92/43/EEC).
- Annex I habitats are those that are listed under the EU Habitats Directive, including Priority Habitats.
- Species protected under the Wildlife Acts 1976-2022 and associated orders.
- The evaluation of water quality uses a five-point biotic index (Q-value) based on the presence and relative abundance of various invertebrates using the Environmental Protection Agency's (EPA) standard technique.

8.6.1.1 Assessing Effect Significance

Once the value of the identified ecological receptors (features and resources) was determined, the next step was to assess the potential effect or impact of the proposed development on the identified receptor, following the EPA evaluation criteria utilised in this appraisal of the Environmental Factor, Biodiversity. The criteria is included in the 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (EPA 2022).

Assessment of Effect Type and Magnitude

Assessment of effects considers construction, operational and decommissioning effects with reference to the potential for direct, indirect and cumulative effects. The assessment also takes account of any residual effects that may persist following the implementation of any mitigation or best practice design.

The characterisation of effects reflects the ecological structure and function upon which the ecological features depend. Detailed assessment of effects considers the magnitude of effects affecting populations.

This EIAR uses the EPA (2022) classification of effects in order to describe the quality, significance, duration and type of effect. The magnitude of effect is based on probability of the likely effect occurring, its spatial scale and duration.

The ecological significance of the effects is determined following the precautionary principle and in accordance with the methodology set out in Section 5 of CIEEM (2018), whereby an ecologically significant effect is an effect that either supports or undermines biodiversity conservation objectives for important ecological features or for biodiversity in general through impacts on the ecological structure and function. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local (CIEEM, 2018).

When determining significance, consideration is given to whether:

- Any processes or key characteristics of ecological features will be removed or changed
- There will be an effect on the nature, extent, structure and function of important ecological features
- There is an effect on the average population size and viability of ecologically important species.
- There is an effect on the conservation status of important ecological habitats and species.

Assessment of Cumulative Effects

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period or concentrated in a location (CIEEM, 2018). Different types of actions can cause cumulative impacts and effects. As such, these types of impacts may be characterised as:

- Additive/incremental – in which multiple activities/projects (each with potentially insignificant effects) add together to contribute to a significant effect due to their proximity in time and space (CIEEM, 2018); and,
- Associated/connected – a development activity 'enables' another development activity e.g. phased development as part of separate planning applications. Associated developments may include different aspects of the project which may be authorised under different consent processes.

8.7 Baseline Environment and Zone of Influence

The following sections describe the results of the assessment of available published material that was carried out as part of the desk study coupled with the findings of ecological field survey which was conducted to establish the current state of the environment (baseline scenario) and the likely evolution thereof through natural changes. Where potential KERs are considered, the zone of influence (ZoI) for potential impacts are considered to determine if adequate pathways exist to significant affect these ecological features.

8.7.1 Designated Sites

In establishing the study area to assess the baseline scenario for designated sites regard was had to OPR (2021a) guidelines. In this regard a Source-Pathway-Receptor (S-P-R) model was adopted to identify potential pathways for designated sites and was informed by the following best practice publications:

- Scottish Natural Heritage (2016) 'Guidance on Assessing Connectivity with Special Protection Areas (SPAs)'.
- SEPA Land Use Planning System (2017) 'Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems'. Guidance Note 31.
- BCT (2020) 'Core Sustenance Zones and habitats of importance for designing Biodiversity Net Gain for bats'. Bat Conservation Trust, London.
- Collins J. (ed.) (2023) 'Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)'. The Bat Conservation Trust, London
- NRA (2009a). 'Guideline for the Assessment of Ecological Impacts of National Road Schemes'. National Roads Authority

The S-P-R model minimises the risk of overlooking distant or obscure effect pathways, while also avoiding an over reliance on buffer zones (e.g. 15 km), within which all designated sites should be considered. This approach follows the DEHLG (2010) guidance which states that:

> *"For projects, the distance could be much less than 15 km, and in some cases less than 100m, but this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects".*

8.7.1.1 Sites of International and National Importance

An Appropriate Assessment Screening Report has been completed to appraise the likely significant effects of the proposed development either alone or in combination with other plans or projects on European Sites; this report accompanies the planning application. The purpose of this report was to assess the potential for likely, significant effects on European site.

Special Areas of Conservation (SACs)

SACs are protected under the European Union (EU) 'Habitats Directive' (92/43/EEC), as implemented in Ireland by S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) and Part XAB of the Planning and Development Act 2000 (as amended).

There are no SACs with S-P-R connectivity to the Proposed Development.

Special Protection Areas (SPA's)

SPAs are designated under the EU Birds Directive (2009/147/EC) ('The Birds Directive').

There are no other SPAs with S-P-R connectivity to the Proposed Development.

Sites of National Importance

Sites of National Importance in the Republic of Ireland are termed Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs). While the Wildlife (Amendment) Act 2000 (as amended) has been passed into law, pNHAs will not have legal protection until the consultative process with landowners has been completed; this process is ongoing. However, they have been treated as fully designated sites for the purposes of this assessment.

The closest NHA/pNHA to the proposed development is Blarney Bog pNHA (001857) located 690 m south of the proposed development. According to the Site Synopsis (27/11/2009) for Blarney Bog pNHA, the main habitats of the area are lowland wet grassland, both grazed and ungrazed, and freshwater marsh/fen. The site is used by a wide variety of bird species including breeding sedge warbler (*Acrocephalus schoenobaenus*) and grass warbler (*Locustella naevia*), reed bunting (*Emberiza schoeniclus*), stonechat (*Saxicola rubicola*), meadow pipit (*Anthus pratensis*), snipe (*Gallinago Gallinago*) and mallard (*Anas platyrhynchos*). Hen harrier (*Circus cyaneus*) are regularly observed in the area hunting over wetter ground and sometimes nesting in reed beds. According to the Irish Wetlands survey (site code: MIW_CO22[9]) for Blarney Bog pNHA, the site has an evaluation of 'B Rating: Nationally Important'. Main wetland habitats comprise reed swamp, marsh, poor fen, river, wet grassland and tall herb swamp. The site is described as 'a small area of Canary Reed-grass fen, situated in the flat valley floor of the River Blarney. The site is of conservation interest for wetland habitats and the rare protected Annex I bird species, Hen Harrier'.

With a separation distance of 690 m between Blarney Bog pNHA and the proposed development, the pNHA is located outside the ZoI for direct impacts on habitats[10], direct impacts to surface water[11], impacts on groundwater dependant terrestrial ecosystems[12], dust deposition[13], and disturbance zone for birds[14]. It is important to include that the existing SuDs stormwater drainage system for Blarney Business Park flows into a drainage ditch and via a culvert connects into the Shean Upper Stream (EPA code: 19S17; Order: 1) ca. 230 m south-west of the proposed development which flows into Blarney Bog pNHA, located ca. 848 m downstream. However as already noted in Section 8.5.2, the existing stormwater drainage system will not be changed; the drainage system will be able to accommodate the proposed development; all waste management activities will be undertaken within the building of the proposed development; and a firewater retention system forms part of the proposed development, and no waste materials/contaminants will enter surface water drainage during the operational or decommissioning phases of the propose development.

The operation of a VOC abatement system and a boiler will release air pollutant emissions (primarily NO_x, carbon monoxide (CO) and VOC emissions). An assessment of air quality on ecological receptors (Blarney Bog pNHA, Ardamadane Wood pNHA (895 m), Blarney Castle Woods pNHA (1.5 km), and Blarney Lake pNHA (1.9 km)) which includes dispersion modelling is provided in Chapter 11 – Air Quality, of Volume 2 of the EIAR. The assessment of effects on ecological receptors was undertaken in line with EPA (2024) 'Licence Application Instruction Note 2 (IN2) (DRAFT): Assessing the Impact of Ammonia Emissions to Air and Nitrogen Deposition from EPA licensable activities on European Sites'. Given that all NHAs/pNHAs are located at a distance greater than 250 m from the proposed development and no process contributions are greater than 1% of the relevant critical level at any of the modelled ecological receptors, pathways for effects are ruled out.

[14] Wetland Surveys of Ireland: Maps of Irish Wetlands (accessed: October 2025) https://wetland.maps.arcgis.com/apps/View/index.html?appid=e13b75c3bcab4932b992aa0169aa4a32&extent=-12.6266,51.3236,-3.2168,55.4102

Summary of Sites of International and National Importance within S-P-R connectivity

There is no S-P-R connectivity between the proposed development and any European site.

There is no S-P-R connectivity between the proposed development and any NHA/pNHA.

8.7.1.2 Other Sites

Clogheenmilcon Fen Sanctuary forms part of Blarney Bog pNHA (001857). See Section 8.7.1.1.

There are no RAMSAR sites or Nature Reserves within the ZoI or with hydrological connectivity to the proposed development.

8.7.2 Flora

8.7.2.1 Protected or Rare Flora

No records of rare and/or protected flora from NBDC data within the 2km grid squares (W67H and W67I) were returned. No Flora (Protection) Order for vascular plants, charophytes or lichens within 10 km grid square (W67) were returned. No Flora (Protection) Order for bryophytes within or immediately adjoining the application site were returned.

No rare or protected flora species under the Flora (Protection) Order (2022) or listed in Annex II and IV of the EU Habitats Directive (92/43/ECC) were recorded during the site walkover undertaken on 12th June 2025.

8.7.2.2 Invasive or Non-native species

Unless specified otherwise, the term "invasive species" in this report refers to Third schedule species to the European Communities (Bird and Natural Habitat) Regulations 2011 (as amended). The Regulations make it an offence to plant, disperse, allow or cause to disperse, spread, or otherwise cause to grow any of the scheduled species. Other non-native species are also considered.

The invasive/non-native species listed in Table 8-2 have been recorded within 2km grid squares (W67H and W67I). Two invasive species are recorded within 2 km grid squares, namely terrestrial species Japanese Knotweed (*Fallopia japonica*) and aquatic species Water Fern (*Azolla filiculoides*).

None of the invasive/non-native species listed in Table 8-2 were observed during the site walkover undertaken on 12th June 2025. Non-native species Cherry laurel (*Prunus laurocerasus)* which is a 'high impact' non-native species was observed within the application site. The species has been planted as a 133 m long ornamental hedge located north of the existing building, bordering the back yard. It is important to note that the non-native forms part of a well-maintained hedge and the species is of 'high impact' to semi-natural 'lowland woodland pasture and parkland' and the proposed development and immediate surroundings comprise built land and improved maintained habitats.

Table 8-2: Invasive Species / Non-native Species Records

Species	2km	Invasive Impact[15]	Legal Status
Japanese Knotweed (*Reynoutria japonica*)	W67I	High	Third Schedule
Water Fern (*Azolla filiculoides*)	W67H	Medium	Third Schedule
Canadian Waterweed (*Elodea canadensis*)	W67H	High	None
Sycamore (*Acer pseudoplatanus*)	W67H	Medium	None

8.7.3 Habitats

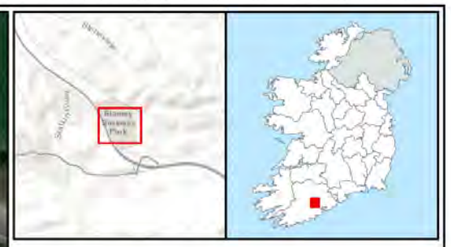
The proposed development is ca. 1.32 hectares and is located at the centre of Blarney Business Park. The proposed development site comprises a light-industrial/warehouse unit and associated site infrastructure. The site and unit has been unoccupied and unused since construction and is currently vacant.

Blarney Business Park adjoins the N20 Cork to Limerick road (140 m from the proposed development site) along its western boundary and the Cork-Limerick railway line is located along the north-eastern boundary (236 m from the proposed development site) of the business park.

The proposed development and immediate surrounds are dominated by Buildings and artificial surfaces (BL3), with Ornamental/non-native shrub (WS3) and Scattered trees and parkland (WD5) present at the boundaries of the application site. Further information on habitats is provided below and illustrated in Figure 8-1.

The surrounding habitat is predominantly built lands (road, pavement, hard surfaces and buildings) and improved grassland with small areas of woodland associated with the N20. In the wider landscape the National Land Cover mapping indicates that the business park is surrounded by artificial surfaces (urban developments and roads), agricultural grasslands (improved grassland, dry grassland, and cultivated land) and broadleaved forest and woodland.

[15] As per Kelly, J., O'Flynn, C., and Maguire, C. (2013).



Legend

- Site Boundary
- BL3 - Buildings and artificial surfaces
- WD5 - Scattered trees and parkland
- WS3 - Ornamental/non-native shrub

N W E S

0 25 50 100 Meters

TITLE:	Habitats		
PROJECT:	Planning Application and EIAR for Healthcare Waste Management Facility		
FIGURE NO:	8.1		
CLIENT:	Stericycle Ltd.		
SCALE:	1:2,000	**REVISION:**	0
DATE:	20/11/2025	**PAGE SIZE:**	A3

FEHILY TIMONEY Cork | Dublin | Carlow www.fehilytimoney.ie

8.7.3.1 Buildings and artificial surfaces (BL3)

Buildings and artificial surfaces are the most dominant habitat within the proposed development site, encompassing the existing building, the yard to the rear of the building, access and egress roadways to/from the yard and car parking areas to the front and side of the building. As the proposed development site is located within a business park, neighbouring areas also largely consist of buildings and artificial surfaces (e.g., existing buildings and associated hard stand-areas, buildings under construction, transport infrastructure etc.). Buildings and artificial surfaces is assessed as ***local importance, lower value***.

Figure 8-2: Proposed Development existing building and artificial surfaces a) existing building and front car park b), c) and d) backyard

8.7.3.2 Ornamental/non-native shrub (WS3)

To the north of the existing building, along the perimeter of the development site, there is a strip of planted and highly maintained cherry laurel (*Prunus laurocerasus*). Ornamental/non-native shrub is assessed as ***local importance, lower value***.

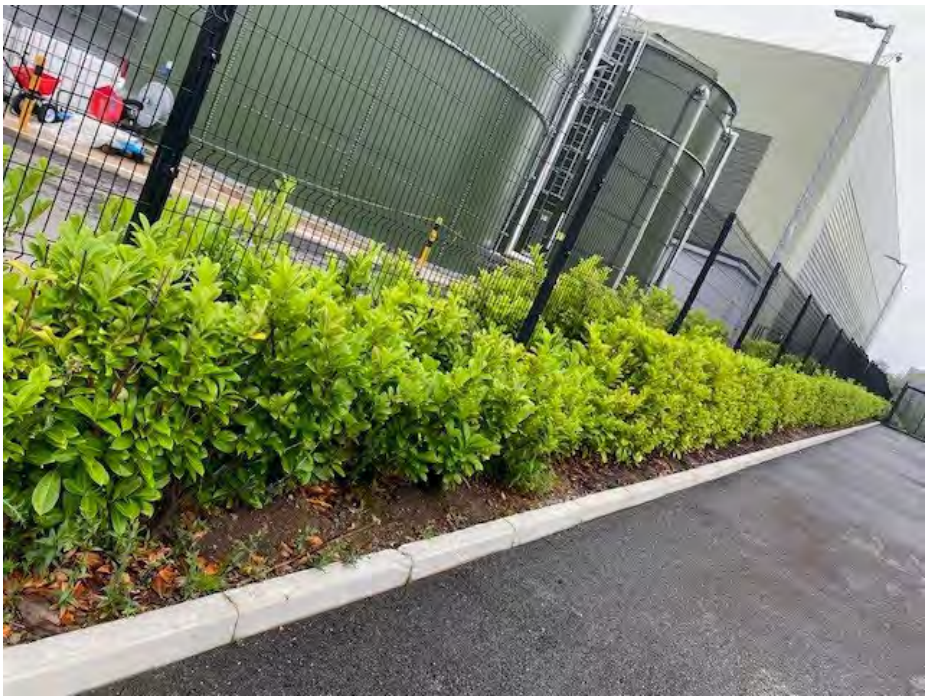


Figure 8-3: Planted Cherry Laurel (*Prunus laurocerasus*) in the yard to the rear of the existing building on-site

8.7.3.3 Scattered trees and parkland (WD5)

Scattered trees and parkland (WD5) habitat is present in linear strips along the western, eastern and southern boundaries of the application site. To the front of the proposed development site (east), there is an area of newly planted downy birch trees (*Betula pubescens*) among highly maintained mown lawn grass in a strip bordering the carpark and road.

To the south of the proposed development site, outside the perimeter of the carpark, there is a sloping grassed area of trees comprising young ash (*Fraxinus excelsior*), alder (*Alnus glutinosa*) with limited maintenance. Mowing is apparent in narrow strip on road margins but otherwise, maintenance appears minimal with some growth of gorse (*Ulex* sp.).

To the back of the proposed development site (west), there is an area of isolated immature trees, species including downy birch, hawthorn (*Crataegus monogyna*), alder, sessile oak (*Quercus petraea*) and Scots pine (*Pinus sylvestris*). This area is less maintained with species such as Yorkshire fog (*Holcus lanatus*) and Willowherb sp. recorded at heights approx. 0.5m growing on top of mark mulch.

Given the age and improved nature of this habitat, it is assessed as ***local importance, lower value***.

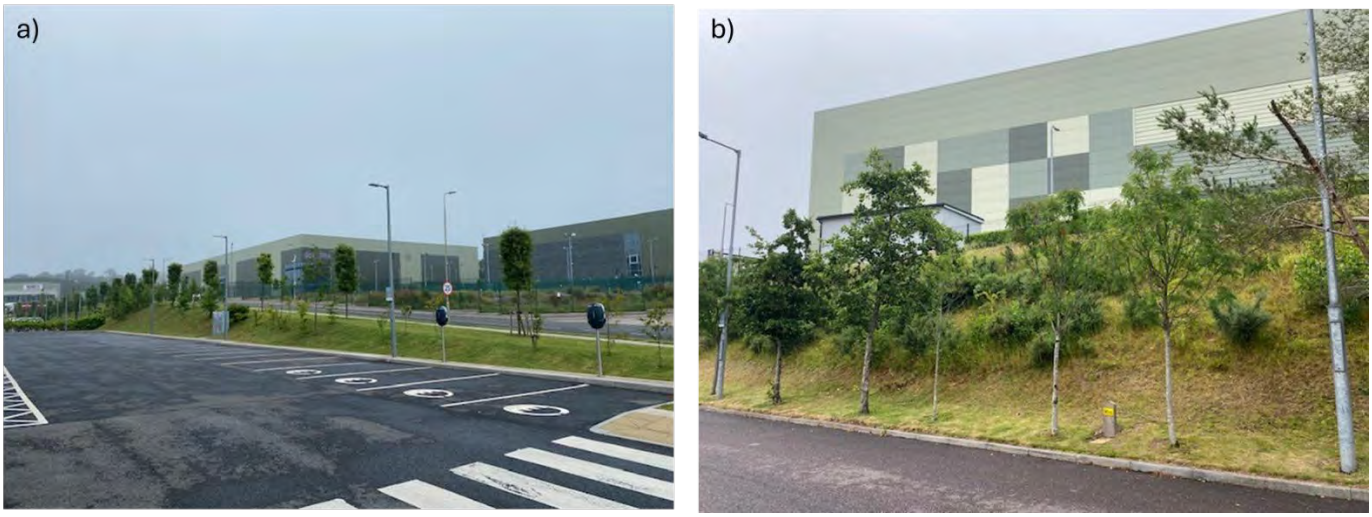


Figure 8-4: Scattered trees and parkland a) at the front of the development site and b) to the south of the development site

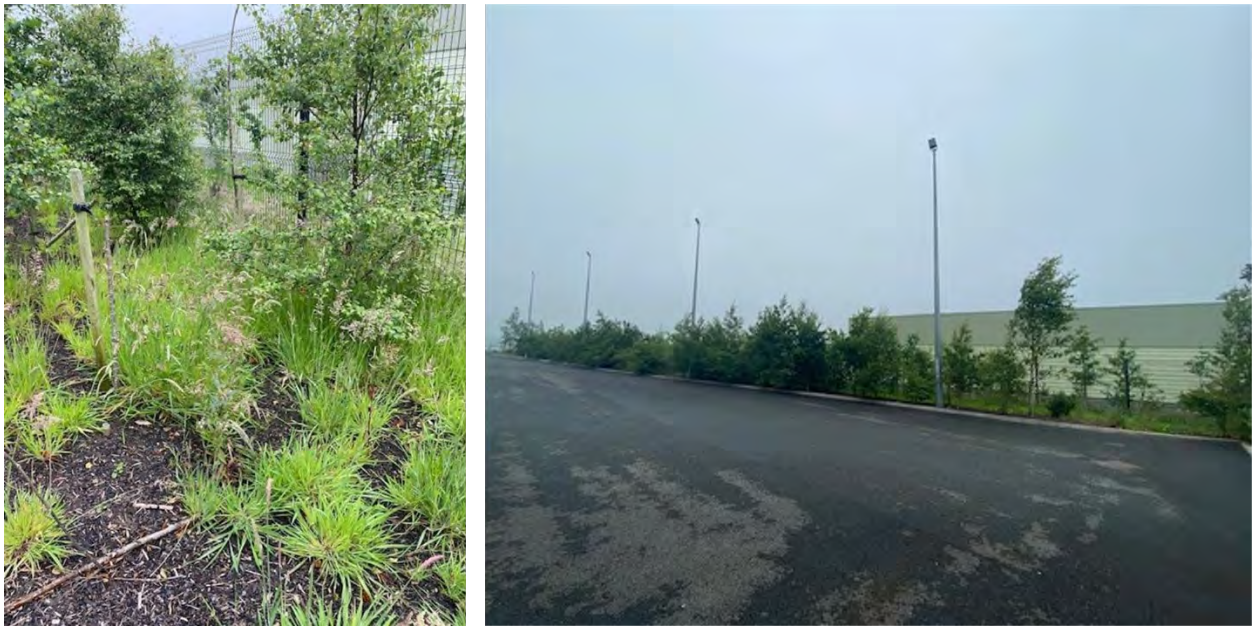


Figure 8-5: Scattered trees and parkland in the yard to the rear of the existing building

8.7.4 Waterbodies

The proposed development lies within the Water Framework Directive (WFD) catchment HA 19 known as the Lee, Cork Harbour and Youghal Bay catchment and is located within the Manin_SC_010 WFD sub-catchment and the MARTIN_040 sub-basin. According to the Cycle 2 Report for Manin_SC_010 (January 2019[16]), the biological status of the MARTIN_040 sub-basin is 'Moderate' (Q 3-4) and it is at risk of failing to meet the Water Framework Directive (WFD) objectives of 'Good' by 2027; the MARTIN_040 sub-basin is under pressure from urban run-off (diffuse sources run-off).

8.7.4.1 Shean Upper Stream (IE_SW_19M010600)

The closest waterbody to the proposed development is the Shean Upper Stream (EPA code: 19S17; Order: 1), located ca. 230 m south-west of the site. At this separation distance the stream is located outside the ZoI for direct impacts to water quality and dust deposition. It is important to include that the existing SuDs stormwater drainage system for Blarney Business Park connects to a drainage ditch, and via a culvert under the N20, connects into the Shean Upper Stream. Shean Upper Stream is a first order stream and as discussed above the MARTIN_040 sub-basin in which Shean Upper Stream is located is of 'moderate' biological status (Q 3-4). Examination of orthophotography indicates that the stream has been historically straightened and is largely located within agricultural grasslands with limited scrub/trees along its margins. The stream is also located close to the N20. For more information see Chapter 10 – Hydrology and Surface Water, of Volume 2 of the EIAR. There are no IFI fisheries results for Shean Upper Stream.

Given that the stream is a first order stream, has been historically straightened (with little to no riparian vegetation) and has a biological status of Q 3-4 and is located close to the N20 the stream is it assessed as ***Locally Important - Higher Value.***

However as already noted in Section 8.5.2, the existing stormwater drainage system will not be changed; the drainage system will be able to accommodate the proposed development; all waste management activities will be undertaken within the building of the proposed development; and a firewater retention system forms part of the proposed development and no waste materials/contaminants will enter surface water drainage during the operational or decommissioning phases.

8.7.4.2 Lake (19_66)/ Blarney Bog

This lake (19_66) is located within Blarney Bog pNHA (001857) See Section 8.7.1.1.

[16] WFD Cycle 2, Catchment Lee, Cork Harbour and Youghal Bay, Subcatchment Manin_SC_010, Code 19_5 (08 Jan 2019). Visited October 2025: chrome extension chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://catchments.ie/wp-content/files/subcatchmentassessments/19_5%20Manin_SC_010%20Subcatchment%20Assessment%20WFD%20Cycle%202.pdf

8.7.5 Fauna

8.7.5.1 Non-volant Mammals

The mammal species listed in Table 8-3 below have been recorded within the 2 km grid squares (W67H and W67I) in which the proposed development and Blarney Business Park are located. Three protected mammal species have been recorded: namely Eurasian badger (*Meles meles*), Hedgehog (*Erinaceus europaeus*), and Pygmy Shrew (*Sorex minutus*).

American Mink (*Neovison vison*) has been recorded within a 2 km grid square and is listed as an invasive species in the European Communities (Birds and Habitats) Regulations 2011 (as amended).

No mammals or mammal field signs were observed during the site walkover undertaken on 12th June 2025. This is attributed to the urban/built nature of the proposed development and immediate surrounds.

Table 8-3: Mammal Records overlapping with 2km grid squares (W67H and W67I)

Species	Year of Last Record	Survey/Dataset	Grid Square	Protection
American Mink (*Neovison vison*)	2017	National Invasive Species Database	WG7I	Invasive Species – High Impact
Badger (*Meles meles*)	2012	Road Kill Survey	WG7I, WG7H	Wildlife Acts
Red Fox (*Vulpes vulpes*)	2016	Mammals of Ireland 2016-2025	WG7I, WG7H	None
Hedgehog (*Erinaceus europaeus*)	2023	Hedgehogs of Ireland	WG7I	Wildlife Acts
Pygmy Shrew (*Sorex minutus*)	2016	Mammals of Ireland 2016-2025	WG7I	Wildlife Acts

8.7.5.2 Bats

The bats species listed in Table 8-4 below have been recorded within the 2 km grid squares (W67H) in which the proposed development is located. Four bat mammal species have been recorded: namely Pipistrelle (*Pipistrellus pipistrellus sensu lato*), Common Pipistrelle (*Pipistrellus pipistrellus sensu stricto*), Daubenton's Bat (*Myotis daubentonii*), and Soprano Pipistrelle (*Pipistrellus pygmaeus*).

The NBDC maps landscape suitability for bats, based on Lundy *et al.*, (2011) were assessed. This map divides the country into 1 km grid squares and ranks the habitat within the squares according to its suitability for various bat species and provides a visual map of the broad scale geographic patterns of occurrence and local roosting habitat requirements for Irish bat species. The proposed development lies within an area that carries on overall suitability score of 23.56 out of 100.

No bat roosting habitat features were identified within the proposed development during the site walkover undertaken on 12th June 2025.

Given the nature of the proposed development and immediate surrounds; dominated by built land with limited areas of immature ornamental hedging and improved grass verges with young trees, alongside the presence of nighttime lighting, potential flight paths and foraging habitats were deemed negligible.

Table 8-4: Bat Records overlapping with 2km grid squares (W67H and W67I)

Species	Year of Last Record	Survey	Grid Square	Conservation Status
Pipistrelle (*Pipistrellus pipistrellus sensu lato*)	2015	National Bat Database of Ireland	W67H	EU Habitats Directive Annex IV Wildlife Acts
Common Pipistrelle (*Pipistrellus pipistrellus sensu stricto*)	2016	National Bat Database of Ireland	W67H	EU Habitats Directive Annex IV Wildlife Acts
Daubenton's Bat (*Myotis daubentonii*)	2008	National Bat Database of Ireland	W67H	EU Habitats Directive Annex IV Wildlife Acts
Soprano Pipistrelle (*Pipistrellus pygmaeus*)	2008	National Bat Database of Ireland	W67H	EU Habitats Directive Annex IV Wildlife Acts

8.7.5.3 Avifauna

The bird species listed in Table 8-5 below have been recorded within the 2 km grid squares (W67H and W67I). The NBDC search returned 77 species which were recorded in the last 14 years. A total of 12 Red-list (Gilbert *et al*., 2021) species were recorded: namely Barn Owl (*Tyto alba*), Curlew (*Numenius arquata*), Grey Wagtail (*Motacilla cinerea*), Kestrel (*Falco tinnunculus*), Lapwing (*Vanellus vanellus*), Meadow Pipit (*Anthus pratensis*), Redwing (*Turdus iliacus*), Shoveler (*Spatula clypeata*), Snipe (*Gallinago gallinago*), Swift (*Apus apus*), Woodcock (*Scolopax rusticola*), and Yellowhammer (*Emberiza citrinella*). A total of 21 Amber-list (Gilbert *et al*., 2021) species were recorded: namely Common Gull (*Larus canus*), Coot (*Fulica atra*), Cormorant (*Phalacrocorax carbo*), Goldcrest (*Regulus regulus*), Greenfinch (*Chloris chloris*), Herring Gull (*Larus argentatus*), House Martin (*Delichon urbicum*), House Sparrow (*Passer domesticus*), Lesser Black-backed Gull (*Larus fuscus*), Linnet (*Linaria cannabina*), Mallard (*Anas platyrhynchos*), Mute Swan (*Cygnus olor*), Sand Martin (*Riparia riparia*), Skylark (*Alauda arvensis*), Spotted Flycatcher (*Muscicapa striata*), Starling (*Sturnus vulgaris*), Swallow (*Hirundo rustica*), Teal (*Anas crecca*), Tufted Duck (*Aythya fuligula*), Wigeon (*Mareca penelope*), and Willow Warbler (*Phylloscopus trochilus*).

It is important to note that many of the wetland birds are associated with 2km grid squares -W67H; 20 bird records are solely associated W67H which overlaps with the southern edge of Blarney Business Park and overlaps with Blarney Bog pNHA (001857), located ca. 830 m to the south of the site. It is likely that these birds were recorded using Blarney Bog pNHA (001857) and its immediate surrounds.

During the site walkover undertaken on 12th June 2025, no Annex I (Birds Directive), Amber-list, or Red-list species were observed.

Given the built nature of the proposed development and immediate surrounds (Blarney Business Park), there is no suitable habitat which would support foraging, breeding, or roosting Annex I (Birds Directive), Amber-list, or Red-list avian species.

While the Blarney Business Park adjoins the N20 Cork to Limerick road (140 m from the proposed development site) along its western boundary and the Cork-Limerick railway line is located along the north-eastern boundary (236 m from the proposed development site), there are agricultural land with fields bordered by hedgerows/treelines within 500 m of the proposed development and there are fragmented areas of woodland which are associated with the corridor of the N20. A degree of habituation of local birds to noise can be expected and it is likely that hedgerow/treelines/woodland located within the 500 m of the proposed development are used by breeding and foraging birds.

Birds using the habitats surrounding Blarney Business Park are currently exposed to background levels ranging from 45dB to 59dB (See Chapter 13 – Noise & Vibration, of Volume 2 of the EIAR for further information). The use of construction plant equipment outside will be intermittent. The MAS Environmental 2006 Noise calculator[17] was used to estimate the noise level that would occur during the construction phase and possibly the decommissioning phase of the project. The weighted sound pressure level (dB at 10m) was sourced from the BSI (2014) 'Code of practice for noise and vibration control on construction and open sites – Part 1: Noise', for three elements of the mobile plant which will be used during the construction phase: namely mobile elevated working platform (67 dB), mini-crane (77 dB), and telehandler (70 dB). The receptor distance was set at 125 m, the distance to the closest area of open habitat outside of the Blarney Business Park (comprising agricultural fields to the east). A combined total (worst case scenario) was calculated. The combined total Leq at 125 m (closest potential receptor) from the project was 53 dB (please note that most works will be undertaken inside the building, however the tool calculated for outdoor use and a worst-case scenario) which is largely below baseline ambient noise levels. Birds will therefore have no response to noise levels and therefore there is no S-P-R connectivity between birds which may use the surrounding habitat outside of Blarney Business Park and the proposed development.

Table 8-5: Bird Records overlapping with 2 km grid squares (W67H and W67I)

Species	Year of Last Record	Survey	Grid Square	Conservation Status
Barn Owl (*Tyto alba*)	2019	Birds of Ireland	W67H	Wildlife Acts Red-list
Blackbird (*Turdus merula*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Blackcap (*Sylvia atricapilla*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Black-headed Gull (*Chroicocephalus ridibundus*)	2011	Bird Atlas 2007 - 2010	W67H	Wildlife Acts Amber-list
Blue Tit (*Cyanistes caeruleus*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Bullfinch (*Pyrrhula pyrrhula*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Buzzard (*Buteo buteo*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67H	Wildlife Acts
Chaffinch (*Fringilla coelebs*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Chiffchaff (*Phylloscopus collybita*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Coal Tit *(Periparus ater*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Collared Dove (*Streptopelia decaocto*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Common Gull (*Larus canus*)	2011	Bird Atlas 2007 - 2011	W67H	Wildlife Acts Amber-list

[17] MAS Environmental 2006 Noise calculator: Multiple Noise Sources Calculator - Point Source Model - NoiseTools.net

Species	Year of Last Record	Survey	Grid Square	Conservation Status
Coot (*Fulica atra*)	2011	Bird Atlas 2007 - 2012	W67H	Wildlife Acts Amber-list
Cormorant (*Phalacrocorax carbo*)	2011	Bird Atlas 2007 - 2013	W67H	Wildlife Acts Amber-list
Curlew (*Numenius arquata*)	2011	Bird Atlas 2007 - 2013	W67H	Wildlife Acts Red-list
Dunnock (*Prunella modularis*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Fieldfare (*Turdus pilaris*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Goldcrest (*Regulus regulus*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Amber-list
Goldfinch (*Carduelis carduelis*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Grasshopper Warbler (*Locustella naevia*)	2011	Bird Atlas 2007 - 2011	W67H	Wildlife Acts
Great Tit (*Parus major*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Greenfinch (*Chloris chloris*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Amber-list
Grey Heron (*Ardea cinerea*)	2023	Birds of Ireland	W67H	Wildlife Acts
Grey Wagtail (*Motacilla cinerea*)	2011	Birds of Ireland	W67I, W67H	Wildlife Acts Red-list
Herring Gull (*Larus argentatus*)	2012	Birds of Ireland	W67H	Wildlife Acts Amber-list
Hooded Crow (*Corvus cornix*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
House Martin (*Delichon urbicum*)	2011	Bird Atlas 2007 - 2011	W67H	Wildlife Acts Amber-list
House Sparrow (*Passer domesticus*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Amber-list
Jackdaw (*Coloeus monedula*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Jay (*Garrulus glandarius*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Kestrel (*Falco tinnunculus*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Red-list
Lapwing (*Vanellus vanellus*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Red-list
Lesser Black-backed Gull (*Larus fuscus*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Amber-list
Lesser Redpoll (*Acanthis cabaret*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts

Species	Year of Last Record	Survey	Grid Square	Conservation Status
Linnet (*Linaria cannabina*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Amber-list
Little Egret (*Egretta garzetta*)	2011	Bird Atlas 2007 - 2011	W67H	Wildlife Acts Annex I Birds Directive
Little Grebe (*Tachybaptus ruficollis*)	2023	Birds of Ireland	W67H	Wildlife Acts
Long-tailed Tit (*Aegithalos caudatus*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Magpie (*Pica pica*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Mallard (*Anas platyrhynchos*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Amber-list
Meadow Pipit (*Anthus pratensis*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Red-list
Mistle Thrush (*Turdus viscivorus*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Moorhen (*Gallinula chloropus*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Mute Swan (*Cygnus olor*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Amber-list
Pheasant (*Phasianus colchicus*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Pied Wagtail (*Motacilla alba*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Raven (*Corvus corax*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Redwing (*Turdus iliacus*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Red-list
Reed Bunting (*Emberiza schoeniclus*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Robin (*Erithacus rubecula*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Rock Dove (*Columba livia*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Rook (*Corvus frugilegus*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Sand Martin (*Riparia riparia*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67H	Wildlife Acts Amber-list
Sedge Warbler (*Acrocephalus schoenobaenus*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67H	Wildlife Acts
Shoveler (*Spatula clypeata*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Red-list
Siskin (*Spinus spinus*)	2011	Bird Atlas 2007 - 2011	W67I	Wildlife Acts

Species	Year of Last Record	Survey	Grid Square	Conservation Status
Skylark (*Alauda arvensis*)	2011	Bird Atlas 2007 - 2011	W67I	Wildlife Acts Amber-list
Snipe (*Gallinago gallinago*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Red-list
Song Thrush (*Turdus philomelos*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Sparrowhawk (*Accipiter nisus*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Spotted Flycatcher (*Muscicapa striata*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Amber-list
Starling (*Sturnus vulgaris*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Amber-list
Stock Dove (*Columba oenas*)	2011	Bird Atlas 2007 - 2011	W67I	Wildlife Acts
Stonechat (*Saxicola rubicola*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Swallow (*Hirundo rustica*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Amber-list
Swift *(Apus apus*)	2023	Birds of Ireland	W67H	Red-list
Teal (*Anas crecca*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Amber-list
Treecreeper (*Certhia familiaris*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Tufted Duck (*Aythya fuligula*)	2011	Bird Atlas 2007 - 2011	W67H	Wildlife Acts Amber-list
Water Rail (*Rallus aquaticus*)	2011	Bird Atlas 2007 - 2011	W67H	Wildlife Acts
Wigeon (*Mareca penelope*)	2011	Bird Atlas 2007 - 2011	W67H	Wildlife Acts Amber-list
Willow Warbler (*Phylloscopus trochilus*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Amber-list
Woodcock (*Scolopax rusticola*)	2012	Bird Atlas 2007 - 2012	W67H	Wildlife Acts Red-list
Woodpigeon (*Columba palumbus*)	2011	Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts
Wren (*Troglodytes troglodytes*)	2011	Bird Atlas 2007 - 2011	W67I	Wildlife Acts
Yellowhammer (*Emberiza citrinella*)	2023	Birds of Ireland, Bird Atlas 2007 - 2011	W67I, W67H	Wildlife Acts Red-list

8.8 Identification of Key Ecological Receptors

Table 8-6 lists all identified ecological receptors and assigns them an ecological importance in accordance with the 'Guidelines for Assessment of Ecological Impacts of National Road Schemes' (NRA, 2009a). This table also provides the rationale for this determination and identifies the habitats and species that are KERs. The potential effects of the proposed development on these ecological receptors is considered in the impact assessment section of this report. Mitigation measures will be incorporated into the proposed development where required to avoid potential significant effects on these receptors, where relevant.

Table 8-6: Consideration of Key Ecological Receptors (KERs)

Category	Feature	Evaluation	Rationale for KER	KER
European Designated Sites	Not applicable	Internationally Important	There is no S-P-R connectivity between the proposed development and any European Site.	No
Nationally Designated Sites	• Blarney Bog pNHA • Ardamadane Wood pNHA • Blarney Castle Woods pNHA • Blarney Lake pNHA	National Importance	There is no S-P-R connectivity between the proposed development and any NHA/pNHAs for any effects.	No
Habitats	Buildings & Artificial Surfaces (BL3)	Local Importance (Lower Value)	The existing building, footpaths and roads within this highly developed business park are intensively managed and artificial habitats of limited biodiversity value.	No
	Ornamental /Non-native shrub (WS3);	Local Importance (Lower Value)	The intensively managed strip of non-native cherry laurel provides limited biodiversity value.	No
	Scattered trees and Parkland (WD5);	Local Importance (Lower Value)	Newly planted areas of isolated immature trees with limited connectivity to surrounding habitats are of limited biodiversity value.	No
Waterbodies	Shean Upper Stream (IE_SW_19M010600)	Locally Important-Higher Value.	There are no pathways for the contamination/deterioration of Shean Upper Stream.	No
	Lake (19_66)/Blarney Bog	National Importance	See rational related to Nationally Designated Sites.	No
Protected Flora	No records of rare and/or protected flora found during desktop study or during site visit.	Not applicable	Not applicable	No

Category	Feature	Evaluation	Rationale for KER	KER
Fauna	Non-volant Mammals (Badger, hedgehog, pygmy shrew)	Local Importance (Higher Value)	No mammals or mammal field signs were observed during the site walkover. The proposed development and surrounding business park largely comprises built lands with limited areas of highly maintained immature planting which is not suitable habitat for Badger, hedgehog, pygmy shrew.	No
	Bats	Local Importance (Higher Value)	No suitable bat roosting habitat was observed during the site walkover. Flight paths and foraging habitat was deemed negligible. Additionally, external lighting is already present on site and there will be no change.	No
	Avifauna	Local Importance (Higher Value)	No Annex I (Birds Directive), Amber-list, or Red-list bird species were species were observed during the site walkover. The proposed development and surrounding business park largely comprises built lands with limited areas of highly maintained immature planting which are sub-optimal for birds. Additionally noise levels associated with the construction/decommissioning phases will not rise above existing baseline noise levels.	No

8.9 Potential Impacts

8.9.1 'Do Nothing' Impacts

If the proposed development did not take place, the development site will either remain as it currently is (vacant but maintained) or another development which is commercial, light-industrial or industrial in nature, which is consistent with the zoning objective for the area, will be carried out at the site in absence of the proposed development. The 'Do Nothing' scenario is not likely to result in significant effects (adverse or beneficial) on ecology.

8.9.2 Effects on Designated Sites

None of the elements of the proposed development are located within the boundaries of any Nationally or European designated sites. There will be no effects on any designated site as a result of the construction, operation and decommissioning of the proposed development.

The accompanying AA Screening Report concludes 'that, given the scale and nature of the potential sources, there are no likely significant effects identified to any European sites'.

Furthermore, there is no S-P-R connectivity between the proposed development and any NHA/pNHA, RAMSAR site, or Nature Reserves. Therefore the proposed development will have no impact on NHA/pNHA, RAMSAR site, or Nature Reserves.

8.9.3 Construction Phase Impacts

8.9.3.1 Effects on Habitats and Flora

There are no Annex I habitats or protected/rare flora within the proposed development. No habitats within or adjacent to the proposed development have been identified as KERs. This is attributed to the urban/built nature of the proposed development and immediate surrounds. Therefore, there are no impacts for this criteria.

8.9.3.2 Introduction and Spread of Invasive Species

No Third Schedule invasive species were observed on site during the site walkover. There will be no spread of a Third Schedule invasive species to or from site.

8.9.3.3 Effects on Waterbodies

There are no waterbodies within the ZoI of the proposed development. Pathways for contamination/ deterioration of Shean Upper Stream and Lake (19_66)/ Blarney Bog have been ruled out. Therefore, there are no impacts for this criteria.

8.9.3.4 Effects on Fauna

8.9.3.4.1 Non-volant mammals

No non-volant mammal species is deemed to be a KER. Therefore, there are no impacts for this criteria.

8.9.3.4.2 Bats

Bats are not deemed to be a KER. Therefore, there are no impacts for this criteria.

8.9.3.5 Avifauna

Birds are not deemed to be a KER. Therefore, there are no impacts for this criteria.

8.9.4 Operational Phase Impacts

8.9.4.1 Effects on Habitats and Flora

There are no Annex I habitats or protected/rare flora within the proposed development. No habitats within or adjacent to the proposed development have been identified as KERs. This is attributed to the urban/built nature of the proposed development and immediate surrounds. Therefore, there are no impacts for this criteria.

8.9.4.2 Introduction and Spread of Invasive Species

No Third Schedule invasive species were observed on site during the site walkover. There will be no spread of a Third Schedule invasive species to or from site.

8.9.4.3 Effects on Waterbodies

There are no waterbodies within the ZoI of the proposed development. Pathways for contamination/deterioration of Shean Upper Stream and Lake (19_66)/ Blarney Bog have been ruled out. Therefore, there are no impacts for this criteria.

8.9.4.4 Effects on Fauna

8.9.4.4.1 Non-volant mammals

No non-volant mammal species is deemed to be a KER. Therefore, there are no impacts for this criteria.

8.9.4.4.2 Bats

Bats are not deemed to be a KER. Therefore, there are no impacts for this criteria.

8.9.4.5 Avifauna

Birds are not deemed to be a KER. Therefore, there are no impacts for this criteria.

8.9.5 Decommissioning Phase Impacts

The expected lifetime of the facility is 50 years. Decommissioning of the proposed development will involve the removal of the installed equipment/components and noise emissions will be comparable to the construction phase. On decommissioning, the equipment/components will be disassembled and removed off site for re-use/recycling. There are no KERs, therefore, there are no impacts for this criteria.

8.9.6 Cumulative Impacts

A cumulative impact arises from incremental changes caused by other past, present, or reasonably foreseeable actions together with the proposed development. An evaluation of plans and other projects was undertaken and is presented in Appendix 1.2 - Projects and Plans considered during the Cumulative Assessment, in Volume 3 of the EIAR. Impacts on biodiversity from the construction, operation and decommissioning phases of the proposed development have been ruled out, as there are no sources of effects and / or pathways for effects on any KER. The proposed development will not contribute to cumulative effects on biodiversity given the design of the proposed development, and its contained nature and location within the Blarney Business Park.

8.10 Summary of Potential Impacts

Given the location of the proposed development, its design, scale and contained nature no impacts are envisaged on ecological features identified in and surrounding the site, and downstream of site.

8.11 Mitigation Measures

No impacts on biodiversity are envisaged, therefore no mitigation measures are required.

8.12 Residual Impacts

8.12.1 Construction Phase

No impacts on biodiversity are envisaged. There will be no residual impact.

8.12.2 Operational Phase

No impacts on biodiversity are envisaged. There will be no residual impact.

8.12.3 Decommissioning Phase

No impacts on biodiversity are envisaged. There will be no residual impact.

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